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October 14, 2014  
AGL Macon - 0176740

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Atlanta, Georgia 30334

**Subject: Voluntary Investigation and Remediation Plan  
Atlanta Gas Light Company  
Former Manufactured Gas Plant Site Macon, Georgia  
HSI #10511**

Dear Mr. Brownlee:

Attached please find one hard copy and two cd copies of the *Voluntary Investigation and Remediation Plan* for the Atlanta Gas Light Company Former Manufactured Gas Plant Site located in Macon Georgia.

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

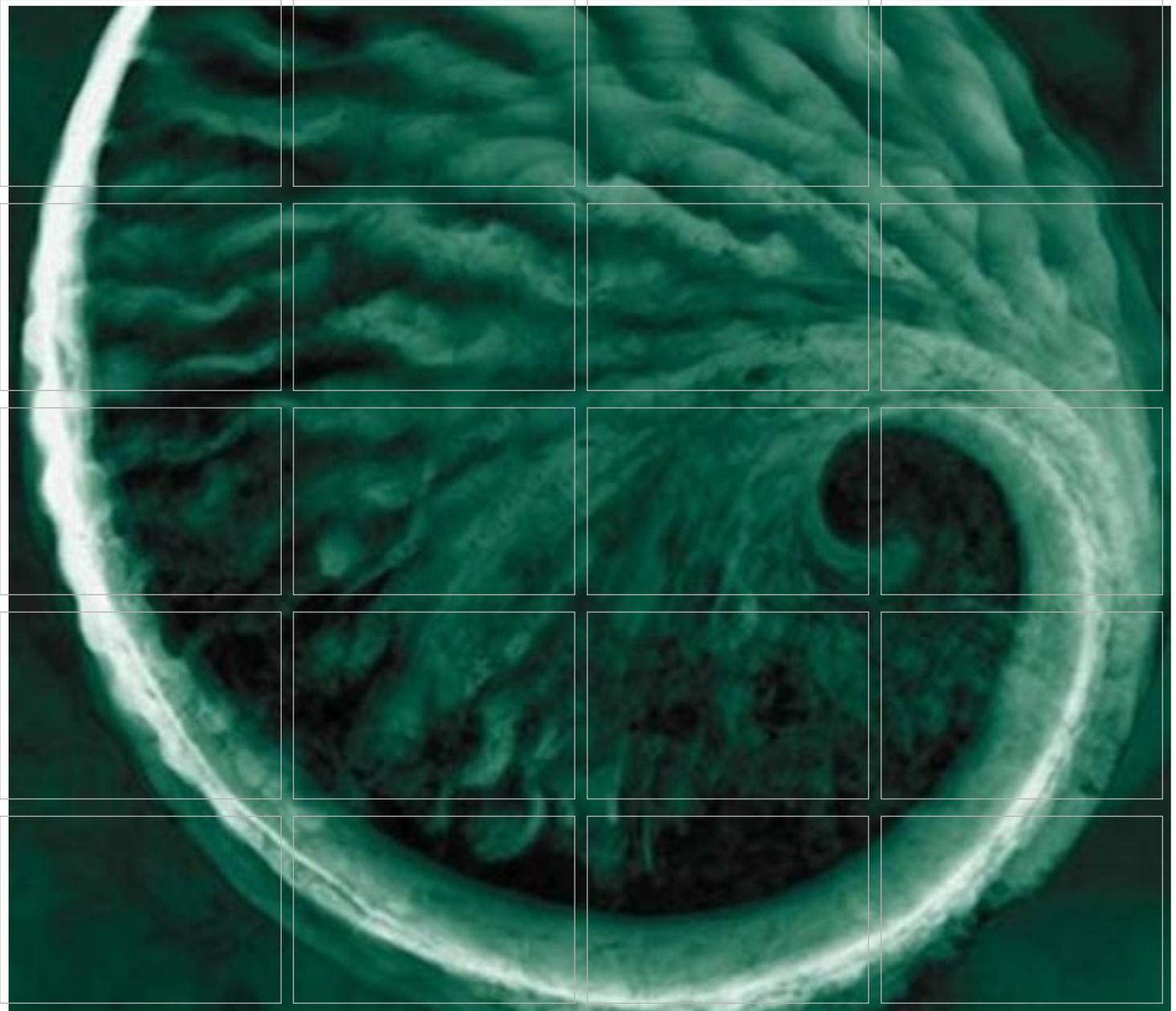
Sincerely,



Mark Fleri  
Project Manager

Attachments

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



# Voluntary Investigation and Remediation Plan

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

October 2014

Atlanta Gas Light Company

# Voluntary Investigation and Remediation Plan

Former Manufactured Gas  
Plant Site  
Macon, Georgia HSI #10511

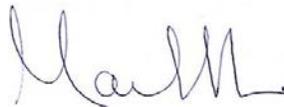
October 2014

ERM Project No. 0176740



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Hunter Sartain  
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**Environmental Resources Management**

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## TABLE OF CONTENTS

|            |  |           |
|------------|--|-----------|
| <b>1.0</b> | <b>INTRODUCTION</b>  | <b>1</b>  |
| <b>1.1</b> | <b>PURPOSE</b>   | <b>1</b>  |
| <b>1.2</b> | <b>QUALIFYING PROPERTIES &amp; PARTICIPANT ELIGIBILITY</b> | <b>2</b>  |
| <b>1.3</b> | <b>DOCUMENT ORGANIZATION</b>                               | <b>3</b>  |
| <b>2.0</b> | <b>SITE BACKGROUND AND HISTORY</b>                         | <b>4</b>  |
| <b>2.1</b> | <b>MANUFACTURED GAS PLANT SITE HISTORY</b>                 | <b>4</b>  |
| <b>2.2</b> | <b>SOURCES OF RELEASE</b>                                  | <b>4</b>  |
| 2.2.1      | <i>Mulberry Street MGP Site</i>                            | 4         |
| 2.2.2      | <i>Western Portion MGP Site</i>                            | 5         |
| <b>2.3</b> | <b>REGULATORY HISTORY</b>                                  | <b>5</b>  |
| 2.3.1      | <i>Summary of Previous Investigations</i>                  | 6         |
| 2.3.2      | <i>Summary of Previous Corrective Actions</i>              | 11        |
| <b>3.0</b> | <b>CONCEPTUAL SITE MODEL</b>                               | <b>18</b> |
| <b>3.1</b> | <b>GEOLOGY</b>   | <b>18</b> |
| 3.1.1      | <i>Regional Geology</i>                                    | 18        |
| 3.1.2      | <i>Site Geology</i>  | 19        |
| <b>3.2</b> | <b>HYDROGEOLOGY</b>  | <b>20</b> |
| 3.2.1      | <i>Regional Hydrogeology</i>                               | 20        |
| 3.2.2      | <i>Site Hydrogeology</i>                                   | 21        |
| 3.2.2.1    | <i>Alluvium Hydrogeology</i>                               | 21        |
| 3.2.2.2    | <i>Bedrock Hydrogeology</i>                                | 21        |
| <b>3.3</b> | <b>NATURE AND EXTENT OF CONTAMINANTS OF CONCERN</b>        | <b>22</b> |
| 3.3.1      | <i>Distribution in Soils</i>                               | 23        |
| 3.3.2      | <i>Distribution of DNAPL</i>                               | 23        |
| 3.3.3      | <i>Dissolved Phase Distribution</i>                        | 24        |
| <b>3.4</b> | <b>SOIL AND GROUNDWATER DELINEATION</b>                    | <b>25</b> |
| 3.4.1      | <i>Soil</i>  | 25        |
| 3.4.2      | <i>Shallow Groundwater</i>                                 | 25        |

|            |   |           |
|------------|---|-----------|
| 3.4.3      | <i>Bedrock Groundwater</i>                                    | 25        |
| <b>3.5</b> | <b>CONTAMINANT FATE AND TRANSPORT</b>                         | <b>26</b> |
| 3.5.1      | <i>Soils</i>  | 26        |
| 3.5.2      | <i>DNAPL Migration Pathway</i>                                | 26        |
| 3.5.3      | <i>Dissolved Phase COIs</i>                                   | 27        |
| 3.5.4      | <i>Plume Migration and Transport Processes</i>                | 28        |
| 3.5.5      | <i>Natural Attenuation Processes</i>                          | 28        |
|            | 3.5.5.1 <i>Benzene</i>  | 29        |
|            | 3.5.5.2 <i>Naphthalene</i>                                    | 29        |
| 3.5.6      | <i>Other PAHs</i>   | 30        |
| <b>3.6</b> | <b>EXPOSURE ASSESSMENT</b>                                    | <b>30</b> |
| 3.6.1      | <i>Historical Source and Release of Constituents</i>          | 31        |
| 3.6.2      | <i>Affected Environmental Media and Constituent Transport</i> | 32        |
| 3.6.3      | <i>Exposure Setting and Land Use</i>                          | 32        |
|            | 3.6.3.1 <i>Land Use</i>                                       | 33        |
|            | 3.6.3.2 <i>Groundwater Use</i>                                | 33        |
|            | 3.6.3.3 <i>Covenants and Controls</i>                         | 34        |
| 3.6.4      | <i>Potential Receptors</i>                                    | 34        |
| 3.6.5      | <i>Exposure Media and Potential Exposure Pathways</i>         | 35        |
|            | 3.6.5.1 <i>Surface Soil</i>                                   | 36        |
|            | 3.6.5.2 <i>Subsurface Soil</i>                                | 37        |
|            | 3.6.5.3 <i>Groundwater</i>                                    | 38        |
|            | 3.6.5.4 <i>Indoor Air</i>                                     | 39        |
|            | 3.6.5.5 <i>Ambient Air</i>                                    | 40        |
| <b>4.0</b> | <b>PLANNED INVESTIGATIONS</b>                                 | <b>41</b> |
| 4.1        | <b>DNAPL NATURE AND EXTENT</b>                                | <b>41</b> |
| 4.2        | <b>BEDROCK WELL INSTALLATIONS</b>                             | <b>41</b> |
| 4.3        | <b>VAPOR INTRUSION</b>  | <b>42</b> |
| <b>5.0</b> | <b>PLANNED REMEDIAL ACTIVITIES</b>                            | <b>43</b> |
| 5.1        | <b>SOIL EXCAVATION AND ISS FOR THE WESTERN PORTION MGP</b>    | <b>43</b> |
| 5.2        | <b>DNAPL RECOVERY</b>   | <b>44</b> |
| 5.3        | <b>PLANNED GROUNDWATER MONITORING</b>                         | <b>44</b> |

|       |   |    |
|-------|---|----|
| 5.3.1 | <i>Point of Demonstration Wells</i>         | 45 |
| 5.4   | <b>PLUME STABILITY EVALUATIONS</b>          | 45 |
| 6.0   | <b>REPORTING, PROJECT SCHEDULE AND COST</b> | 46 |
| 7.0   | <b>REFERENCES</b>                           | 47 |

**TABLE OF CONTENTS *continued***

**TABLES**

- 2-1 SITE-SPECIFIC COIS AND MONITORED NATURAL ATTENUATION PARAMETERS
- 3-1 DELINEATION STANDARDS IN SOIL
- 3-2 DELINEATION STANDARDS IN GROUNDWATER
- 3-3 BEDROCK GROUNDWATER ANALYTICAL RESULTS

**FIGURES**

- 1-1 TOPOGRAPHIC SITE LOCATION MAP
- 1-2 SITE MAP
- 1-3 PROPERTY OWNERSHIP MAP
- 2-1 2004 CSR PARCEL SOIL CERTIFICATIONS
- 3-1 INTERPRETED LINEAMENTS
- 3-2 SAPROLITE SURFACE CONTOURS & APPROXIMATE FRACTURE ORIENTATIONS
- 3-3 OPTICAL TELEVIEWER BOREHOLE IMAGES FOR WELLS MW-110(D) AND MW-111D
- 3-4 ALLUVIUM GROUNDWATER ELEVATION MAP-AUGUST 2013
- 3-5 AVERAGE GROUNDWATER ELEVATION CONTOURS AND FLOW LINES FOR BEDROCK WELLS-MAY 2010-AUGUST 2013
- 3-6 DNAPL OBSERVATIONS IN SITE WELLS
- 3-7 BENZENE/NAPHTHALENE IN ALLUVIUM GROUNDWATER - 2013
- 3-8 BENZENE IN BEDROCK GROUNDWATER - FEBRUARY 2014

- 3-9 BENZENE IN BEDROCK GROUNDWATER – AUGUST 2014
- 3-10 NAPHTHALENE IN BEDROCK GROUNDWATER – FEBRUARY 2014
- 3-11 NAPHTHALENE IN BEDROCK GROUNDWATER – AUGUST 2014
- 3-12 CHEMICAL SPECIATION DATA FOR SELECT BEDROCK WELLS - FEBRUARY AND AUGUST 2014
- 5-1 POINT OF DEMONSTRATION WELLS
- 6-1 VIRP PROJECTED MILESTONE SCHEDULE

## ***APPENDICES***

- A VRP APPLICATION AND CHECKLIST
- B WARRANTY DEEDS AND RIGHT OF ENTRY
- C WESTERN PORTION AND MW-101 AREA GROUNDWATER CAP ADDENDUM
- D BORING LOGS AND WELL CONSTRUCTION DIAGRAMS
- E VEFR EVENT REPORTS
- F LABORATORY ANALYTICAL REPORTS
- G DNAPL INVESTIGATION WORK PLAN
- H BEDROCK GROUNDWATER INVESTIGATION PLAN
- I BEDROCK GROUNDWATER MONITORING PLAN

## ***ACRONYMS AND ABBREVIATIONS***

|        |   |
|--------|---|
| AGLC   | Atlanta Gas Light Company                         |
| AMSL   | Above Mean Sea Level                              |
| BCWP   | Bedrock Characterization Work Plan                |
| BDWP   | Basis of Design Work Plan                         |
| BDWPBG | Basis of Design Work Plan for Bedrock Groundwater |
| bgs    | Below Ground Surface                              |
| BPLM   | By-Product Like Material                          |
| BTEX   | Benzene, Toluene, Ethylbenzene, and Xylenes       |
| CAP    | Corrective Action Plan                            |
| CAP-A  | Corrective Action Plan Addendum                   |
| CCP    | Central City Park                                 |
| cm     | Centimeter  |
| cm/sec | Centimeter(s) per Second                          |
| COI    | Constituents of Interest                          |
| CSI    | Compliance Status Investigation                   |
| CSM    | Conceptual Site Model                             |
| CSR    | Compliance Status Report                          |
| DNAPL  | Dense Non-Aqueous Phase Liquid                    |
| EA     | Environmental Assessment                          |
| EM     | Electromagnetic                                   |
| ECM    | Environment Cost Management                       |
| EQuIS  | Environmental Quality Information System          |
| EPA    | Environmental Protection Agency                   |
| EPD    | Environmental Protection Division                 |
| ERM    | Environmental Resources Management                |
| FFS    | Focused Feasibility Study                         |
| ft     | Feet or Foot                                      |
| ft/day | Feet per Day                                      |
| GPC    | Georgia Power Company                             |
| gpm    | Gallons per Minute                                |
| GPR    | Ground Penetrating Radar                          |
| G&M    | Geraghty & Miller, Inc.                           |
| HASP   | Health and Safety Plan                            |
| Hg     | Mercury   |
| HSI    | Hazardous Site Inventory                          |
| HSRA   | Hazardous Site Response Act                       |
| IDW    | Investigation Derived Waste                       |
| ISCO   | In-Situ Chemical Oxidation                        |
| iSOC®  | In-Situ Oxygen Curtain                            |
| ISS    | In-Situ Stabilization                             |
| K      | Hydraulic Conductivity                            |
| LAW    | Law Environmental                                 |
| lbs    | Pounds  |
| LNAPL  | Light Non-Aqueous Phase Liquid                    |
| MGP    | Manufactured Gas Plant                            |

*ACRONYMS AND ABBREVIATIONS* continued

|          |   |
|----------|---|
| MI&P     | Macon Iron & Paper                            |
| mm       | Millimeter                                    |
| MNA      | Monitored Natural Attenuation                 |
| MUDA     | Macon Urban Development Authority             |
| NAPL     | Non-Aqueous Phase Liquid                      |
| NPL      | National Priorities List                      |
| NTU      | Nephelometric Turbidity Units                 |
| O.C.G.A  | Official Code of Georgia                      |
| OLM      | Oil-Like Material                             |
| OSWER    | Office of Solid Waste and Emergency Response  |
| PA       | Preliminary Assessment                        |
| PAHs     | Polycyclic Aromatic Hydrocarbons              |
| psi      | Pounds per Square Inch                        |
| POTW     | Publicly Owned Treatment Works                |
| PTWP     | Pilot Test Work Plan                          |
| PWR      | Partially Weathered Rock                      |
| RACR     | Remedial Action Completion Report             |
| RRS      | Risk Reduction Standards                      |
| RETEC    | The RETEC Group, Inc.                         |
| ROW      | Right-of-Way                                  |
| SI       | Site Inspection                               |
| TLM      | Tar-Like Material                             |
| UCS      | Unconfined Compressive Strength               |
| UEC      | Uniform Environmental Covenant                |
| USEPA    | United States Environmental Protection Agency |
| USGS     | United States Geological Survey               |
| VI       | Vapor Intrusion                               |
| VIRP     | Voluntary Investigation and Remediation Plan  |
| VEFR     | Vacuum Enhanced Fluid Recovery                |
| VOCs     | Volatile Organic Compounds                    |
| VRP      | Voluntary Remediation Program                 |
| VRPA     | Voluntary Remediation Program Act             |
| WILLIAMS | Williams Environmental Services, Inc.         |
| µg/L     | Micrograms per Liter                          |

## 1.0 INTRODUCTION

### 1.1 PURPOSE

This Voluntary Investigation and Remediation Plan (VIRP) is being submitted on behalf of Atlanta Gas Light Company (AGLC) and Georgia Power Company (GPC) for the former Macon Manufactured Gas Plant (MGP) site located in Macon, Bibb County, Georgia (Figure 1-1). Two MGP facilities formerly operated in this area. Figure 1-2 presents the site, surrounding features and the location of these MGP sites. AGLC has requested that the former Macon MGP Site, Hazardous Sites Inventory (HSI) #10511 be entered into the Georgia Voluntary Remediation Program (VRP). For the purposes of this document, the term "Site" is defined as the portion AGLC's contiguous property and any other owner's property potentially impacted by the former MGP operations. Currently, both former facilities are regulated as one site under the Georgia Environmental Protection Division (EPD) Hazardous Sites Response Act (HSRA), and are listed on the EPD HSI as site number 10511.

AGLC and GPC have performed a series of investigations and implemented numerous EPD-approved corrective actions at the Site. As discussed below, AGLC and GPC have addressed MGP impacts in the unsaturated and saturated materials on several parcels. Detailed information regarding previous corrective actions is provided in Section 2.3.2. This VIRP addresses the remaining MGP impacts in soil and groundwater at the Site (See Section 1.2 below for applicant and qualifying properties).

In correspondence dated January 17, 2012, EPD requested submittal of a Corrective Action Plan Addendum (CAP-A) to address shallow (alluvial) groundwater and bedrock groundwater impacts at the Site. In correspondence dated August 13, 2013, AGLC documented the agreement reached at a July 8, 2013 meeting with the EPD that established a separate schedule for delivery of a CAP-A to address the alluvial groundwater impacts, and a separate Bedrock Groundwater CAP-A to address MGP impacts in bedrock groundwater. The CAP-A for alluvial groundwater was submitted to EPD on February 18, 2014. After further discussion between EPD and AGLC, it was agreed that the Macon MGP Site is a candidate for enrollment in the VRP, and that submittal of a Voluntary Investigation and Remediation Plan (VIRP) would be acceptable to EPD in lieu of a bedrock groundwater CAP. This VIRP incorporates the previously submitted CAP-A for alluvial groundwater.

The purpose of this VIRP is to provide EPD with information to support enrollment in the VRP of AGLC-owned and non-AGLC owned parcels impacted by the former MGP operations above applicable cleanup standards. In addition, the VIRP describes planned activities that will be completed to bring the Site into compliance with the applicable VRP cleanup standards as required by the Georgia Voluntary Remediation Program Act (VRPA).

The VRP Application Form and Checklist are included in [Appendix A](#) of this VIRP. Warranty deeds for the qualifying properties are included in [Appendix B](#).

## 1.2

### *QUALIFYING PROPERTIES & PARTICIPANT ELIGIBILITY*

The AGLC property and surrounding parcels owned by other parties meet the eligibility criteria for the VRP. The qualifying properties included in the VRP application are provided on [Figure 1-3](#). The properties 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 6<sup>th</sup> Street), and parcels owned by the City of Macon and Norfolk Southern Railroad (undefined addresses or parcel identifiers). Agreements have been reached with the City of Macon and Norfolk Southern. An agreement with MUDA is pending, but the property is anticipated to be included as a qualifying property. Existing agreements (right-of-entry) are provided in [Appendix B](#).

None of the properties are listed on the National Priorities List (NPL), or are currently undergoing response activities required by an order of the Regional Administrator of the United States Environmental Protection Agency (USEPA), or are a facility required to have a permit under Official Code of Georgia (O.C.G.A) Section 12-8-66. There are currently no outstanding liens filed against any of the qualifying properties pursuant to O.C.G.A Sections 12-8-96 and 12-13-12. Qualifying the indicated properties under the VRP would not violate the terms and conditions under which the division operates and administers remedial programs by delegation or by similar authorization from the USEPA. In addition, qualification of the indicated properties would not violate any order, judgment, statute, rule or regulation subject to the enforcement authority of the Director of the EPD. In the event additional affected properties are identified, AGLC will notify EPD and revise the VIRP accordingly, through semiannual progress reports.

This document is organized into six Sections, following this introduction:

- Section 2.0 provides site background and historical information, including a description of the AGLC Macon Site, history of MGP operations, and a summary of completed investigations and corrective actions.
- Section 3.0 describes the preliminary Conceptual Site Model (CSM). The CSM provides details of surface and subsurface conditions, discusses constituents of interest (COI), distribution and nature of COI in impacted media, media delineation standards, and potential receptors and exposure pathways.
- Section 4.0 includes details of planned investigation activities necessary to refine the CSM.
- Section 5.0 describes the planned remedial activities necessary to update the CSM and ultimately bring the Site into compliance with applicable cleanup standards as required by the VRPA.
- Section 6.0 outlines the preliminary schedule and cost for planned remedial activities, including groundwater monitoring and reporting.
- Section 7.0 provides a list of the documents referenced in the VIRP.

## 2.0 *SITE BACKGROUND AND HISTORY*

### 2.1 *MANUFACTURED GAS PLANT SITE HISTORY*

Two MGP facilities formerly operated at the Macon MGP Site. MGPs were commonly used in the 1800s through the 1950s for producing manufactured gas using coal gas processes, water gas/carbureted gas processes, and/or oil gas processes. Each of these processes results in the generation of residual material such as tars, liquors, sludges, coal fragments, and gas purifying wastes. This residual material includes by-product like material (BPLM), commonly described as oil-like material (OLM) or tar-like material (TLM) residue, and non-aqueous phase liquid (NAPL).

One of the MGP facilities formerly operated at the Macon MGP Site was located southeast of 6<sup>th</sup> Street and one was located northwest of 6<sup>th</sup> Street. The Site has a fairly complex history of ownership and operational usage, and there are periods of time where very little is known about operations at either MGP facility. BPLM generated at both facilities is known to have impacted soil and groundwater at the Site. Details of each MGP are provided in the following Sections.

## 2.2 *SOURCES OF RELEASE*

### 2.2.1 *Mulberry Street MGP Site*

The former MGP located at 137 Mulberry Street (southeast of 6<sup>th</sup> Street) is known to have undocumented and historical releases from gas processing operations, and has been the subject of numerous investigation and corrective actions since the 1980s. Within this VIRP, this portion of the Macon MGP site will be referred to as the Mulberry Street MGP (this area has also been referred to as the Eastern Portion MGP in previous correspondence). The property is bounded by Walnut Street, 7<sup>th</sup> Street, Mulberry Street, and 6<sup>th</sup> Street, and is currently owned by MUDA.

Historical documentation indicates that all three gas generating processes previously discussed were utilized at the Mulberry Street MGP. MGP operations at the property began in the mid-1850s and continued for nearly 100 years. Structures formerly located on the property included three gas holders, four tar wells, several purifying tanks, and various oil and crude oil tanks (ThermoRetec, 2001). Due to the proximity of each potential source and the similarity of

regulated substances associated with each, determining if a release had occurred from any particular potential source is difficult; however, extensive subsurface investigations have been completed at the site to define the extent of MGP-related impacts to soil and groundwater.

### 2.2.2 *Western Portion MGP Site*

Investigation of the property northwest of 6<sup>th</sup> Street began in 2005 when MGP-impacted groundwater was detected at an alluvial groundwater monitoring well located upgradient of the Mulberry Street MGP. In 2007, soil and groundwater impacts requiring additional investigation were identified during the demolition of structures on the property. The results of the investigation established that this location was a separate former MGP site that used different MGP production processes relative to the Mulberry MGP.

An 1872 artist rendering of Macon depicts a two-holder gas plant located northwest of 6<sup>th</sup> Street, where Terminal Avenue is currently located. A detailed description of site operations and associated structures is unavailable due to the fact that the site operation history predates typical historical MGP sources (e.g., Browns Directory). The operational timeframe is estimated to be from at least 1872 based on the artist rendering to before 1889 based on the absence of the MGP plant on the first available (1889) Sanborn fire insurance map.

Observations made during the excavation of test pits in 2008 revealed the presence of brick and wood fibers potentially associated with MGP structures. Results of forensic analyses performed on samples collected during the Supplemental Site Characterization – MW-09 Area (ECM, 2009) indicated that the impacts were related to an MGP operation involving burning resin which was different from historic operations performed at the Mulberry Street MGP.

Data suggests that impacts to soil and/or groundwater from the Western Portion MGP may have impacted portions of properties presently owned by AGLC, Norfolk Southern, Prodigy Holdings LLC, and the City of Macon (i.e., right-of-ways). [Appendix C](#) addresses the planned remedial action associated with the Western Portion MGP site.

## 2.3 *REGULATORY HISTORY*

AGLC and EPD entered into Consent Order EPD-HSR-227 on July 11, 2000. The Consent Order required that AGLC take actions to remove and/or treat in place all source material and soil, remove free phase contamination to the extent practicable, and remove and/or treat in place groundwater to the degree

necessary to bring the Macon MGP Site into compliance with applicable Risk Reduction Standards (RRS) as defined by HSRA. Implementation of a groundwater monitoring program is also required by the Consent Order. In October and November 2010, EPD requested that AGLC either implement corrective action in accordance with the previously-approved 2006 CAP-A (RETEC, 2006), or develop updated corrective action options specifically for the Western Portion MGP. In correspondence to EPD dated January 5, 2011, AGLC notified EPD that a Focused Feasibility Study (FFS) would be submitted by April 15, 2011 and a CAP-A would be prepared following approval of the FFS to address soil and shallow groundwater impacts in the Western Portion MGP.

As requested by EPD, a Groundwater CAP-A documenting corrective actions to be taken to address the unsaturated and saturated alluvial MGP impacts associated with the Western Portion MGP was submitted on February 18, 2014 (ERM, 2014). The 2014 CAP-A proposed excavation for unsaturated soils and in situ solidification (ISS) into the saprolite for MGP source materials below the water table located in the Western Portion. The proposed corrective actions are consistent with previous remedies at the Site, and are consistent with the Focused Feasibility Study - Western Portion and MW-101 Area (ECM, 2011). As corrective actions outlined in the 2014 CAP-A will be initiated during the first quarter of 2015 (i.e., assumed to be after acceptance of the Site into the VRP), the February 2014 CAP-A is included in this VIRP as [Appendix C](#).

During a meeting between EPD and AGLC personnel in July 2014, it was agreed that the Macon MGP Site was a candidate for entry into the GA VRP. This VIRP and VRP Application ([Appendix A](#)) serves as the requisite submittal for entry into the VRP program. The site-specific COIs addressed in the February 2014 CAP-A and this VIRP have been selected based on correspondence dated January 17, 2012, in which EPD requested that COIs match those presented in RETEC's January 2004 Compliance Status Report (CSR; RETEC, 2004a). A list of site specific COIs is presented in [Table 2-1](#), and includes volatile organic compounds (VOCs, such as benzene) polycyclic aromatic hydrocarbons (PAHs, such as naphthalene), and inorganic compounds (i.e., metals and cyanide). AGLC has been conducting groundwater monitoring and sampling on a semiannual basis in select groundwater monitoring wells for the COI and monitored natural attenuation (MNA) parameters listed in [Table 2-1](#).

### 2.3.1 *Summary of Previous Investigations*

This Section provides a summary of significant investigative activities that have been performed at the Site (i.e., at the Mulberry Street and Western Portion MGP sites as well as neighboring properties). Investigation activities associated with

the Mulberry Street (Eastern Portion) MGP began in 1986. Investigation of the Western Portion began in 2005. Additional details of previous investigations are included in historical reports and in the 2014 CAP-A, included in this document as [Appendix C](#). Locations of existing alluvial (shallow and intermediate depth) and bedrock groundwater monitoring wells are depicted on [Figure 1-2](#) for reference.

- 1986 - 1987: Law Environmental (LAW) conducted the first investigation of the Mulberry Street site. The investigation included geophysical exploration, test pit excavation and the collection of soil and groundwater samples for laboratory analysis.
- 1991: Preliminary Assessment (PA) of the Mulberry Street site conducted by LAW (LAW, 1991). The PA included a review of available file material, reconnaissance of the former MGP property, a narrative of the former MGP operations, collection and analysis of soil and groundwater samples, and a limited survey of potential human and environmental receptors.
- 1992: LAW conducted a Site Inspection (SI; LAW, 1992) which included completion of twenty-two soil borings for the collection and analysis of soil samples, installation of groundwater monitoring wells MW-4, MW-5, and MW-6, collection and analysis of groundwater samples, evaluation of soil physical characteristics, slug testing of monitoring wells, evaluation of surface drainage features, and review of available geologic literature.
- 1997 and 1998: Williams Environmental (Williams) performed an Environmental Assessment (EA) which included defining the horizontal and vertical extent of COI in soil and groundwater identified during the PA and SI. Eighty-six soil borings, nineteen groundwater monitoring wells, and five structure wells were installed. Other tasks included an investigation for determining the presence of potential NAPL in source structures, aquifer characterization, physical testing of soil and BPLM samples, collection of corrective action feasibility information, and characterization of materials in source areas for possible remedial alternatives (Williams, 1998).
- 1999 - 2000: Williams performed a Compliance Status Investigation (CSI) which included further horizontal and vertical delineation of source material and COI in soil and groundwater, bedrock aquifer characterization including geophysical investigation of bedrock conditions, and Ocmulgee River sediment sampling. Over one hundred soil borings were completed, ten groundwater monitoring wells were installed, and seventy-three sediment borings were advanced during the CSI (Williams, 2000).

- December 2000: Submittal of the Macon Site Soil and Groundwater Corrective Action Plan (ThermoRetec, 2001). The CAP specified a HSRA Type 5 remedy with excavation and ISS to address soil and source material associated with the Mulberry Street MGP.
- January 5, 2001: EPD approved the CAP and associated Type 5 remedy for the Mulberry Street site.
- February 2001 and December 2001: Revisions to the CAP were made to incorporate the results of a Basis of Design Work Plan (BDWP) completed in October 2001 (ThermoRetec, 2002).
- February 2004: The Basis of Design Work Plan for Bedrock Groundwater (BDWPBG) was submitted to EPD on February 26, 2004, and a second revised BDWPBG was submitted on June 30, 2004 (RETEC, 2004b). Implementation of the 2004 BDWPBG consisted of in situ chemical oxidation (ISCO) using modified Fenton's Reagent injected into on-site injection wells, and is discussed in detail in Section 2 of the April 2006 Groundwater CAP-A (RETEC, 2006).
- December 2004: Upon implementation of the BDWPBG, additional characterization was deemed necessary when groundwater impacts in bedrock downgradient of MW-12D were detected in MW-110(D) and MW-111D.
- December 2004: The Bedrock Characterization Work Plan (BCWP), submitted on December 17, 2004, outlined the plan to install additional bedrock wells to better characterize impacts to bedrock groundwater near MW-110(D) and MW-111D (RETEC, 2004c). The BCWP was implemented in June 2005, with conditions specified by EPD in the conditional approval in February 2005.
- February 2005: Bedrock monitoring wells MW-112D and MW-113D were installed downgradient of MW-111D and MW-110(D), respectively, and MW-114D was installed cross gradient of MW-12D.
- April 2005: Geophysical investigations were conducted to aid in designing a remedy to address the impacts observed at MW-110(D) and MW-111D. Results indicated that bedrock beneath the Macon MGP Site contains 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 each of the ten bedrock wells tested ranged from less than 0.0001 gallons per minute (gpm) to 0.0024 gpm. Therefore, unless water is pumped from the bedrock zone, the rate of flow in this zone is very low to almost none at all (RETEC, 2006).

- June 2005: The Groundwater Corrective Action Plan Addendum (Groundwater CAP-A) was submitted to EPD by RETEC on June 30, 2005. AGLC responded to EPD comments on November 11, 2005, and in that response, another process was suggested for submittal of the Basis of Design Work Plans (BDWPs). After additional comments and responses, the final Groundwater CAP-A (RETEC, 2006) was submitted on April 10, 2006.
- November 2005: Soil investigations were initiated at the Western Portion in the area of MW-09, and the results indicated that site-specific COIs were present in soil at relatively higher concentrations than anticipated as MW-09 is located upgradient of the Mulberry Street MGP area and the extent of impacts was expected to be limited and decrease with distance from the Mulberry Street MGP (RETEC, 2006). Additional investigation activities proposed in the Groundwater CAP-A were performed from August 2006 through October 2008.
- June 2006: A second phase of the bedrock remedy to address the off-site impacts observed in MW-110(D) and MW-111D was approved by EPD. Observations of groundwater flow conditions during remedy implementation indicated that fractures in the bedrock aquifer in the vicinity of the intersection of Walnut Street and 7<sup>th</sup> Street are hydraulically connected. Additional details of the injection activities are included in the Remedial Action Completion Report (RACR) for Bedrock Groundwater (AECOM, 2008), and the RACR for the Area Downgradient of the ISS Mass (AECOM, 2010).
- November 2006 through February 2007: Following BPLM characterization activities, additional geophysical characterization activities were conducted to further define bedrock groundwater downgradient of the ISS. Characterization activities included pneumatic slug testing of five shallow bedrock test wells (MW-110(D), MW-111D, MW-200D, MW-207D, and IW-1). Results are reported in the Focused Feasibility Study for Alluvium in the Area Downgradient of the ISS Mass (ENSR, 2008). The reported hydraulic conductivity (K) for alluvial groundwater was modeled to be approximately 5.0 ft./day, with an estimated groundwater seepage velocity of approximately 0.20 ft./day.
- January 2007 and February 2007: NAPL adsorbent (FLUTE) liners were installed in select bedrock groundwater monitoring wells that had elevated concentrations of benzene and naphthalene that might indicate the presence of BPLM (MW-110(D), MW-110D, MW-111D, MW-201D, MW-204D, MW-205D, IW-1, IW-2, and IW-3) in order to determine the locations possible BPLM-bearing fractures in the bedrock. Results of the NAPL investigation indicated a lack of significant BPLM-bearing fractures in bedrock monitoring wells, and that the few fractures that were observed are located in the upper 10 feet of bedrock (AECOM, 2008, Appendix C).

- December 2007: The former Macon Iron & Paper (MI&P) building was razed to facilitate continued ISCO injection as proposed in the CAP-A, but post-demolition conditions warranted the need for further investigation. AECOM's investigation in December 2007 and follow-up work in March 2008 found residual BPLM impacts in the subsurface. A total of eleven soil borings were advanced and three temporary wells were installed as part of the investigation. All depths of TLM observed in the borings were below the water table.
- August 2009: Supplemental site characterization activities including the advancement of forty-one direct push soil borings and the collection of ten soil samples for forensic fuel fingerprint analysis were performed in August 2009. Results of the forensic analyses indicated that the impacts were related to the Western Portion MGP operation involving burning resin, which was different from historic operations performed at the Mulberry Street MGP (ECM, 2009).
- January and February 2010: Data gap investigations performed in the Western Portion MPG, including the installation of twenty additional soil borings and eleven monitoring wells, were performed at the site. Results of the investigation are detailed in ERM's April 8, 2011 Data Gap Investigation Report, which was submitted as an Appendix to ECM's 2011 FFS - Western Portion and MW-101 Area. The FFS recommended ISS with limited excavation as the selected remedy for the Western Portion.
- October and November 2010: As the proposed remedy (ISS with excavation) in the 2011 FFS was a change from the 2006 CAP-A, a revised CAP was determined necessary following some additional delineation to fill in data gaps and to confirm vertical and horizontal delineation above the RRS, with additional pre-design investigation tasks to provide necessary data inputs for remedy design.
- March 2013: Advancement of twenty-six soil borings (SB-900 through SB-925) around the perimeter of the proposed remediation footprint in the western portion of the site in an effort to delineate soil COIs. In addition, the advancement of thirty-six soil borings (SB-950 through SB-985) inside the footprint of the proposed corrective action to define the vertical extent of soil COI exceeding the Type 4 RRS (ERM, 2014). Results of the investigation are included in [Appendix C](#).
- March 2013: Installation of three bedrock groundwater monitoring wells (MW-12DRR, MW-205DD, and MW-302DD) to evaluate the vertical and horizontal extent of MGP impacts in the bedrock aquifer in the area downgradient of the ISS on MUDA property. Boring Logs and Well Construction Diagrams are included as [Appendix D](#).

- April 2013: Advancement of thirty-eight soil borings as part of investigations to design the remedy for the Western Portion and MW-101 Area groundwater (ERM, 2014). Results of the investigation are included in [Appendix C](#).
- September 2013: Installation of temporary monitoring wells DTW-1 through DTW-6 downgradient of the planned corrective action for the Western Portion, along the fringe of the existing ISS mass on the MUDA property; installation of DTW-7 through DTW-18 in the MW-101 area; and installation of DTW-20 through DTW-29 to evaluate the extent of dissolved phase impacts associated with the Western Portion MGP. Results of the dissolved phase investigation are included in [Appendix C](#).
- November 2013: Advancement of eight soil borings (NS-1 through NS-8) to refine the extent of potential MGP residual impacts to the northwest of the Western Portion on property owned by Norfolk Southern. Residual MGP impacts were observed in five borings. Results of the investigation are included in [Appendix C](#).
- November 2013: Installation of four bedrock groundwater monitoring wells (MW-304D, MW-305D, MW-306D, and MW-307D) to further assess MGP-impacts to bedrock groundwater downgradient of the Macon MGP site, and installation of one upgradient bedrock monitoring well (MW-308D). Boring Logs and Well Construction Diagrams are included in [Appendix D](#).
- February 2014: The Western Portion and MW-101 Area Groundwater CAP-A (ERM, 2014) was submitted to EPD. The 2014 CAP-A included delineation sample results from the 2013 soil boring and dissolved phase investigations, and proposed excavation for unsaturated soils and ISS for MGP source materials below the water table for corrective action for source material located in the Western Portion. Proposed activities are scheduled to begin in 2015.

### 2.3.2 *Summary of Previous Corrective Actions*

This Section describes significant corrective actions that have been performed for the contaminated media at the Site. Previous corrective actions performed for source material in the overburden and shallow groundwater in the Western Portion MGP area are summarized in Section 1.2 of the 2014 CAP-A, and for source material in the overburden and shallow groundwater in the MW-101 area in Section 1.3 of the 2014 CAP-A. The dates and locations of the corrective actions are presented in Figure 1-4 of the 2014 CAP-A (included as [Appendix C](#)).

- January 2000 through March 2000: Soil remediation in Central City Park was conducted in accordance with the Central City Park (CCP) Corrective

Action Plan (ThermoRetec, 1999) to remove unsaturated soils near the intersection of Walnut Street and 7<sup>th</sup> Street. Excavation included areas with Type 3 RRS exceedances from soil borings SB-131 through SB-178 and SB-182 through SB-184. Results were submitted to EPD in the Soil Removal Completion Report – CCP (Appendix A of the Soil Remediation Closure Report for OU-2 and OU-4; RETEC, 2002b).

- December 2000: Submittal of the CAP for Sediments on the Ocmulgee River (ThermoRetec, 2000) for the removal of TLM and impacted sediment in the Ocmulgee River adjacent to the former Mulberry Street site. This CAP included an Ecological Risk Assessment and Human Health Risk Assessment. Sediment remediation was performed during September 2001 and October 2001 in adherence to the EPD-approved CAP dated December 28, 2000; the Army Corps of Engineers' permit dated July 24, 2001; and the EPD Water Quality Certification issued on March 12, 2001. Sediment remediation activities, which included capping the sediments with rip-rap, were summarized in the Sediment Removal Completion Report, Upper and Lower Outfalls – Ocmulgee River (RETEC, 2002a).
- October 2001: Development a Basis of Design Work Plan (BDWP; ThermoRetec, 2002), for soil remediation at the Mulberry Street MGP. The BDWP was implemented in 2002, and the activities are summarized in the Soil Remediation Closure Report for OU-2 and OU-4, (RETEC, 2002b). ISS and excavation were completed at the Mulberry Street MGP site in August 2002. The limits of ISS extended across the site and ended approximately 30-feet west and 20 feet north of MW-101. Details regarding the remediation are provided in RETEC's 2002 Soil Remediation Closure Report for OU-2 and OU-4. Additional ISS activities were performed at the Mulberry Street MGP in 2009-2010 and are summarized in the RACR for the Area Downgradient of the ISS Mass (AECOM, 2010).
- September 2001 through August 2002: Unsaturated soils at the Mulberry Street MPG property were remediated by excavation and saturated soils at the site were stabilized using a portland cement based ISS procedure. Based on the extent of known MGP impacts, all impacted soils (RRS exceedances) above the water table were excavated and soil impacts below the water table were stabilized in accordance with the approved CAP and design parameters provided in the Soil Remediation Closure Report for OU2 and OU4 (RETEC, 2002b).
- January 2004: Submittal of the CSR (RETEC, 2004a). Results of Mulberry Street MGP delineation and investigation and remediation activities are summarized in the 2004 CSR. [Figure 2-1](#) presents the previous parcel certification, as indicated below. The Soil Certification is provided within the January 2004 CSR. This report certifies soil for existing properties and adjacent parcels for compliance under HSRA, as noted below:

#### Type 1 Risk Reduction Standards for Soil

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

#### Type 2 Risk Reduction Standards for Soil

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

#### Type 3 Risk Reduction Standards for Soil

- Central City Park

#### Type 4 Risk Reduction Standards for Soil

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

#### Type 5 Risk Reduction standards for Soil

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

#### Certifications for River Sediments

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

- Lower Outfall of the Ocmulgee River

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

- Upper Outfall of the Ocmulgee River
- 2004: Pilot studies were performed in the areas of MW-101 (adjacent to the ISS mass on the Mulberry Street site and MW-9 (Western Portion MGP site) to evaluate the effectiveness of an oxygen diffusion technology (in-situ oxygen curtain) (iSOC®) to promote biodegradation of COI in the alluvial aquifer in areas where groundwater exceeded applicable cleanup standards.
- July 2004: The iSOC® system was installed in an injection well (IW-4) in the MW-101 area and began operation. The system operated continuously except for brief maintenance periods until February 2005, after concentrations of COIs (benzene and naphthalene) were reduced to below their detection limit. The system was turned off in February 2005.
- 2004: In situ chemical oxidation (ISCO), using modified Fenton's reagent, was pilot tested in an attempt to reduce the benzene and naphthalene groundwater concentrations in bedrock well MW-12D. However, due to the concentrations observed in MW-110(D) and MW-111D, the EPD requested further characterization of the off-site bedrock impacts, and consequently MW-112D and MW-113D were installed downgradient of MW-111D and MW-110(D), respectively, and MW-114D was installed cross gradient of MW-12D and the ISCO injection wells .
- December 2004: RETEC submitted a Pilot Test Work Plan (PTWP) for the MW-09 Area of the Western Portion on December 17, 2004 for a study of oxygen enhanced bioremediation using in-situ oxygen curtain (iSOC®) technology, and a bench-scale study for in situ chemical oxidation (ISCO). The PTWP was approved by the EPD on February 10, 2005.
- February 2005: The pilot study for enhanced bioremediation was implemented on February 25, 2005 in accordance with the PTWP. Results of the iSOC® pilot study indicated that oxygen-enhanced bioremediation may not be effective in reducing the benzene and naphthalene concentrations in the MW-09 area. This suggested that the residual impacts in the saturated zone near the MW-09 area were not amenable to aerobic bioremediation due to insufficient oxygen delivery and distribution capability. The pilot study results are summarized in the June 30, 2005 Groundwater CAP Addendum (RETEC, 2006).

- April 2005: Geophysical investigations were also conducted to aid in designing an additional remedy to address the impacts observed at MW-110(D) and MW-111D. Benzene and naphthalene concentrations in the newly installed wells (MW-112D through MW-114D) were all below applicable detection limits, therefore, the bedrock plume downgradient of the ISS mass was considered to be adequately characterized (RETEC, 2006).
- June 2006: A second phase of the bedrock remedy to address the off-site impacts observed in MW-110(D) and MW-111D was approved by EPD. This phase of the bedrock remedy, conducted in June 2006, also consisted of ISCO with modified Fenton's Reagent, but was coupled with groundwater extraction in order to assist with oxidant distribution in the fractured bedrock and to minimize plume displacement downgradient of the injection points. During implementation of this phase, an increase in the groundwater elevations in the alluvial wells was observed almost immediately upon start of injection and extraction, indicated hydraulic communication between alluvial groundwater and bedrock groundwater in the vicinity of the intersection of Walnut Street and 7<sup>th</sup> Street. After the third day of injection coupled with extraction, dense non-aqueous phase liquid (DNAPL) was observed in MW-111D, while globules of TLM were observed in MW-110(D). When DNAPL and other BPLM continued to be observed in the effluent from the off-site wells (MW-110(D) and MW-111D), the chemical oxidant was placed by gravity feed into MW-110(D) and MW-111D at the end of every day in an effort to treat the area immediately adjacent to the wells. In summary, over a 30-day period, a total of approximately 12,000 gallons of 12 percent modified Fenton's Reagent was injected into the bedrock aquifer and a total of approximately 90,000 gallons of groundwater was extracted and treated prior to proper disposal to the Macon publicly owned treatment works (POTW).
- 2007: ISCO activities were implemented in the Western Portion in 2007 in accordance with the April 2006 CAP-A and extended to the edge of an existing building. The building was demolished in December 2007 to facilitate further ISCO. However, ISCO activities were suspended pending further investigation of the extent and nature of impacts.
- May 2008: Following investigation and delineation of the impacts beneath the former MI&Paper building footprint, a treatability study was performed with soil and groundwater collected from the subsurface beneath the building. Results of the treatability found that modified Fenton's Reagent, the oxidant that was currently in use at the site, was best suited for optimal chemical oxidation beneath the building footprint. Although it was estimated that an oxidant demand similar to what was calculated in the south was needed to treat the TLM blebs and stringers, given that there was initial evidence of free product and a thicker impacted zone, the injection scheme was modified to require tighter

spacing and an increased injection depth range to achieve the same results.

- September 2009 through December 2009: Additional ISS completed in the eastern corner of the Mulberry Street site. A total of 16,010 cubic yards of alluvial soil was solidified through the completion of 621 ISS columns. The ISS mass keyed into the existing ISS mass and extended to the Walnut Street and 7<sup>th</sup> Street right-of-ways. In addition, a total of 19,680 tons of impacted soil was excavated. The remedial activities are summarized in the 2010 RACR (AECOM, 2010). Following corrective actions to the overburden, the only remaining shallow groundwater impacts above RRS at the Mulberry Street MGP were in the vicinity of at MW-101, adjacent to the ISS mass.
- 2010: A Groundwater CAP-A, prepared by ERM and submitted to the EPD on May 7, 2010 provided modifications to the April 2006 CAP-A, by updating the monitoring network and sampling frequency. The 2010 Groundwater CAP-A specified semiannual samples to be analyzed for benzene and naphthalene and annual groundwater samples to be collected for analysis of COI and MNA parameters, with groundwater monitoring reports to be prepared semiannually. In accordance with the correspondence sent to EPD on January 5, 2011, semiannual sampling was expanded to include benzene, toluene, ethylbenzene, and xylene (BTEX), naphthalene, and metals.
- February 2011: Completion of a Vacuum Enhanced Fluid Recovery (VEFR) event to recover DNAPL accumulated in MW-111D. Approximately 0.75 feet of DNAPL was measured in MW-111D prior to the VEFR event. The event was conducted for 6.75 hours, removing approximately 1,395 gallons of liquid, including 40 gallons of DNAPL and an equivalent of 0.2 gallons of hydrocarbons contained in the off-gas vapor. A copy of the subcontractor report detailing the event is included as [Appendix E](#).
- September 2013: Completion of a VEFR event to recover DNAPL accumulated in MW-111D. Approximately 0.96 feet of DNAPL was measured in MW-111D prior to the VEFR event. The event was conducted for 5.5 hours, removing approximately 899 gallons of total fluid, and an estimated total of 1.6 pounds of hydrocarbons, including approximately 0.2 equivalent gallon of OLM. A copy of the subcontractor report detailing the event is included as [Appendix E](#).
- February 2014: The Western Portion and MW-101 Area Groundwater CAP-A (ERM, 2014) proposed excavation for unsaturated soils and ISS for MGP source materials below the water table for corrective action for source material located in the Western Portion MGP area. Proposed activities are scheduled to begin in 2015. This February 2014 CAP-A is

being incorporated into the current VIRP, and it is intended that this work also be completed under the VRP.

A CSM has been developed based on data obtained during historic and recent investigations documented in previous reports, and from published literature reviews. The objective of the CSM is to illustrate current Site conditions and describe the processes that control the transport, migration, and possible impacts to potential human and ecological receptors.

## 3.1

**GEOLOGY**

## 3.1.1

***Regional Geology***

The southern part of Macon, Bibb County, Georgia, is located in the Coastal Plain physiographic province and the northern part lies within the Piedmont province (Clark and Zisa, 1976). The Coastal Plain province in Bibb County is divided into three distinct physiographic regions that include the Sand Hills, Red Hills, and Tifton Upland. The region around the Site lies within the Sand Hills region and is characterized by light-colored sands and clays of Late Cretaceous age that slope gently towards the southeast (Husted et. al. 1978; Legrand 1962; RETEC 2006). The Piedmont province is characterized by a rolling to hilly upland area of moderate relief that slopes gently to the south (RETEC, 2006).

The region around the Site consists of an alluvial river-cut terrace within the Atlantic Coastal Plain province, approximately one-quarter mile west of the Ocmulgee River (Clark and Zisa, 1976; RETEC, 2006; ENSR, 2008). Elevations in the area range from approximately 275 to 325 feet above mean sea level (AMSL) (United States Geological Survey [USGS] Topographic Map Macon West and Macon East, Georgia; [Figure 1-1](#)) (ENSR, 2008). The area is underlain by up to 40 feet of Pleistocene- to recent-age alluvial deposits described as unsorted sand, gravel, and clay (RETEC, 2006; ENSR, 2008).

Below the alluvial deposits, the Late Eocene upper sand member of the Barnwell red sands grading downward into interbedded yellow sand and clay (Husted et. al., 1978). The Cretaceous-age Tuscaloosa Formation lies unconformably below the Barnwell Formation and consists of fine- to coarse-grained, subangular, micaceous, arkosic sands that are interbedded with gray to green, locally iron-stained kaolinitic, micaceous sandy clays (Legrand, 1956; Husted et. al. 1978). The base of the Tuscaloosa in this area dips slightly to the southeast and lies unconformably above crystalline bedrock. The Tuscaloosa Formation is underlain by Precambrian

and older Paleozoic crystalline rocks that include mica schist, felsic gneiss and schist, and granite and granite gneiss (Couch et. al., 1996).

ERM conducted a lineament analysis for the area surrounding the Site as linear features present at the ground surface (i.e., lineaments) commonly represent surface expressions of bedrock structural features. As such, by mapping the orientations of lineaments, one can infer the orientation of the regional-scale bedrock structural features. The predominant lineament orientations interpreted by ERM are northeast-southwest and northwest-southeast, with a secondary set of lineaments oriented north-south and east-west (Figure 3-1).

### 3.1.2 *Site Geology*

Previous investigations and remediation activities have identified geologic units consisting of fill material; unconsolidated alluvial deposits; sandy clays of the Tuscaloosa Formation; a clayey to silty saprolite; and a granitic gneiss bedrock (Williams, 2000; RETEC, 2006). Throughout most of the Site, the fill material is comprised of a combination of sand, silt, clay, and gravel and is encountered from the ground surface to depths ranging from approximately 0.2 to 15 ft. bgs. The fill material is thickest in the MW-09 area and diminishes near the perimeter of the Site.

The alluvial deposits underlying the fill material generally grade downward from sandy clays and clayey sands, to silty sands, further to sands and gravelly sands (RETEC, 2006). The alluvial sands and gravels have been subdivided into upper, middle, and lower sands and gravels (ENSR, 2008).

The alluvial deposits overlie the Cretaceous-age Tuscaloosa Formation (where present) and the older, underlying saprolite. The Tuscaloosa Formation is generally found west and north of Sixth Street and tapers off in the western/northwestern portion of the Mulberry Street MGP Site, consistent with the orientation of the overlying beds. The Tuscaloosa is encountered from 5 to 23 feet bgs and thickness ranges from approximately 3.5 to 11 ft. (ENSR, 2008).

The base of the Tuscaloosa formation lies unconformably above a saprolite unit. Saprolite, a product of rock decomposition that is formed through in situ chemical weathering, is characteristic of the region (Pavich, 1996). It is characterized by the presence of relict structures present in the original unweathered rock and exhibits the original rock makeup. The saprolite encountered at the Site is generally a clayey silt characterized by relict foliation and structures associated with the parent igneous and metamorphic rock. The thickness of the saprolite at the Site ranges from 6.5 to 30 feet (RETEC, 2006; ENSR, 2008).

The saprolite at the Site is not considered to be a porous media due to the limited number of fractures observed during subsurface investigations. The decomposition of granitic gneiss, abundant in both muscovite and biotite mica, has formed sheet silicates that weather readily into clays. The resulting saprolite has a low flow capacity with low permeability and little to no secondary porosity resulting from fractures in the parent rock (RETEC, 2006; ENSR, 2008). The saprolite contact, as determined from review of historic boring logs and cross-Sections, dips downward from southwest to northeast (Figure 3-2). The saprolite elevation ranges from approximately 302 feet AMSL (at BGS-02) to 268 feet AMSL (at MW-113D) (RETEC, 2006; ECM, 2011; ERM, 2011).

The underlying bedrock consists of a granitic gneiss containing both open and fused fractures that diminish with depth (RETEC, 2006). In June 2005, COLOG performed geophysical logging in ten well boreholes at the Site (RETEC, 2006, Appendix D). The results of the geophysical logging demonstrated that the fractures vary in aperture and dip angles range from 10 to 85 degrees from horizontal. Bedrock fractures demonstrate a primary fracture orientation to the east and southeast and flow lines are generally parallel to fracture orientations (Figure 3-2). Figure 3-3 presents optical televiewer digital borehole images demonstrating the nature of fractures present in shallow bedrock at the Site. The majority of fractures exhibit small apertures, with limited exceptions (e.g., 32.8 – 33.4 ft. bgs in MW-111D). Chemical weathering of the mafic portion of the gneiss has resulted in a porous texture (open cavities) ranging in thickness from 1 millimeter (mm) to 2 centimeters (cm). The number of open cavities and fractures appears to decrease with depth (RETEC, 2006; ENSR, 2008).

## 3.2 *HYDROGEOLOGY*

### 3.2.1 *Regional Hydrogeology*

The Ocmulgee River is located approximately 1,000 feet northeast of the Site. Sand and gravel deposits within the alluvium are the most permeable geologic deposits in the vicinity of the Site. Recharge to the Tuscaloosa occurs in outcrop areas west of the Ocmulgee River. Groundwater in the alluvium and Tuscaloosa is expected discharge into the Ocmulgee River. The Paleozoic-aged and older igneous and metamorphic rocks, and their associated saprolites generally exhibit low transmissivities. Groundwater within these bedrock units is expected to discharge upward into the overlying geologic strata and ultimately to the Ocmulgee River (ENSR, 2008).

### 3.2.2

#### *Site Hydrogeology*

Groundwater is present in portions of the fill material, the alluvium, the Tuscaloosa Formation, saprolite and bedrock. Groundwater is typically first encountered at a depth ranging from 6-20 feet below land surface. Imported backfill material, consisting of clays, silty clays and sandy clays, replaced the fill in all or part of the Site and was compacted to at least 95 percent compaction, resulting in a low permeability. The sands and gravels at the base of the alluvium appear to provide preferential pathways for groundwater flow. In the eastern area, the base of the alluvium contains an alluvial clay, lying directly above the saprolite in some areas, and these combined units appear to serve as an aquitard consisting of clays, silty clays, and clayey silts (ENSR, 2008). The Tuscaloosa causes a perched water table in upgradient, western monitoring wells, near the MW-09 and MW-108 clusters (ENSR, 2008).

#### 3.2.2.1

##### *Alluvium Hydrogeology*

Groundwater within the alluvium flows predominantly to the southeast (RETEC, 2006). [Figure 3-4](#) presents August 2013 potentiometric surface for the alluvium groundwater at the site. The geometric mean of hydraulic conductivity values for wells screened in the alluvium was determined to be  $1.68 \times 10^{-3}$  centimeters per second (cm/sec) (or approximately 5 feet per day [ft./day]) (RETEC, 2006; ENSR, 2008). In the western portion of the Site, shallow groundwater predominantly flows eastward around the In-Situ Stabilization (ISS) mass toward the Ocmulgee River. The ISS mass has created an obstacle for groundwater flow since the mass has a hydraulic conductivity several orders of magnitude lower than the surrounding alluvial aquifer (i.e.,  $10^{-9}$  to  $10^{-6}$  cm/sec) (ENSR, 2008). The presence of the ISS mass has resulted in a slight mounding, reducing the hydraulic gradient upgradient (northwest) of the Site).

With a hydraulic gradient of approximately 0.01 (along ISS mass) and an estimated effective porosity of approximately 0.25, the groundwater seepage velocity in the alluvium is approximately  $7.05 \times 10^{-5}$  cm/sec (0.20 ft./day). The vertical gradient of the alluvium is slightly downward (ENSR, 2008).

#### 3.2.2.2

##### *Bedrock Hydrogeology*

Average potentiometric surface contours for the shallow bedrock aquifer are shown on [Figure 3-5](#). Typical depths to bedrock are 30-50 feet below land surface, with the potentiometric surface ranging from 6-20 feet below land surface. Average groundwater elevation data are plotted to eliminate anomalies in the dataset or short-term perturbations in the flow regime. As shown on [Figure 3-5](#), groundwater in shallow bedrock flows primarily toward the east and southeast. There also appears to be a northeasterly component of groundwater flow,

indicating that a groundwater flow divide appears to transect the northern portion of the site (note: this apparent groundwater flow divide is based largely on one data point: MW-22D). Groundwater flow within fractured bedrock aquifers is controlled by a combination of hydraulic gradients and fracture orientations. As shown on [Figure 3-2](#), the primary orientation of bedrock fractures at the site is to the southeast, which is consistent with the groundwater flow direction indicated by the hydraulic gradient, suggesting that site groundwater flows primarily in this direction.

A sustainable yield pumping test was performed in bedrock well MW-12D in October 2003 (RETEC, 2006). Steady-state equilibrium was achieved with a discharge rate of 0.5 gallons per minute (gpm). Based on interpretation of the pumping test data, a hydraulic conductivity of  $3.4\text{E-}06$  cm/sec ( $9.6\text{E-}03$  ft./day) was calculated for the pumping well (RETEC, 2006). Hydraulic conductivity values calculated for nearby bedrock monitoring wells (i.e., MW-111D, MW-200D, MW-207D, and IW-1) ranged from  $4.6\text{E-}04$  to  $9.2\text{E-}04$  cm/sec (1.3 to 2.6 ft./day) (ENSR, 2008). In contrast, the hydraulic conductivity value calculated for MW-110D [replacement well for MW-110(D)] was  $7.1\text{E-}03$  cm/sec (20 ft./day) due to the presence of a larger-aperture water-bearing fracture (ENSR, 2008). In general, optical televiewer borehole images confirmed that there are very few large-aperture, high-permeability bedrock fractures present in shallow bedrock at the Site ([Figure 3-3](#)). One of the few large-aperture fractures in shallow bedrock was observed in MW-110(D) ([Figure 3-3](#)), which exhibits a hydraulic conductivity value that is an order of magnitude higher than other nearby bedrock wells.

Interpretation of the pumping test data suggests that the shallow fracture network is well connected in the vicinity of 7<sup>th</sup> and Walnut Streets. This finding is based on the results of previous pumping and injection work combined with the pneumatic testing and bedrock groundwater extraction work performed in advance of the FLUTE liner installation (ENSR, 2008). Bedrock groundwater had a fairly uniform response to pumping indicating that the upper, fractured bedrock aquifer is well connected and there are no significant preferential flow pathways. With a hydraulic gradient of approximately 0.013 and an estimated effective porosity of approximately 0.05, the groundwater seepage velocity of the bedrock is approximately  $1.76\text{E-}04$  cm/sec (0.50 ft./day). The vertical gradient of the bedrock is slightly downward (ENSR, 2008).

### 3.3

#### *NATURE AND EXTENT OF CONTAMINANTS OF CONCERN*

Residual MGP impacts persist in unsaturated and saturated soils in the Western Portion MGP area. Groundwater impacts associated with historic MGP

operations persist in the alluvial groundwater on both the Western Portion MGP and the Mulberry Street MGP sites.

### 3.3.1 *Distribution in Soils*

The 2014 CAP-A (ERM, 2014; [Appendix C](#)) provides details of the distribution of MGP-related impacts in unsaturated and saturated soils in the Western Portion MGP area, including figures depicting the vertical and horizontal extent of residual BPLM as determined during numerous site investigations. As presented in Section 2.0, the parcels associated with the former remedial efforts at the Mulberry Street MGP site have been certified compliant with RRSs, and further evaluation is not warranted (RETEC, 2004).

### 3.3.2 *Distribution of DNAPL*

Evidence of DNAPL has been identified at the Site at locations shown on [Figure 3-6](#). DNAPL was observed during the installation of MW-305D, located downgradient of the ISS, along the eastern side of 7<sup>th</sup> Street, in 2013. The DNAPL was encountered in the saprolite zone near the top of bedrock, at a depth of approximately 31 ft. bgs. DNAPL was not observed during the drilling and installation of any other bedrock wells completed in 2013.

DNAPL was first observed in MW-111D June 2006 during groundwater extraction from the well as part of ISCO injection activities. DNAPL continues to be observed at MW-111D, located at the intersection of Walnut Street and 7<sup>th</sup> Street. Prior to completion of the most recent VEFR event (September 23, 2013), approximately 0.96 feet of DNAPL had accumulated in the well. Since the previous VEFR event (February 2011) a total of 1.6 pounds of DNAPL were recovered in September 2013 (amount reflecting approximately 30 months of accumulation between extraction events). Based on this data, the rate of accumulation of DNAPL in MW-111D is estimated to be at most approximately 0.053 pounds per month. ([Figure 3-6](#)). A copy of the February 2011 and the September 2013 VEFR reports are included as [Appendix E](#).

DNAPL was first observed in MW-302D while purging the well during the May 2011 groundwater sampling event. DNAPL has since been sporadically detected on the probe tip during gauging of the well. There has never been measurable accumulation in the well. An estimated total of 0.7 pound of hydrocarbons was removed during this event during the September 2013 VEFR event.

In 2007 NAPL adsorbent (FLUTE) liners were inserted into select bedrock wells in order to investigate the presence of DNAPL and the location of NAPL-bearing fractures in the test wells if present. FLUTE work at well MW-200D provided the most useful insight into the depth of the major BPLM-bearing fractures. At this well location, three fractures between approximately 27 to 33 ft. bgs contained

evidence of mobile DNAPL. At other wells where FLUTes were installed, the only evidence of DNAPL was noted as a few blebs in the liners at MW-201D (29 ft. bgs) and MW-110(D) (33.7 ft. bgs). The extent of DNAPL in the bedrock setting at the site is considered of limited consequence, as a result of the following site specific observations:

- The presence of DNAPL has been delineated at the site;
- Accumulation of DNAPL is not routinely encountered in bedrock wells (only 1 in 34 wells, low frequency of detection);
- The DNAPL areal extent is limited, and is present within road/railroad ROWs adjacent to the site;
- The site geology (i.e. bedrock fractures and bedrock topography) does not support migration of DNAPL;
- In a few cases, blebs and stringers have been identified through the use of unique investigatory techniques or through sampling efforts, yet DNAPL accumulation is not routinely observed;
- The largest distance of DNAPL migration from the site is <75 feet, after a potential depositional period of >100 years.

More discussion regarding DNAPL fate and transport is provided in Section 3.5 below.

### 3.3.3 *Dissolved Phase Distribution*

Mono aromatic hydrocarbons (VOCs, such as benzene) and PAHs (such as naphthalene) have been detected in alluvial and bedrock groundwater at the site.

[Appendix C](#) presents the dissolved phase distribution of the MGP impacts that persist in alluvial groundwater (above bedrock). Specifically dissolved phase impacts are present in the vicinity of the proposed ISS remedy at the Western Portion MGP, and in the vicinity of MW-101, near the eastern edge of the ISS on the Mulberry Street MGP site ([Figure 3-7](#)). [Figures 3-8](#) and [3-9](#) depict the distribution of benzene (representative of the distribution of mono aromatic hydrocarbons) in bedrock during February and August, 2014, respectively. [Figures 3-10](#) and [3-11](#) depict the distribution of naphthalene (representative of the distribution of PAHs) in bedrock during February and August, 2014, respectively. The lateral and vertical extent of mono aromatic hydrocarbons and PAHs has been delineated relative to applicable regulatory standards, which are discussed below.

## 3.4 SOIL AND GROUNDWATER DELINEATION

Delineation standards under the VRP allow for the delineation of contaminants to the default Type 1 residential RRS. Delineation for all media at the site has been completed.

### 3.4.1 *Soil*

A summary of previously EPD-approved RRS for Site COIs in soil is provided in [Table 3-1](#). Previously completed corrective actions associated with the Mulberry Street MGP have addressed soils on that property and in the vicinity of the intersection of Walnut Street and 7<sup>th</sup> Street (See [Figure 2-1](#)). The planned corrective actions presented in the February 18, 2014 CAP-A ([Appendix C](#)) will address the saturated and unsaturated MGP impacts associated with the Western Portion MGP where soils exceed the applicable RRS (as Target Remediation Goals).

### 3.4.2 *Shallow Groundwater*

The proposed RRSs for a partial list of COIs detected above background in groundwater were presented in the 2004 CSR (RETEC, 2004) and subsequently approved by EPD, while proposed RRSs for the remaining COIs were presented in the Semiannual Ground Water Monitoring Report: May and August 2012 Sampling Events (ERM, 2012). A summary of EPD-approved RRS for Site COI in groundwater is provided in [Table 3-2](#). The extent of dissolved phase COI in alluvial groundwater is shown on [Figure 3-7](#), based on data collected through December 2013. The benzene and naphthalene contours shown on the figure represent the current, EPD-approved RRS of 5 µg/L and 20 µg/L, respectively. Depth to shallow groundwater typically ranges from 6-20 feet below land surface.

### 3.4.3 *Bedrock Groundwater*

A summary of EPD-approved RRS for Site COI in groundwater is provided in [Table 3-2](#). Laboratory analytical results for groundwater samples collected from bedrock monitoring wells in February and August 2013 are summarized in [Table 3-3](#), and the laboratory analytical reports are included as [Appendix F](#). Only benzene and naphthalene in bedrock groundwater currently exceed the EPD-approved RRS for the Macon MGP Site.

Typical depths to bedrock are 30-50 feet below land surface, with the potentiometric surface ranging from 6-20 feet below land surface. The extent of benzene in bedrock groundwater in February 2014 and August 2014 is shown in [Figures 3-8](#) and [3-9](#), respectively. The extent of naphthalene in bedrock

groundwater in February 2014 and August 2014 is shown on [Figures 3-10 and 3-11](#), respectively. The applicable RRS (benzene = 5 µg/L and naphthalene = 20 µg/L) are displayed on the appropriate figures.

### 3.5 *CONTAMINANT FATE AND TRANSPORT*

#### 3.5.1 *Soils*

Mono aromatic hydrocarbons present within the vadose zone are susceptible to leaching to groundwater as precipitation infiltrates the subsurface and migrates downward to the water table. In addition, these compounds can partition to the vapor phase and migrate via advective and diffusive transport mechanisms within the vadose zone.

Similarly, PAHs can also leach to groundwater and the lower molecular weight PAH (e.g. naphthalene) can also partition to the vapor phase. However, due to the relatively low solubility and volatility of PAHs, these compounds typically remain in vadose zone soil longer than mono aromatic hydrocarbons.

#### 3.5.2 *DNAPL Migration Pathway*

Coal tar is a DNAPL that is characterized by densities typically ranging from 1.01 to 1.20 kilograms per cubic meter and viscosities ranging from 20 to 100 centipoise (USEPA, 2003). Tars from water-gas or oil-gas processes are generally less viscous and lighter than water and may behave as light non-aqueous phase liquid (LNAPL).

Upon release into the subsurface, DNAPL does not mix with groundwater, but persists as a hydrophobic separate phase as it moves through the subsurface. The migration of DNAPL in the subsurface is controlled by a combination of gravity, viscous forces, capillary forces, and geologic heterogeneities. For a DNAPL to migrate in any direction, its entry pressure must be greater than the capillary pressure of the pore space or fracture into which the DNAPL is flowing. A DNAPL will migrate vertically downward because of its relatively high density until it encounters a capillary barrier (i.e., relatively lower permeability geologic lens or layer), which retards or halts vertical DNAPL migration, resulting in lateral migration along the capillary barrier. When the driving force on a DNAPL body cannot overcome capillary resistance, the DNAPL will stop flowing and will pool in that area (Poulsen and Kueper, 1992; Kueper et al., 1993; Brewster et al., 1995).

At this Site, DNAPL migrated downward through the alluvium until it reached the saprolite surface where it appears to have migrated into a topographic depression in the saprolite surface, which is shown on [Figure 3-2](#). Because the saprolite surface increases in elevation to the north and east of this topographic low, the DNAPL was and is not able to spread laterally beyond this topographic depression.

To the extent that the DNAPL pool overlies any bedrock fractures, the DNAPL could have entered fractured bedrock. However, as shown on [Figure 3-3](#), the majority of fractures in shallow bedrock exhibit relatively small apertures. It is very difficult for coal-tar DNAPL to enter small-aperture fractures, such as these, as there is not enough entry pressure to overcome the capillary pressure within these fractures. Where larger aperture fractures are present (e.g., at 32.9 to 33.6 ft. bgs in MW-111D, as shown on [Figure 3-3](#)), DNAPL can enter the competent fractured bedrock. However, very few larger-aperture fractures have been observed at the site. Thus, DNAPL is not expected to have migrated significantly into competent bedrock. This assumption is supported by the groundwater quality data collected from deeper bedrock wells installed at the Site, which exhibit low concentrations of mono aromatic hydrocarbons and PAHs.

### 3.5.3 *Dissolved Phase COIs*

Coal tar is a complex mixture of numerous compounds, including mono and polycyclic aromatic hydrocarbons, phenols, and heterocyclic oxygen, sulfur and nitrogen compounds (Cohen and Mercer, 1993). Of these constituents, benzene, toluene, ethylbenzene, and xylenes (i.e., mono aromatic hydrocarbons) and naphthalene (a PAH) are typically the most soluble compounds present in the DNAPL. Due to their greater solubility, these compounds preferentially partition from the DNAPL into the aqueous phase, resulting in depletion of these compounds from the DNAPL over time. Thus, the chemical and physical characteristics of the DNAPL change over time.

Of these compounds, benzene and naphthalene are the most commonly detected compounds in groundwater and are typically present at the highest concentrations. As such, benzene and naphthalene are the primary COIs at the Site and their distribution is considered to be representative of the distribution of dissolved-phase contaminants at the Site.

According to the Kueper et al. (2003), “[t]he chemical composition of the plume will be a function of the chemical composition of the DNAPL”. Therefore, the plume would expect to be dominated by higher effective solubility compounds at an early time, gradually shifting later towards higher concentrations of the

lower solubility compounds.” Using this rationale, [Figure 3-12](#) presents dissolved-phase chemical speciation data for wells located in proximity to DNAPL to demonstrate the nature and variability of the DNAPL chemical signature at the Site. This figure demonstrates that, in general, the remaining DNAPL is relatively enriched in PAHs over mono aromatic hydrocarbons in areas where DNAPL is present. Over time, this enrichment will continue to increase until mono aromatic hydrocarbons are depleted from the remaining DNAPL. Given the relatively lower solubility of PAHs, the size of the dissolved-phase plume is expected to decrease as the DNAPL continues to age. In addition, corrective actions are proposed within this VIRP, to further reduce the impact of DNAPL on dissolved phase COIs (See Section 5.0).

#### **3.5.4** *Plume Migration and Transport Processes*

Groundwater and dissolved-phase COI migration will occur predominantly within the most permeable portions of the subsurface, which at this site is the alluvial sand and gravel deposits. As the COIs migrate within groundwater, several processes act to attenuate the concentrations and limit the plume dimensions. These processes include dispersion, dilution due to recharge, and matrix diffusion. As discussed in Section 3.5.5, additional biological processes act to further attenuation COI migration in groundwater.

Groundwater and dissolved-phase COI migration in bedrock is controlled by a combination of factors, including bedrock fracture orientation and interconnectivity, and hydraulic gradients. Similar to overburden, dispersion, dilution and matrix diffusion result in COI attenuation along the groundwater flow path.

Given the limited distribution of COIs in groundwater beyond the footprint of the DNAPL (as shown on [Figures 3-6](#) through [3-9](#)), it is clear that attenuation processes are effectively limiting plume migration at this site.

#### **3.5.5** *Natural Attenuation Processes*

As noted in the above plume migration and transport processes discussion, benzene and naphthalene are the two most prevalent COIs in Site groundwater. As aromatic hydrocarbons, these compounds attenuate through similar natural attenuation processes but at different rates. These COIs are discussed separately in the following subsections. In addition, there is a section devoted to other PAHs, which represent some of the most recalcitrant of the organic compounds present at the Site.

### 3.5.5.1

#### *Benzene*

Benzene is a monoaromatic hydrocarbon that is relatively soluble in water and has a high vapor pressure. Benzene has a moderately low affinity to bind to organic carbon in the soil matrix and tends to migrate in groundwater with limited retardation. Due to its moderate solubility in water and high vapor pressure, benzene will partition into the gas phase from groundwater.

Benzene undergoes natural attenuation in the environment by volatilization, adsorption, and biodegradation. The major mass removal processes for benzene are aerobic and anaerobic biodegradation. Benzene is readily biodegraded under aerobic conditions by naturally occurring microorganisms utilizing oxygen as the electron acceptor. The final end-products of this biodegradation process are carbon dioxide and water. Since oxygen recharge at most sites is slow relative to the rate of depletion due to biodegradation, aerobic biodegradation of benzene and other hydrocarbons results in the depletion of oxygen. As oxygen is depleted, subsurface conditions become anaerobic and the redox potential decreases. As the redox potential drops below 100 millivolts, the major biodegradation processes shift to anaerobic processes that use nitrate, sulfate, iron or manganese as electron acceptors and methanogenesis (methane production). Benzene biodegrades slower than other monoaromatic hydrocarbons (e.g. toluene) through anaerobic processes and tends to persist in anaerobic groundwater. However, laboratory and field data have shown that nitrate-, sulfate- and iron-reduction, as well as methanogenesis, will support benzene biodegradation with the production of carbon dioxide and methane. No abiotic degradation pathways are known for benzene in the subsurface; however, photolysis will occur in air.

Given the various biological degradation pathways, benzene readily attenuates in groundwater, as supported by the limited distribution of benzene in Site groundwater.

### 3.5.5.2

#### *Naphthalene*

Naphthalene is a PAH with two fused aromatic rings. Naphthalene is much less soluble and volatile than benzene; however, it is the most soluble PAH and the only PAH that is considered slightly volatile. Similar to benzene, naphthalene undergoes natural attenuation in the environment by adsorption, biodegradation and, to a limited extent, volatilization. The major mass removal processes for naphthalene are aerobic and anaerobic biodegradation by naturally occurring microorganisms. The final end-products of this biodegradation process are carbon dioxide and water. No abiotic degradation pathways are known for naphthalene in the subsurface; however, photolysis will occur in air.

Given the various biological degradation pathways, naphthalene readily attenuates in groundwater, as supported by the limited distribution of naphthalene in Site groundwater.

### 3.5.6

#### *Other PAHs*

PAH are hydrophobic compounds, such as naphthalene, with multiple aromatic ring structures and are generally grouped by the number of aromatic rings in the structure. As the number of rings increase, and thus the molecular weight increases, the solubility and volatility decrease and the affinity for binding to soil organic carbon increases. For example, phenanthrene, which is a two-membered ring structure, is more than ten-fold less soluble and more than 100-fold less volatile than naphthalene. Phenanthrene and other 3-ring PAHs will dissolve in water to a limited extent but will be significantly retarded relative to groundwater flow due to strong binding to soil. The PAHs with four- and five-membered ring structures are significantly less soluble and less volatile with even higher affinities for soil. These compounds tend to remain bound to soil particles and do not significantly dissolve in groundwater. Elevated concentrations of these higher molecular weight compounds, however, can occur in groundwater due to binding to colloidal particles or other suspended particulates.

Since biological degradation occurs in the aqueous phase, the rate of biodegradation of these compounds is inversely proportional to solubility. Phenanthrene is biodegraded under aerobic conditions and under anaerobic conditions by nitrate and sulfate reduction through pathways similar to those of naphthalene. Four and five-ring PAHs such as benz(a)anthracene show limited biodegradation under aerobic and anaerobic conditions. No abiotic degradation pathways are known for these PAH in the subsurface; however, photolysis will occur in air.

As noted above, these multi-ring PAHs will become relatively enriched over time as the more soluble components of the DNAPL dissolve and are attenuated in groundwater. However, given that these multi-ring PAHs are not particularly mobile, the distribution of these compounds in the environment will be largely constrained to the DNAPL footprint and immediate vicinity.

## 3.6

### *EXPOSURE ASSESSMENT*

This Section provides a human health exposure assessment for the properties being entered into the VRP. Potential receptors are identified based on existing and potential future land use and the physical setting of the site (e.g., soil characteristics, hydrogeology, and groundwater use). The exposure assessment

identifies potentially complete exposure pathways for receptors, considering the following components:

- 1) *Constituent source and release mechanism* (e.g., releases of constituents during operations)
- 2) *Receiving medium* (e.g., environmental media impacted from the primary source release) and *environmental transport/migration* (e.g., volatilization from the subsurface, lateral migration in groundwater),
- 3) *Exposure medium* (i.e., the point of potential human exposure with the affected medium), and
- 4) *Exposure route* (i.e., means of entry into the receptor's body, including ingestion, inhalation, dermal contact).

In the absence of any one of the above elements, an exposure pathway is considered incomplete, and by definition, there is no risk or hazard (USEPA, 1989). Additionally, the existence of a complete exposure pathway does not indicate the presence of significant or unacceptable risk of harm to human health. A constituent's concentration (in soil, water, and air), the frequency and duration of an individual's exposure, and the potential toxicity of the constituent are critical factors in determining whether there is a risk of harm. This section examines (a) whether individuals may be present on the subject properties, and are therefore identified as potential receptors, and (b) whether there is a reasonable likelihood for activities that can result in contact with environmental media containing site-related COIs, i.e., potentially complete exposure pathways. This section further provides an outline of how potential exposure (and resulting potential risk) will be addressed in accordance with the VRP to achieve certification of property uses with the least restrictions feasible.

In the VRP, the Uniform Environmental Covenants (UECs) and various controls (e.g., engineering, institutional) can play a role in controlling future use of the properties and use of the soil and water resources. For example, groundwater use controls will affect the potential for future exposure to groundwater beneath the properties. The role of the planned UECs and controls are recognized in the discussion herein, however, the final form of UECs and any controls will be determined for each parcel following implementation of remediation and confirmation of post-remedy conditions.

### 3.6.1 *Historical Source and Release of Constituents*

During operation of the MGP facilities, MGP constituents appear to have been released from sources involved in the manufacture or storage of gas or its by-products. Section 2.0 identified known and potential sources of the COIs, which are generally described as undocumented, historical releases from operations and storage associated with the MGP facilities. Extensive investigation (see Section 2.3.1) has provided a detailed understanding of the extent of MGP-related impacts to soil and groundwater.

### 3.6.2

#### *Affected Environmental Media and Constituent Transport*

The site-specific COIs identified in soil and groundwater are listed in [Tables 3-1](#) and [3-2](#), and include VOCs, PAHs, and inorganic compounds (i.e., metals, cyanide). A description of the nature and extent (i.e., delineation) of constituents in soil, alluvial groundwater, and bedrock groundwater is presented in detail in Section 3.4 and, along with land use, forms the basis for identification of potential receptors and potential exposure pathways.

The fate and transport of COIs is also important to the identification of potential receptors, as it provides an understanding of ‘receiving’ media that could potentially serve as points of exposure. In general, exposure assessments typically consider constituent migration pathways such as:

- Vertical leaching/transport through the subsurface, e.g., to deeper soil and groundwater
- Lateral migration within groundwater, e.g., to surface water or water supply wells
- Overland surface flow /storm water runoff, e.g., to surface water features
- Volatilization from soil and groundwater, e.g., to ambient or indoor air

The fate and transport of COIs at the site is discussed in detail in Section 3.5, which identifies potential migration pathways for COIs within and between environmental media. The typical potential migration pathways summarized above, and the site-specific characteristics (Section 3.0), were considered in the development of the receptor/exposure model summarized in the following sections.

### 3.6.3

#### *Exposure Setting and Land Use*

Potential receptors and their exposure pathways are identified based on current and reasonably anticipated, or covenant-defined, future land use and groundwater use. To support the land and groundwater use assessment, Geraghty & Miller, Inc. (G&M) was contracted by AGLC to perform a potential receptor study at the site, which was updated by Williams and summarized in the 2000 CAP (ThermoRetec, 2000). The potential receptor survey included a land use survey, water well survey, and an evaluation of surface water flow/storm water runoff conditions. The results of the survey are included in the discussion below and updated where appropriate. In particular, the water well survey was updated to reflect current information provided by the Macon Department of Public Health during September 2014.

### 3.6.3.1

#### *Land Use*

The current land use of the parcels included in this VIRP can generally be described as non-residential and include the following. The AGLC and MUDA properties are currently vacant and vegetated, with no active use. The MUDA property is secured by fencing to limit trespassing. The City of Macon parcels (Mulberry and 6<sup>th</sup>; Terminal Avenue; 7<sup>th</sup> and Walnut) include roads and associated rights of way for vehicular traffic. The Norfolk Southern parcel includes an active railroad track. The contiguous parcels are generally surrounded by industrial/commercial property (Figure 1-3).

Future land use is expected to remain the same for the Norfolk Southern property and City of Macon roadway parcels. The specific use for the MUDA and AGLC properties has not been determined at this time, and compliance with VRP criteria while minimizing use restrictions for these properties is a goal of this remediation plan.

### 3.6.3.2

#### *Groundwater Use*

There are no known water supply wells within the impacted groundwater footprint or beneath any portion of the properties included in the VRP or within 1,000 feet of the extent of known groundwater contamination. Therefore, groundwater (alluvial or bedrock) from beneath the properties is not presently used as a drinking water supply or for any other purpose. Monitor wells on the parcels are used for investigative and remediation activities. According to the City of Macon Water Department, public drinking water is obtained exclusively from the Ocmulgee River approximately three miles upstream from the former MGP facility, and is the only source of water for the Macon water system. Of the wells identified as completed within a mile of the site (based on United States Geological Survey records and information obtained from the City of Macon Health Department) none are located downgradient of the site between the site and the Ocmulgee River (alluvial and bedrock groundwater discharge point). Wells located upgradient, cross-gradient, or on the other side of the Ocmulgee River within a mile appear to be for industrial use (e.g., process water, irrigation), with no public supply or domestic use identified.

The shallow alluvial zone and the bedrock zone naturally provide limited groundwater yield in the immediate vicinity of the Site, resulting in limited utility of these zones locally for water supply. Additionally, the completed and proposed stabilization of soil within the saturated alluvial zone in the ISS areas is estimated to reduce the hydraulic conductivity to  $10^{-6}$  cm/sec or less. With such low hydraulic conductivity, it would not be practical to draw sufficient water from a well as a supply source for residential or non-residential purposes in the

ISS areas.

### 3.6.3.3 *Covenants and Controls*

The voluntary remediation proposed in this plan will achieve protection of human health and the environment through remedial actions and also through the use of institutional controls in the form of covenants. Compliance with VRP criteria will be demonstrated after execution of all covenants and controls.

UECs are one element of the plan to address future potential exposure to COIs in affected media at the subject properties. The UECs will be applied, where needed, to define intended use of the properties as well as any special considerations or limitations for use of the soil and water resources. For example, groundwater use restrictions will be applied by covenant to alluvial groundwater beneath the properties. Other controls may include, for example, the use of an appropriate Health and Safety Plan (HASP) to effectively manage subsurface soil worker exposures for intrusive activities. Engineering controls such as ISS have been used (e.g., MUDA property) and will be used in some areas to address potential exposure to COIs in saturated zones (alluvial ground water). The applicable covenants and controls will be specific to the soil and ground water conditions of each parcel and will be documented in the Compliance Status Report at the completion of the planned work.

Additionally, covenants will be developed in accordance with Georgia Rule 391-3-19-.08(7), to prohibit activities on the property that may substantially interfere with a remedial action, operation and maintenance, long term monitoring, or other measures to ensure the integrity of the remedial action.

### 3.6.4 *Potential Receptors*

***Current Land Use:*** For the current land uses identified above (Section 3.6.3.1), there are no routine (e.g., daily) receptors for soil or ground water contact on the VRP properties. Construction/utility workers are potential receptors at present should utilities currently in place require maintenance or repair. In general, this represents an infrequent or non-routine activity of rare occurrence and limited duration.

During implementation of the planned remediation activities, human health exposures would be limited to construction/remediation workers. These short-term receptors (remediation workers) are not representative of the general public, and are subject to controls and health and safety requirements from OSHA that apply to workers providing cleanup of for potentially impacted media.

***Future Land Use:*** If redevelopment occurs for select parcels for non-residential purposes, potential receptors may include construction workers for tasks that may incur contact or exposure to impaired media, utility workers who install subsurface utility lines and periodically excavate trenches to replace, maintain, or repair these lines, and workers who traverse the property and/or work inside or outside potential new commercial/industrial buildings. Should mixed end use be appropriate, additional potential receptors may be identified.

Although groundwater in the alluvial and bedrock zones eventually flows to the Ocmulgee River, existing groundwater data indicate that dissolved phase COIs in alluvial and bedrock groundwater are attenuating rapidly and well in advance of reaching the river (See Section 3.5.3). The extent of groundwater impact by site-related COIs is delineated within the footprint of properties to be included in the VRP and possibly (e.g. to be confirmed or refuted) on property(s) where further investigations are planned (See Section 4.2). COIs are not being transported to surface water through overland flow/storm water runoff. Therefore, the Ocmulgee River, and users of this resource, are not identified as receptors for site-related COIs.

### 3.6.5 *Exposure Media and Potential Exposure Pathways*

This section identifies the potential exposure pathways and exposure routes (ingestion, dermal contact, inhalation) for COIs in soil and ground water for each property, if applicable, and associated potential receptors. As discussed in the introduction to this section (Section 3.6), the presence of a potential receptor, and even a complete exposure pathway, does not indicate the presence of significant or unacceptable risk of harm to human health; additional factors such as constituent concentration, exposure frequency and duration are critical factors in determining whether there is a risk of harm. Potential exposure media considered in this assessment include surface soil, subsurface soil, alluvial groundwater, bedrock groundwater, indoor air, and ambient air. For each exposure medium, the direct exposure pathways are considered (e.g., direct exposure with soil and groundwater would include ingestion and dermal contact). In addition, indirect exposures such as inhalation of volatilized COIs from soil or groundwater are considered for the indoor and ambient air exposure media. A determination is made regarding whether the potential exposure pathways are reasonably likely to be complete. The following discussion also identifies how it is anticipated that the medium will be brought into compliance, or currently complies, with VRP criteria protective of human health and the environment. The discussion of compliance is conceptual at this time and the final form of compliance, including UECs and any controls, will be determined following implementation of remediation and confirmation of post-remedy conditions.

### 3.6.5.1

#### *Surface Soil*

Incidental ingestion and dermal contact with surface soil (i.e., the upper 2 feet of soil) are considered potentially complete pathways for receptors in areas where COIs are present in surface soil. For locations where surface soil has been excavated and backfilled with soil imported from off-site borrow sources (i.e., no COIs present), the exposure pathway would be considered incomplete, because no source/COIs remain. For excavated areas that use backfill with COIs present below applicable risk-based standards, the pathway is considered potentially complete but risk is within the acceptable range.

The potential receptors under future land use scenarios are identified below for parcels where COIs are present in surface soil, along with the conceptual plan for surface soil compliance with VRP criteria for the long term (future) property condition.

Potential receptors for surface soil at the AGLC and MUDA properties may include commercial/industrial workers and construction/utility workers. In addition, if mixed use is applicable, additional potential receptors will be identified as appropriate. Remaining COIs on the MUDA property (post-remedy) currently meet non-residential risk-based standards, and may be evaluated for additional uses as feasible. The remedial action for the AGLC parcel, as currently proposed, will result in removal of COIs from the surface soil interval or reduction to below non-residential risk-based standards. The post-remediation conditions will be evaluated for additional uses as feasible.

Potential receptors for surface soil at the City of Macon-Terminal Avenue and the Mulberry and 6<sup>th</sup> Street parcels may include construction/utility workers on a non-routine basis. Road surface cover on the property, as well as vehicular traffic, limits routine exposure for any visitors to the property. The remedial actions for these parcels, as currently proposed, will result in removal of COIs from a utility corridor, including the surface soil interval. No COIs have been identified in soil (surface or subsurface) on the City of Macon- 7<sup>th</sup> and Walnut parcel, and no potential exposure to COIs is therefore identified.

Due to active railroad activities on the Norfolk Southern property, potential receptors are authorized railroad personnel who perform track maintenance and inspection activities. Reported COI concentrations in the surface soil currently meet non-residential risk-based standards, and Norfolk Southern has indicated the intention to apply covenants to limit disturbance of the soil (including surface and subsurface) to protect integrity/safety of the rail line and limit interruption of rail service.

For the properties included in the VRP application, UECs will be applied as warranted to support compliance with the VRP criteria for surface soil.

### 3.6.5.2 *Subsurface Soil*

If excavation is performed, incidental ingestion and dermal contact with subsurface soil (i.e., soil deeper than 2 feet below ground surface) provide potentially complete pathways for receptors in areas where COIs are present in subsurface soil. For locations where subsurface soil has been excavated and backfilled with soil imported from off-site borrow sources (i.e., no COIs present), the exposure pathway would be considered incomplete, because no source/COIs remain. For excavated areas that use backfill with COIs present below applicable risk-based standards, the pathway is considered potentially complete but risk is within the acceptable range.

The potential receptors under future land use scenarios are identified below for parcels where COIs are present in subsurface soil, along with the conceptual plan for subsurface soil compliance with VRP criteria for the long term (future) property condition.

Potential receptors for contact with subsurface soil at the AGLC and MUDA properties may include construction/utility workers. Remaining COIs in unsaturated zone subsurface soil on the MUDA property (post-remedy) currently meet non-residential risk-based standards, and may be evaluated for additional uses as feasible. Impacted soils below the water table on MUDA property were stabilized through ISS (engineering control). The remedial action for the AGLC parcel, as currently proposed, will result in removal of COIs from the subsurface soil interval or reduction to below non-residential risk-based standards, and the post-remediation conditions will be evaluated for additional uses as feasible. Excavation is the proposed remedial action for impacted subsurface soils above the water table. For subsurface impacts below the water table (including source material or BPLM), ISS is the proposed remedy. In addition, land use covenants are proposed (e.g., UECs) to address future use of the properties and any limitations to excavation. For example, UECs are expected to limit excavation into the ISS mass in the saturated zone (alluvial groundwater zone) on both properties.

Potential receptors for contact with subsurface soil at the City of Macon-Terminal Avenue and City of Macon- Mulberry and 6<sup>th</sup> Street parcels may include construction/utility workers on a non-routine basis. The remedial actions for these parcels, as currently proposed, will result in removal of COIs from a utility corridor and implementation of ISS for subsurface impacts below the water table, including source material or BPLM. Following remediation, UECs are expected

to limit excavation into the ISS mass in the saturated zone (alluvial groundwater zone) on City of Macon properties.

As described for surface soil on the Norfolk Southern property, potential receptors for contact with subsurface soil are limited to authorized railroad personnel who perform track maintenance, and Norfolk Southern has indicated the intention to apply covenants to limit disturbance of the soil on the property (and provisions for an appropriate HASP for any necessary disturbance).

For the properties included in the VRP application, UECs will be applied as warranted to support compliance with the VRP criteria for subsurface soil.

### 3.6.5.3 *Groundwater*

Site-related COIs have been identified in shallow alluvial groundwater at the properties included in the VRP application with the exception of the City of Macon- 7<sup>th</sup> and Walnut parcel. Bedrock groundwater is affected beneath multiple properties (AGLC, MUDA, railroad properties, and City of Macon rights of ways) in the VRP application. Additional investigations and monitoring events are planned to evaluate additional qualifying properties (See Sections 4.1 and 4.2). As discussed in Section 3.6.3.2, there are no consumption wells completed in the affected ground water area, and therefore no receptors are identified for groundwater contact. Groundwater use in the future on the VRP parcels will be controlled by covenant, therefore, exposure to COIs in groundwater is an incomplete pathway under current and future land use.

Exposure to COIs in alluvial zone groundwater through incidental contact by construction workers is hypothetically possible. For areas where saturated soils have been or will be stabilized, COI-impacted groundwater beneath the Site is not expected to accumulate in excavations due to the low hydraulic conductivity of the stabilized soils (on the order of  $10^{-6}$  cm/sec or lower). Groundwater located outside of areas of proposed stabilization and containing low level COIs may provide a complete direct exposure pathway if excavation to sufficient depth is performed. This potential scenario is anticipated to be non-routine and likely very limited in frequency and duration, if it occurs. It is anticipated that controls (e.g., provisions for use of an appropriate HASP during intrusive activities) will be implemented, if necessary, for the areas/parcels where residual groundwater COI concentrations are identified following implementation of active remedy components.

Vapor intrusion (VI) is a constituent transport process that can occur when vapors from subsurface sources form and migrate upwards toward overlying buildings. There are no buildings present on the parcels included in the VRP application at this time, and therefore the pathway is not an issue for current land use. The discussion herein is included considering potential future uses of the subject properties and potential for building construction on certain parcels such as MUDA and AGLC. Based on extensive studies of sites where VI has been identified, the following conditions must exist in order for the VI pathway to be complete (USEPA, 2012):

- 1) A subsurface source of vapor-forming contaminants must be present with sufficient source concentrations to allow volatilization into the gas phase.
- 2) The unsaturated zone must be sufficiently permeable, with interconnected pore spaces, to allow vapors to migrate upward through the soil column.
- 3) Entry routes and driving forces must be present for vapors to enter a building (e.g., pores or cracks in the slab, pressure differentials). In general, modern construction practices provide significant barriers to vapor intrusion into overlying buildings (e.g., subgrade footers, solid concrete slab-on-grade building construction).

AGLC and GPC's experience with MGP sites indicates VI is not typically a pathway of concern. Based on existing site knowledge and information obtained through prior investigations, VI at the Macon MGP site has not been identified and is not expected to be a complete or significant pathway in the future, as supported by the following information:

- 1) MGP by-products (now referred to as contaminants) in general have low-volatility.
- 2) The few volatile contaminants that are present in the subsurface are petroleum hydrocarbons, which, in most cases, do not result in VI due to their high biodegradation potential.
- 3) The depth to the subsurface volatile contaminants relative to surface structures (or potential structures) should allow for sufficient attenuation/degradation to reduce vapor concentrations to an extent that the VI pathway is incomplete (i.e., sufficient vertical separation distance per EPA guidance).

- 4) Source-like material, or high concentration material, has (or will be) excavated and removed where it exists in the unsaturated zone (soil).
- 5) Source-like material in the saturated zone (i.e., alluvial groundwater) has been (or will be) stabilized within a concrete-like ISS mass that has little available pore-space to permit the volatilization of the entrained contaminants.
- 6) The low permeability of the ISS mass is expected to limit or eliminate vapor movement within the mass.

Based on these site-specific factors, the Macon MGP site is identified to have a low potential for VI. It is recognized that EPD requires consideration of the VI pathway for VRP sites. Consequently, a technical evaluation of the VI pathway may be warranted and will be considered following completion of the remediation activities proposed in this VIRP. Alternatively, control methods (engineering and institutional) may be utilized to mitigate the potential for vapors to enter indoor air in existing buildings or during future construction.

#### 3.6.5.5

##### *Ambient Air*

Many of the factors discussed above for the VI pathway are also relevant to the potential for volatile constituent migration to ambient air. Specifically, conditions required for a subsurface-to-ambient air pathway for COIs include a substantive source of vapor-forming contaminants and subsurface conditions conducive to vapor movement. The site-specific features noted above indicate the Macon MGP site has a low potential for vapor migration to the breathing zone of potential receptors, indoors or outdoors. The remediation completed to date, and the proposed remediation activities, further reduce the potential for vapor migration and release to air. Further, because the inhalation pathway is quantitatively included in the risk-based standards developed for direct contact with soil, the soils that meet (and are remediated to meet) the risk-based standards previously developed for the site are protective of the ambient air pathway.

Following completion of the proposed remediation activities, such as surface and subsurface soil removal, backfilling, and ISS, the residual concentrations of volatile organic constituents will be reviewed to confirm no further technical evaluation of the vapor migration pathway is warranted.

## **4.0 PLANNED INVESTIGATIONS**

The following Sections describe planned investigations to fulfill VRP requirements.

### **4.1 DNAPL NATURE AND EXTENT**

DNAPL was observed during the drilling and installation of monitoring well MW-305D in 2013. As a result, additional DNAPL investigation activities are being planned to refine understanding of the DNAPL presence and extent. The proposed DNAPL Investigation Work Plan is provided in [Appendix G](#). Access to one of the parcels has not been obtained due to complex property ownership issues related to historical railroad properties. Five primary investigatory borings and four additional/contingency borings are planned. Sumps wells are proposed for installation at locations where potential DNAPL is encountered. Key steps to completing this work include the following:

- Ascertain property ownership
- Negotiate site access
- Complete investigatory borings
- Install sump wells, if warranted
- Monitor accumulation of DNAPL in sump wells and recover DNAPL during VEFR events, as necessary

Results of the DNAPL investigation will be provided in status reports as discussed in Section 6.0 below.

### **4.2 BEDROCK WELL INSTALLATIONS**

Several parcels may or may not be affected by dissolved phase bedrock groundwater contamination in and around the intersection of 7<sup>th</sup> Street and Walnut Street. As noted above, complex property ownership issues (and legal boundaries) exist. AGL intends to resolve ownership issues prior to contacting potentially affected property owners. Key steps to completing this work include the following:

- Ascertain property ownership
- Negotiate site access

- Drill and install bedrock groundwater monitoring wells
- Collect groundwater samples from new wells
- Update CSM based on laboratory analytical results

The proposed Bedrock Investigation Work Plan is provided in [Appendix H](#). Exact well locations will be provided once property ownership has been ascertained. A total of four newly installed bedrock wells are anticipated at this time, for the intended purpose of including or excluding properties into the VRP as qualifying properties.

### 4.3

#### *VAPOR INTRUSION*

Following implementation of proposed remediation, if warranted based upon COI concentrations and site conditions, current and applicable vapor intrusion guidance will be used to determine whether the vapor intrusion pathway may be complete at the Macon MGP site and whether reported concentrations are likely to pose unacceptable risk for existing buildings or future construction. General vapor intrusion guidance documents that may be consulted include OSWER's 2002 Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, EPA's 2013 Evaluation of Empirical Data to Support Soil Vapor Intrusion Screening Criteria for Petroleum Hydrocarbon Compounds<sup>1</sup>, and ITRC's 2007 Vapor Intrusion Pathway: A Practical Guideline. Alternatively, control methods (e.g., barriers or specific construction design) may be utilized to mitigate the potential for vapors to enter indoor air in existing buildings or during future construction.

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<sup>1</sup> EPA has issued draft guidance documents for the vapor intrusion pathway, including guidance specific to petroleum hydrocarbons, with final versions forthcoming. These documents include the following: (a) EPA, 2013. OSWER Final Guidance for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Sources to Indoor Air (External Review Draft), and (b) EPA, 2013. Guidance for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites. (External Review Draft, EPA 510-R-13-xxx).

## 5.0 *PLANNED REMEDIAL ACTIVITIES*

All the remediation activities described in this plan will achieve compliance with the VRP cleanup criteria. Activities proposed include the use of ISS (source material control), excavation (impacted media removal), Covenants (exposure pathway control), or other means that are technically acceptable, and specifically allowed under the regulatory framework of the VRP.

### 5.1 *SOIL EXCAVATION AND ISS FOR THE WESTERN PORTION MGP*

Excavation and off-site management of source material is a commonly utilized remedy for unsaturated zone impacted soils at MGP sites. Excavation has been selected as the remedy for soils exceeding the Type 4 RRS and source material in the unsaturated zone. The use of the RRS in the soil remediation activities is selected as a basis for a Target Remediation Goal. Final exposure and compliance certification will be established on the basis of “representative exposure concentrations”. Excavation of unsaturated zone soils is also consistent with the methods for the ISS remedy in areas where ISS is planned.

ISS has been proposed and accepted by EPD as part of the corrective action in the 2011 FFS (ECM, 2011) for saturated source material in the Western Portion MGP. As a result, a confirmation treatability testing effort was conducted to validate the previous mix design for the proposed ISS actions. ISS performance criteria have been previously identified in historical corrective action documents for the Mulberry Street MGP. The same criteria apply for the Western Portion MGP, as follows:

- The ISS mixture will exhibit a coefficient of hydraulic conductivity (K) less than  $10^{-6}$  cm/sec;
- The ISS mixture will exhibit an unconfined compressive strength (UCS) greater than 50 pounds per square inch (psi);
- There will be no free liquids in the extruded UCS specimens of the ISS mixture; and
- The ISS mixture will exhibit wet/dry durability of less than 10 percent mass loss when subjected to 12 wetting/drying cycles.

## 5.2 *DNAPL RECOVERY*

Sections 2.0 and 3.0 present the history of DNAPL investigations, actions associated with DNAPL recovery, and the potential fate and transport of DNAPL at the Site. Section 4.1 presents the proposed DNAPL investigation activities associated with the Site. Based on the limited extent of known DNAPL (see Section 2.3.2) at this time and its limited recoverability (<0.05 lbs./month, see Section 3.3.2 and [Figure 3-6](#)) intermittent DNAPL recovery has been selected to continue. Vacuum Enhanced Fluid Recovery (VEFR) will be conducted at wells where DNAPL accumulates beyond 0.5 feet in thickness. Monitoring of DNAPL accumulation will be conducted during the planned bedrock well groundwater monitoring events (see Section 6.3).

Currently, MW-111D has been the only well at the Site that has exhibited the accumulation of DNAPL. Once accumulated DNAPL has been identified in wells at the Site a VEFR vehicle will be mobilized to the Site. The VEFR will be capable of operating for six hours, with a potential applied vacuum of 18" Hg, and be capable of collecting recovered fluids of 2,500 gallons. The total amount of liquids and hydrocarbons removed from the effort will be documented and provided in future reports.

## 5.3 *PLANNED GROUNDWATER MONITORING*

On-going bedrock groundwater monitoring will be conducted to allow for: Remedial Action Performance Verification and VRPA Act Compliance (i.e., Point of Demonstration wells). A Bedrock Groundwater Monitoring Plan is provided in [Appendix I](#) which addresses the applicable requirements for monitoring.

The remedial action performance verification will be conducted for the express purpose of evaluating the impact of proposed actions (ISS activities and DNAPL recovery activities) to the dissolved phase groundwater plume. The Western Portion and MW-101 Area Groundwater CAP-A ([Appendix C](#)) provides the proposed performance monitoring for the ISS stabilization efforts that are being planned in the alluvial groundwater. Subsequent to performance verification groundwater monitoring events impacts to the dissolved phase plume, changes to the CSM, and changes in the residual risk profile will be evaluated. 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.

### 5.3.1 *Point of Demonstration Wells*

Point of demonstration wells will be utilized to validate the effectiveness of the implemented remedies at the Site and compliance with the VRPA. Proposed Point of Demonstration wells (alluvium and bedrock) are provided in [Figure 5-1](#). In the event the presence of COIs is identified in the Point of Demonstration Wells, and confirmed with a second sampling event, additional actions will be considered. Subsequent to bedrock groundwater monitoring events; impacts to the dissolved phase plume, changes to the CSM, and changes in the residual risk profile will be evaluated for VRP compliance.

## 5.4 *PLUME STABILITY EVALUATIONS*

ERM will conduct a plume stability evaluation using historical dissolved phase COI concentrations and the Mann-Kendall statistical test. The Mann-Kendall test is a non-parametric test that can be used to assess whether concentrations exhibit increasing or decreasing trends over time to a specified level of confidence.

Four temporal data points are required for the Mann-Kendall test. As such, statistical trends can only be calculated at locations where COIs were detected on four separate occasions. Monitoring locations without sufficient data to perform the Mann-Kendall will be identified and excluded from the evaluation.

Laboratory results reported below the detect limit will be excluded from the statistical dataset. The Mann-Kendall test will be performed using the statistical software package included in the commercially available database software, Environmental Quality Information System (EQuIS). The calculation steps performed in EQuIS will be presented as reference.

Subsequent to groundwater plume stability evaluations; changes to the CSM and changes in the residual risk profile will be evaluated for VRP compliance.

The VIRP Projected Milestone Schedule is presented in [Figure 6-1](#) and outlines all of the proposed activities. The project schedule will be refined after acceptance into the VRP and after receiving input from the selected remedial contractor on the implementation schedule. Upon acceptance into the VRP, AGLC will implement the investigation and planned corrective action(s).

Groundwater monitoring and reporting will continue as described in Section 5.0 and [Appendix I](#) (Bedrock Groundwater Monitoring Plan) on a semiannual basis. Future reporting will be conducted to comply with the VRPA. Semiannual Status Reports will be submitted to the GA EPD.

The design of the planned corrective action is in progress and will be finalized after acceptance into the VRP by EPD. AGLC is estimating that implementation of the additional investigation and proposed ISS will be approximately \$8 million. This cost will be refined upon completion of the investigation and design and together with input from the selected remediation contractor.

It is expected that the CSR for the Site will be submitted within 60 months of VRP acceptance.

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## **Tables**

*Project No. 0176740*  
*Atlanta Gas Light Company*

**Environmental Resources Management**

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**Table 2-1**  
**Site-Specific Constituents of Interest and Monitored Natural Attenuation**  
**Parameters**  
**Atlanta Gas Light Company**  
**Former Manufactured Gas Plant Site**  
**Macon, Georgia**

| Volatile Organic Compounds   | Semivolatile Organic Compounds  | Inorganic Compounds  | Monitored Natural Attenuation Parameters   |
|--|---|--|--|
| <u><b>EPA-8260B</b></u><br>Benzene<br>Ethylbenzene<br>Toluene<br>Total Xylenes<br>Carbon Disulfide | <u><b>EPA-8270C</b></u><br>Acenaphthene<br>Acenaphthylene<br>Anthracene<br>Benzo[a]anthracene<br>Benzo[a]pyrene<br>Benzo[b]fluoranthene<br>Benzo[g,h,i]perylene<br>Benzo[k]fluoranthene<br>Chrysene<br>Dibenz(a,h)anthracene<br>2,4-Dimethylphenol<br>Fluoranthene<br>Fluorene<br>Indeno[1,2,3-cd]pyrene<br>2-Methylphenol<br>3 & 4 Methylphenol<br>Naphthalene<br>Phenanthrene<br>Phenol<br>Pyrene | <u><b>EPA-6010B</b></u><br>Antimony<br>Arsenic<br>Barium<br>Beryllium<br>Cadmium<br>Chromium<br>Copper<br>Lead<br>Nickel<br>Zinc | <u><b>RSK-175</b></u><br>Dissolved Gases (O <sub>2</sub> , N <sub>2</sub> , CO, CO <sub>2</sub> , Methane) |
|  |   | <u><b>SM-3500</b></u><br>Ferrous Iron  |  |
|  |   | <u><b>EPA-353.2</b></u><br>Nitrate   |  |
|  |   | <u><b>EPA 375.4</b></u><br>Sulfate   |  |
|  |   | <u><b>EPA 376.1</b></u><br>Sulfide   |  |
|  |   | <u><b>EPA-6010B</b></u><br>Iron  |  |
|  |   | <u><b>EPA-9012A</b></u><br>Cyanide (Total)   |  |
|  |   | <u><b>EPA-7470A</b></u><br>Mercury   |  |

**Table 3-1  
Delineation Standards in Soil  
Atlanta Gas Light Company  
Former Manufactured Gas Plant Site  
Macon, Georgia**

| Chemical                              | Background Soil Concentrations |                                   |                                  |                | Type 1 RRS *                   | Type 2 RRS                     | Type 4 RRS Construction Workers |                           |
|---------------------------------------|--------------------------------|-----------------------------------|----------------------------------|----------------|--------------------------------|--------------------------------|---------------------------------|---------------------------|
|                                       | Surface Soil<br>0-2 ft.        | Subsurface Soil<br>(deposited) >2 | Subsurface Soil<br>(fill) >2 ft. | Saprolite Soil | Surface and<br>Subsurface Soil | Surface and<br>Subsurface Soil | Surface Soil<br>0-2 ft.         | Subsurface Soil<br>>2 ft. |
| <b>Volatile Organic Compounds</b>     |                                |                                   |                                  |                |                                |                                |                                 |                           |
| Benzene                               | ND                             | ND                                | ND                               | ND             | 0.5                            | 5.0                            | 5.0                             | 5.0                       |
| Ethylbenzene                          | ND                             | ND                                | ND                               | ND             | 70                             | 1,600                          | 1,600                           | 1,600                     |
| Toluene                               | ND                             | ND                                | ND                               | ND             | 100                            | 680                            | 680                             | 680                       |
| Total Xylenes                         | ND                             | ND                                | ND                               | ND             | 1,000                          | 160,000                        | 1,600                           | 850,000                   |
| Carbon Disulfide                      | ND                             | ND                                | ND                               | ND             | 400                            | 400                            | 400                             | 400                       |
| <b>Semivolatile Organic Compounds</b> |                                |                                   |                                  |                |                                |                                |                                 |                           |
| 2,4-Dimethylphenol                    | ND                             | ND                                | ND                               | ND             | 70                             | 1,600                          | 1,600                           | 1,600                     |
| 2-Methylphenol                        | ND                             | ND                                | ND                               | ND             | 3.8                            | 3,900                          | 3,900                           | 3,900                     |
| 4-Methylphenol                        | ND                             | ND                                | ND                               | ND             | 3.8                            | 390                            | 390                             | 390                       |
| Acenaphthene                          | ND                             | ND                                | ND                               | ND             | 300                            | 4,700                          | 4,700                           | 4,700                     |
| Acenaphthylene                        | ND                             | ND                                | ND                               | ND             | 130                            | 2,300                          | 2,300                           | 2,300                     |
| Anthracene                            | ND                             | ND                                | ND                               | ND             | 500                            | 23,000                         | 23,000                          | 23,000                    |
| Benzo(a)anthracene                    | ND                             | ND                                | ND                               | ND             | 5                              | 12                             | 12                              | 12                        |
| Benzo(a)pyrene                        | ND                             | ND                                | ND                               | ND             | 1.64                           | 1.6                            | 7.8                             | 82                        |
| Benzo(b)fluoranthene                  | ND                             | ND                                | ND                               | ND             | 5                              | 12                             | 78                              | 820                       |
| Benzo(g,h,i)perylene                  | ND                             | ND                                | ND                               | ND             | 500                            | 2,300                          | 2,300                           | 2,300                     |
| Benzo(k)fluoranthene                  | ND                             | ND                                | ND                               | ND             | 5                              | 120                            | 780                             | 8,200                     |
| Chrysene                              | ND                             | ND                                | ND                               | ND             | 5                              | 1,200                          | 7,840                           | 82,000                    |
| Dibenzo(a,h)anthracene                | ND                             | ND                                | ND                               | ND             | 2                              | 12                             | 78                              | 820                       |
| Fluoranthene                          | ND                             | ND                                | ND                               | ND             | 500                            | 3,100                          | 82,000                          | 17,000                    |
| Fluorene                              | ND                             | ND                                | ND                               | ND             | 360                            | 3,100                          | 82,000                          | 17,000                    |
| Indeno(1,2,3-cd)pyrene                | ND                             | ND                                | ND                               | ND             | 5                              | 12                             | 78                              | 820                       |
| Naphthalene                           | ND                             | ND                                | ND                               | ND             | 100                            | 100                            | 100                             | 100                       |
| Phenanthrene                          | ND                             | ND                                | ND                               | ND             | 110                            | 2,300                          | 61,000                          | 13,000                    |
| Phenol                                | ND                             | ND                                | ND                               | ND             | 400                            | 47,000                         | 47,000                          | 47,000                    |
| Pyrene                                | ND                             | ND                                | ND                               | ND             | 500                            | 2,300                          | 61,000                          | 13,000                    |
| <b>Inorganic Compounds</b>            |                                |                                   |                                  |                |                                |                                |                                 |                           |
| Antimony                              | ND                             | ND                                | ND                               | ND             | 4                              | 31                             | 31                              | 31                        |
| Arsenic                               | 25                             | 2.5                               | 2.9                              | ND             | 25 / 20 #                      | 25 / 61 #                      | 38                              | 41                        |
| Barium                                | 190                            | 49                                | 220                              | 460            | 1,000                          | 5,400                          | 5,400                           | 5,400                     |
| Beryllium                             | 1.5                            | 2.6                               | 0.77                             | 4.8            | 2 / 2.6 #**                    | 160                            | 160                             | 160                       |
| Cadmium                               | 2.4                            | 2.2                               | 2.4                              | 27             | 2.4                            | 39                             | 39                              | 39                        |
| Chromium                              | 37                             | 43                                | 63                               | 80             | 100                            | 230                            | 1,200                           | 1,200                     |
| Copper                                | 170                            | 37                                | 27                               | 71             | 170                            | 3,100                          | 3,100                           | 3,100                     |
| Cyanide, Total                        | 4.8                            | 1.3                               | 1.5                              | ND             | 20                             | 1,600                          | 1,600                           | 1,600                     |
| Lead                                  | 280                            | 19                                | 59                               | 7.8            | 280 / 75 #                     | 400                            | 1,100                           | 1,100                     |
| Mercury                               | 0.28                           | 0.057                             | 0.38                             | 0.028          | 0.5                            | 24                             | 24                              | 24                        |
| Nickel                                | 10                             | 5.5                               | 9.6                              | 28             | 50                             | 1,600                          | 1,600                           | 1,600                     |
| Zinc                                  | 330                            | 30                                | 45                               | 140            | 330 / 100 #                    | 23,000                         | 23,000                          | 23,000                    |

**Notes:**

Values listed in milligrams/kilogram (mg/Kg)

Values rounded to two significant digits

# The RRS was reported as values for two soil depths; 0-2 ft. and >2 ft.

\* Soil Delineation Standard

\*\* Background calculation is higher than RRS

**Table 3-2**  
**Delineation Standards in Groundwater**  
**Atlanta Gas Light Company**  
**Former Manufactured Gas Plant Site**  
**Macon, Georgia**

| Parameter                      | Units | Type 1 RRS* | Residential RRS | Non-Residential RRS |
|--------------------------------|-------|-------------|-----------------|---------------------|
| <b>Organic Constituents</b>    |       |             |                 |                     |
| Volatile Organic Compounds     |       |             |                 |                     |
| Benzene                        | µg/L  | 5           | 5               | 9                   |
| Carbon Disulfide               | µg/L  | 4000        | 4,000           | 4,000               |
| Ethylbenzene                   | µg/L  | 700         | 700             | 2,300               |
| Toluene                        | µg/L  | 1000        | 1000            | 1,100               |
| Total Xylenes                  | µg/L  | 10000       | 31,000          | 200,000             |
| <b>BTEX</b>                    | µg/L  | --          | --              | --                  |
| Semivolatile Organic Compounds |       |             |                 |                     |
| Acenaphthene                   | µg/L  | 2000        | 2,000           | 6,100               |
| Acenaphthylene                 | µg/L  | --          | 470             | 3,100               |
| Anthracene                     | µg/L  | --          | 4,700           | 31,000              |
| Benzo[a]anthracene             | µg/L  | 0.1         | 1.17            | 3.92                |
| Benzo[a]pyrene                 | µg/L  | 0.2         | 0.20            | 0.39                |
| Benzo[b]fluoranthene           | µg/L  | 0.2         | 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  | 0.2         | 117             | 392                 |
| Dibenz(a,h)anthracene          | µg/L  | 0.3         | 0.30            | 0.39                |
| 2,4-Dimethylphenol             | µg/L  | 700         | 700             | 700                 |
| Fluoranthene                   | µg/L  | 1000        | 1,000           | 4,100               |
| Fluorene                       | µg/L  | 1000        | 1,000           | 4,100               |
| Indeno[1,2,3-cd]pyrene         | µg/L  | 0.4         | 1.17            | 3.92                |
| 2-Methylphenol                 | µg/L  | --          | 780             | 5,100               |
| 3 & 4 Methylphenol             | µg/L  | --          | 78              | 510                 |
| Naphthalene                    | µg/L  | 20          | 20              | 20                  |
| Phenanthrene                   | µg/L  | --          | 470             | 3,100               |
| Phenol                         | µg/L  | 4000        | 9,390           | 61,000              |
| Pyrene                         | µg/L  | 1000        | 1,000           | 3,100               |
| <b>Inorganic Constituents</b>  |       |             |                 |                     |
| Antimony                       | mg/L  | 0.006       | 0.0063          | 0.4                 |
| Arsenic                        | mg/L  | 0.01        | 0.05            | 0.05                |
| Barium                         | mg/L  | 2           | 2               | 7.2                 |
| Beryllium                      | mg/L  | 0.004       | 0.031           | 0.2                 |
| Cadmium                        | mg/L  | 0.005       | 0.0078          | 0.051               |
| Chromium                       | mg/L  | 0.1         | 0.1             | 0.31                |
| Copper                         | mg/L  | 1.3         | 0.63            | 4.1                 |
| Lead                           | mg/L  | 0.015       | 0.015           | 0.015               |
| Nickel                         | mg/L  | 0.1         | 0.1             | 2                   |
| Zinc                           | mg/L  | 2           | 4.7             | 31                  |
| Mercury                        | mg/L  | 0.002       | 0.002           | 0.002               |
| Total Cyanide                  | mg/L  | 0.2         | 0.31            | 2                   |

\* Type 1 RRS = groundwater delineation standard

**Table 3-3  
Bedrock Groundwater Analytical Results  
February and August 2014  
Atlanta Gas Light Company  
Former Manufactured Gas Plant Site  
Macon, Georgia**

| Parameter                                   | Units    | Type 2<br>RRS | Type 4<br>RRS | MW-08D   |              |            |            | MW-09D       |             |              |             | MW-12DRR     |            |            |          | MW-12DD      |            | MW-23D     |          | MW-24D       |          | MW-25D      |              | MW-108D      |              | MW-110D     |             | MW-111D     |           |
|---|----------|---------------|---------------|----------|--------------|------------|------------|--------------|-------------|--------------|-------------|--------------|------------|------------|----------|--------------|------------|------------|----------|--------------|----------|-------------|--------------|--------------|--------------|-------------|-------------|-------------|-----------|
|   |          |               |               | 08/06/14 | 02/19/14     | 08/05/14   | DUP-01     | 02/18/14     | DUP-01      | 08/05/14     | DUP-02      | 02/19/14     | 08/05/14   | 02/18/14   | 08/04/14 | 02/18/14     | 08/06/14   | 02/17/14   | 08/04/14 | 02/17/14     | 08/05/14 | 02/20/14    | 08/06/14     | 08/07/14     |              |             |             |             |           |
| Groundwater Elevation                       | ft. AMSL | --            | --            | 295.25   | 307.24       | 304.77     |            | 290.91       | 288.98      |              |             | 284.42       | 281.27     | 281.96     | 281.06   | 287.95       | 286.69     | 309.02     | 308.12   | 308.16       | 305.26   | 289.45      | 287.86       | 287.98       |              |             |             |             |           |
| <b>Field Groundwater Quality Parameters</b> |          |               |               |          |              |            |            |              |             |              |             |              |            |            |          |              |            |            |          |              |          |             |              |              |              |             |             |             |           |
| pH  | SU       | --            | --            | 7.22     | 6.29         | 6.80       |            | 6.68         | 6.41        |              |             | 8.13         | 7.78       | 6.15       | 6.38     | 6.56         | 6.16       | 5.57       | 5.69     | 7.01         | 6.92     | 6.28        | 6.21         | 6.48         |              |             |             |             |           |
| Specific Conductance                        | mMhos    | --            | --            | 0.338    | 0.257        | 0.364      |            | 0.445        | 0.504       |              |             | 0.241        | 0.227      | 0.372      | 0.374    | 0.045        | 0.325      | 0.405      | 0.461    | 0.151        | 0.158    | 0.495       | 0.533        | 0.559        |              |             |             |             |           |
| Temperature                                 | °Celsius | --            | --            | 22.45    | 20.80        | 23.63      |            | 20.79        | 23.69       |              |             | 24.24        | 24.35      | 20.60      | 26.22    | 16.26        | 22.39      | 12.28      | 23.64    | 20.99        | 24.23    | 19.80       | 27.75        | 27.81        |              |             |             |             |           |
| Dissolved Oxygen (YSI)                      | mg/L     | --            | --            | 0.95     | 0.31         | 0.34       |            | 0.22         | 0.38        |              |             | 0.26         | 0.34       | 0.58       | 0.36     | 6.58         | 0.58       | 1.66       | 0.76     | 2.16         | 1.68     | 0.67        | 0.52         | 0.23         |              |             |             |             |           |
| Oxidation-Reduction Potential (ORP)         | mV       | --            | --            | -105.7   | 78.3         | -30.4      |            | -56.1        | -112.4      |              |             | -172.8       | -161.4     | 163.0      | 72.9     | 162.0        | -58.6      | 221.0      | 116.1    | 76.1         | 27.8     | -34.6       | -52.6        | -134.3       |              |             |             |             |           |
| Turbidity                                   | NTU      | --            | --            | 2.24     | 0.76         | 1.37       |            | 1.45         | 0.52        |              |             | 15.6         | 6.00       | 0.36       | 1.27     | 8.72         | 1.68       | 0.71       | 8.36     | 0.43         | 0.82     | 0.66        | 2.51         | 5.64         |              |             |             |             |           |
| <b>Natural Attenuation Parameters</b>       |          |               |               |          |              |            |            |              |             |              |             |              |            |            |          |              |            |            |          |              |          |             |              |              |              |             |             |             |           |
| Nitrogen, Nitrate (as N)                    | mg/L     | --            | --            | --       | < 0.25       | --         | --         | < 0.25       | < 0.25      | --           | --          | < 0.25       | --         | < 0.25     | --       | < 0.25       | --         | <b>3.9</b> | --       | <b>0.43</b>  | --       | < 0.25      | --           | --           |              |             |             |             |           |
| Sulfate                                     | mg/L     | --            | --            | --       | <b>2.1</b>   | --         | --         | <b>1.1</b>   | < 1.0       | --           | --          | <b>6.3</b>   | --         | <b>49</b>  | --       | < 1.0        | --         | < 1.0      | --       | <b>2.6</b>   | --       | < 1.0       | --           | --           |              |             |             |             |           |
| Sulfide                                     | mg/L     | --            | --            | --       | < 1.0        | --         | --         | < 1.0        | < 1.0       | --           | --          | <b>1.6</b>   | --         | < 1.0      | --       | < 1.0        | --         | < 1.0      | --       | < 1.0        | --       | < 1.0       | --           | --           |              |             |             |             |           |
| Ferrous Iron                                | mg/L     | --            | --            | --       | < 0.100      | --         | --         | <b>2.10</b>  | <b>1.92</b> | --           | --          | <b>0.258</b> | --         | < 0.100    | --       | < 0.100      | --         | < 0.100    | --       | < 0.100      | --       | <b>5.00</b> | --           | --           |              |             |             |             |           |
| Iron  | mg/L     | --            | --            | --       | <b>0.211</b> | --         | --         | <b>5.53</b>  | <b>5.61</b> | --           | --          | <b>0.161</b> | --         | < 0.100    | --       | <b>0.791</b> | --         | < 0.100    | --       | <b>0.139</b> | --       | <b>5.89</b> | --           | --           |              |             |             |             |           |
| Carbon Dioxide                              | mg/L     | --            | --            | --       | <b>45</b>    | --         | --         | <b>85</b>    | <b>84</b>   | --           | --          | < 5.0        | --         | <b>78</b>  | --       | <b>5.2</b>   | --         | <b>91</b>  | --       | < 5.0        | --       | <b>140</b>  | --           | --           |              |             |             |             |           |
| Carbon Monoxide                             | mg/L     | --            | --            | --       | < 1.0        | --         | --         | < 1.0        | < 1.0       | --           | --          | < 1.0        | --         | < 1.0      | --       | < 1.0        | --         | < 1.0      | --       | < 1.0        | --       | < 1.0       | --           | --           |              |             |             |             |           |
| Methane                                     | µg/L     | --            | --            | --       | <b>15</b>    | --         | --         | <b>840</b>   | <b>780</b>  | --           | --          | <b>260</b>   | --         | <b>17</b>  | --       | < 4          | --         | < 4        | --       | < 4          | --       | <b>770</b>  | --           | --           |              |             |             |             |           |
| Dissolved Nitrogen                          | mg/L     | --            | --            | --       | <b>19</b>    | --         | --         | <b>20</b>    | <b>19</b>   | --           | --          | <b>14</b>    | --         | <b>16</b>  | --       | <b>17</b>    | --         | <b>20</b>  | --       | <b>22</b>    | --       | <b>17</b>   | --           | --           |              |             |             |             |           |
| Dissolved Oxygen                            | mg/L     | --            | --            | --       | <b>4.7</b>   | --         | --         | <b>2.6</b>   | <b>2.0</b>  | --           | --          | <b>1.4</b>   | --         | <b>5.3</b> | --       | <b>9.0</b>   | --         | <b>6.6</b> | --       | <b>12</b>    | --       | <b>3.0</b>  | --           | --           |              |             |             |             |           |
| <b>Organic Constituents</b>                 |          |               |               |          |              |            |            |              |             |              |             |              |            |            |          |              |            |            |          |              |          |             |              |              |              |             |             |             |           |
| <b>Volatile Organic Compounds</b>           |          |               |               |          |              |            |            |              |             |              |             |              |            |            |          |              |            |            |          |              |          |             |              |              |              |             |             |             |           |
| Benzene                                     | µg/L     | 5*            | 9             | < 5.0    | < 5.0        | <b>77</b>  | <b>86</b>  | <b>280</b>   | <b>290</b>  | <b>340</b>   | <b>370</b>  | <b>130</b>   | <b>140</b> | < 5.0      | < 5.0    | < 5.0        | <b>15</b>  | < 5.0      | < 5.0    | < 5.0        | < 5.0    | <b>480</b>  | <b>480</b>   | <b>2,700</b> |              |             |             |             |           |
| 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       |             |           |
| Ethylbenzene                                | µg/L     | 700*          | 2,300         | < 5.0    | < 5.0        | < 5.0      | < 5.0      | <b>120</b>   | <b>130</b>  | <b>130</b>   | <b>160</b>  | <b>19</b>    | <b>28</b>  | < 5.0      | < 5.0    | < 5.0        | <b>7.2</b> | < 5.0      | < 5.0    | < 5.0        | < 5.0    | <b>540</b>  | <b>620</b>   | <b>930</b>   |              |             |             |             |           |
| Toluene                                     | µg/L     | 1,000*        | 1,100         | < 5.0    | < 5.0        | < 5.0      | < 5.0      | <b>6.9</b>   | <b>7.0</b>  | <b>5.4</b>   | <b>5.9</b>  | <b>5.8</b>   | <b>5.8</b> | < 5.0      | < 5.0    | < 5.0        | < 5.0      | < 5.0      | < 5.0    | < 5.0        | < 5.0    | <b>5.1</b>  | <b>5.3</b>   | <b>1,200</b> |              |             |             |             |           |
| Total Xylenes                               | µg/L     | 31,000        | 200,000       | < 5.0    | < 5.0        | < 5.0      | < 5.0      | <b>94</b>    | <b>98</b>   | <b>56</b>    | <b>65</b>   | <b>13</b>    | <b>21</b>  | < 5.0      | < 5.0    | < 5.0        | < 5.0      | < 5.0      | < 5.0    | < 5.0        | < 5.0    | <b>48</b>   | <b>60</b>    | <b>670</b>   |              |             |             |             |           |
| <b>Semivolatile Organic Compounds</b>       |          |               |               |          |              |            |            |              |             |              |             |              |            |            |          |              |            |            |          |              |          |             |              |              |              |             |             |             |           |
| Acenaphthene                                | µg/L     | 2,000*        | 6,100         | < 10     | < 10         | < 10       | < 10       | <b>35</b>    | <b>35</b>   | <b>39</b>    | <b>33</b>   | < 10         | < 10       | < 10       | < 10     | < 10         | < 10       | < 10       | < 10     | < 10         | < 10     | < 10        | <b>81</b>    | <b>120</b>   | <b>59</b>    |             |             |             |           |
| Acenaphthylene                              | µg/L     | 470           | 3,100         | < 10     | < 10         | < 10       | < 10       | <b>12</b>    | <b>12</b>   | <b>16</b>    | <b>14</b>   | < 10         | < 10       | < 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       | < 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    | <b>0.29</b>  | <b>0.27</b> | <b>0.17</b>  | <b>0.14</b> | < 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      | <b>0.18</b> | <b>0.40</b> | <b>2.0</b>  |           |
| Benzo[a]pyrene                              | µg/L     | 0.2*          | 0.39          | < 0.050  | < 0.050      | < 0.050    | < 0.050    | <b>0.087</b> | < 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     | <b>1.4</b>  |             |           |
| Benzo[b]fluoranthene                        | µg/L     | 1.17          | 3.92          | < 0.10   | < 0.10       | < 0.10     | < 0.10     | < 0.10       | < 0.10      | < 0.10       | < 0.10      | < 0.10       | < 0.10     | < 0.10     | < 0.10   | < 0.10       | < 0.10     | < 0.10     | < 0.10   | < 0.10       | < 0.10   | < 0.10      | < 0.10       | < 0.10       | < 0.10       | < 0.10      | < 0.10      |             |           |
| Benzo[k]fluoranthene                        | µg/L     | 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        |           |
| Chrysene                                    | µg/L     | 11.7          | 39.2          | < 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        |           |
| 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      | <b>0.13</b> |           |
| 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        | < 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        | < 10         | < 10         | < 10         | < 10        | < 10        | <b>16</b>   |           |
| Fluorene                                    | µg/L     | 1,000*        | 4,100         | < 10     | < 10         | < 10       | < 10       | <b>40</b>    | <b>41</b>   | <b>48</b>    | <b>42</b>   | < 10         | < 10       | < 10       | < 10     | < 10         | < 10       | < 10       | < 10     | < 10         | < 10     | < 10        | < 10         | < 10         | < 10         | < 10        | <b>25</b>   | <b>40</b>   | <b>64</b> |
| Indeno[1,2,3-cd]pyrene                      | µg/L     | 1.17          | 3.92          | < 0.050  | < 0.050      | < 0.050    | < 0.050    | <b>0.087</b> | < 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     | <b>0.62</b> |           |
| 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        |           |
| 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        |           |
| Naphthalene                                 | µg/L     | 20*           | 20*           | < 10     | < 10         | <b>130</b> | <b>120</b> | <b>530</b>   | <b>570</b>  | <b>1,000</b> | <b>870</b>  | < 10         | <b>62</b>  | < 10       | < 10     | < 10         | < 10       | <b>37</b>  | < 10     | < 10         | < 10     | < 10        | <b>1,100</b> | <b>4,400</b> | <b>3,000</b> |             |             |             |           |
| Phenanthrene                                | µg/L     | 470           | 3,100         | < 10     | < 10         | < 10       | < 10       | <b>14</b>    | <b>17</b>   | <b>25</b>    | <b>23</b>   | < 10         | < 10       | < 10       | < 10     | < 10         | < 10       | < 10       | < 10     | < 10         | < 10     | < 10        | < 10         | < 10         | < 10         | < 10        | <b>40</b>   | <b>69</b>   | <b>92</b> |
| Phenol                                      | µg/L     | 9,390         |               |          |              |            |            |              |             |              |             |              |            |            |          |              |            |            |          |              |          |             |              |              |              |             |             |             |           |





## **Figures**

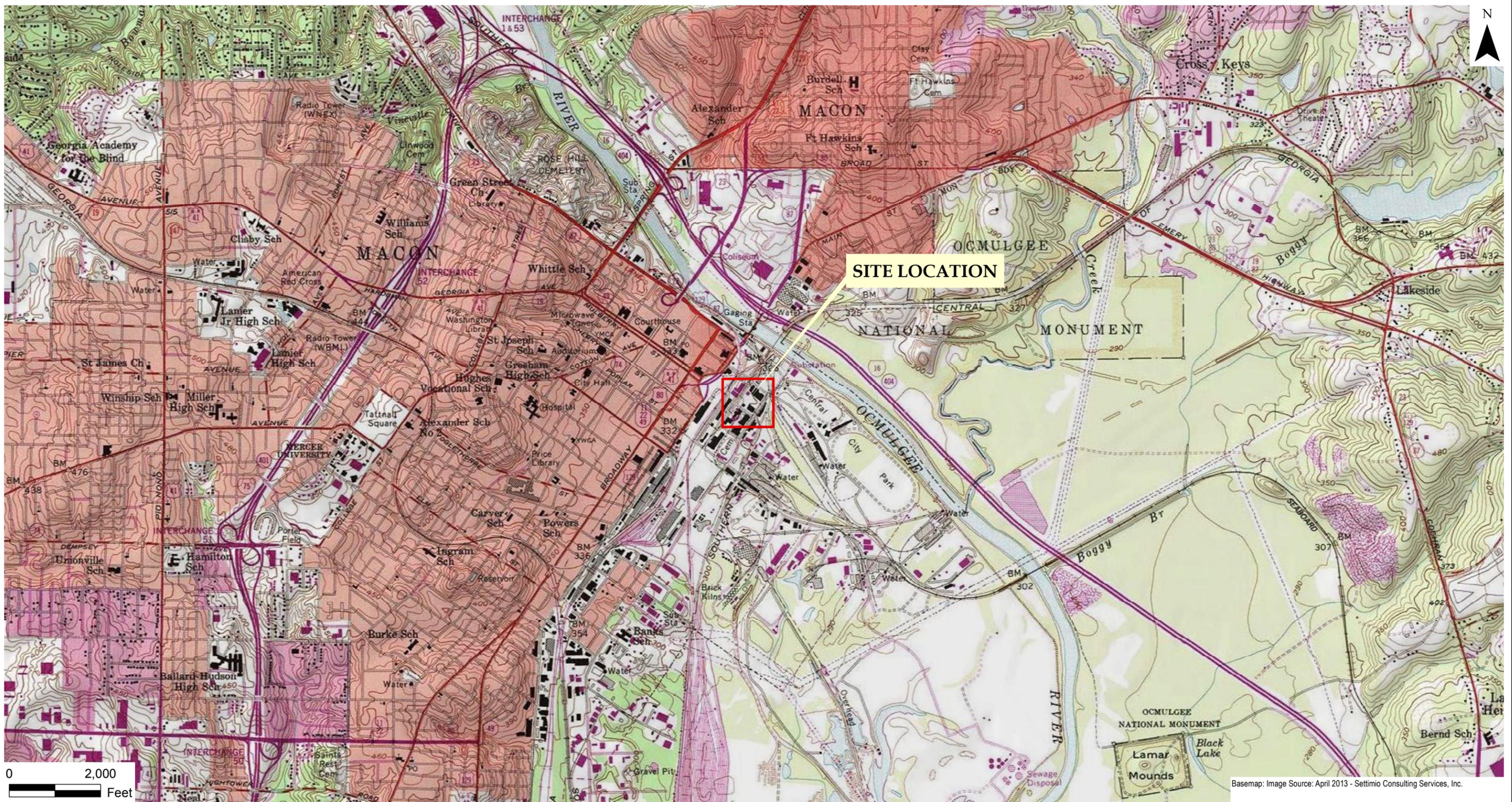
*Project No. 0176740*  
*Atlanta Gas Light Company*

**Environmental Resources Management**

3200 Windy Hill Road SE, Suite 1500W

Atlanta, Georgia 30339

(678) 486-2700



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



# Environmental Resources Management

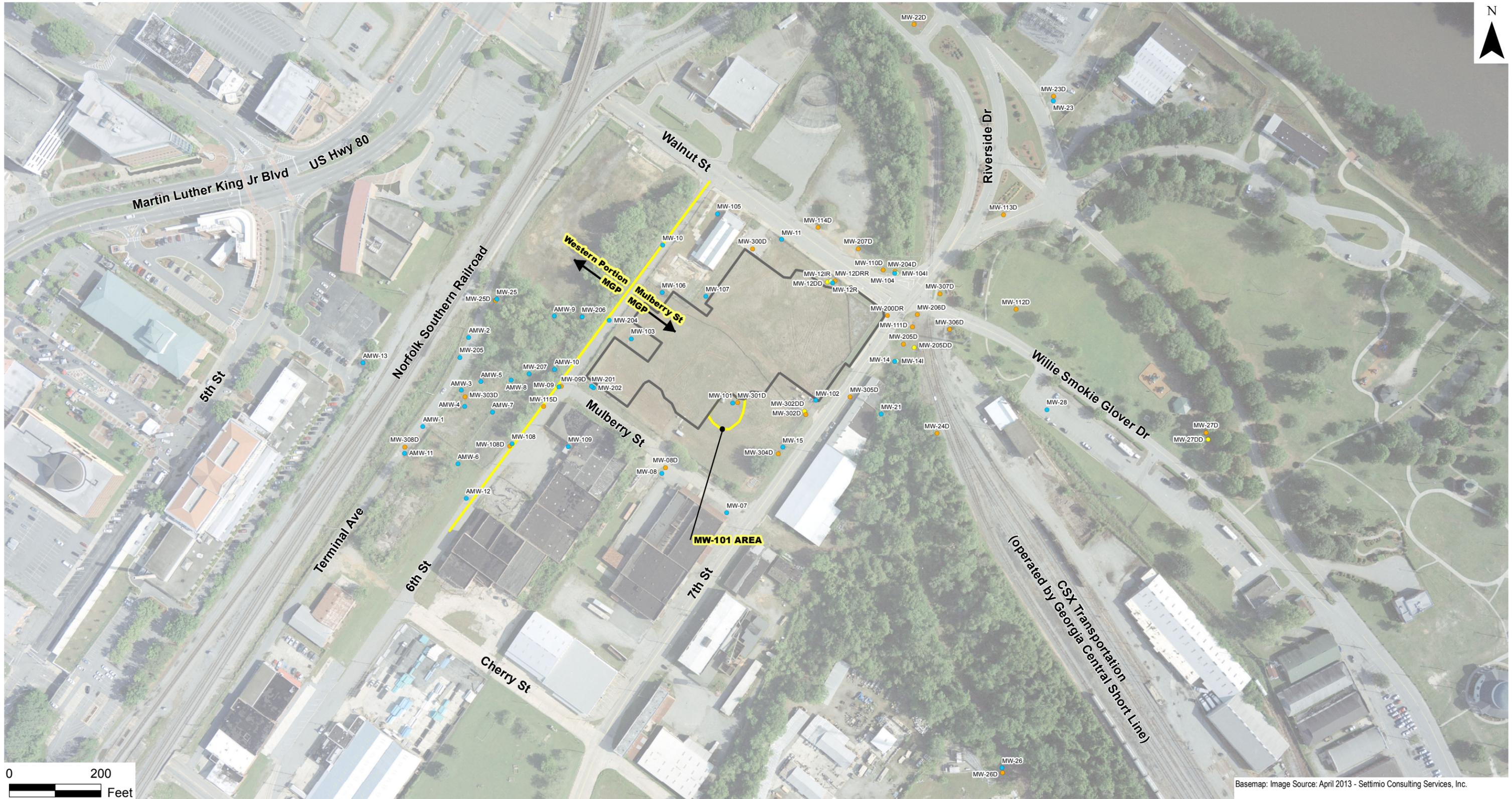
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CONTOUR INTERVAL 10 FEET  
 DOTTED LINES REPRESENT 5-FOOT CONTOURS  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



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.



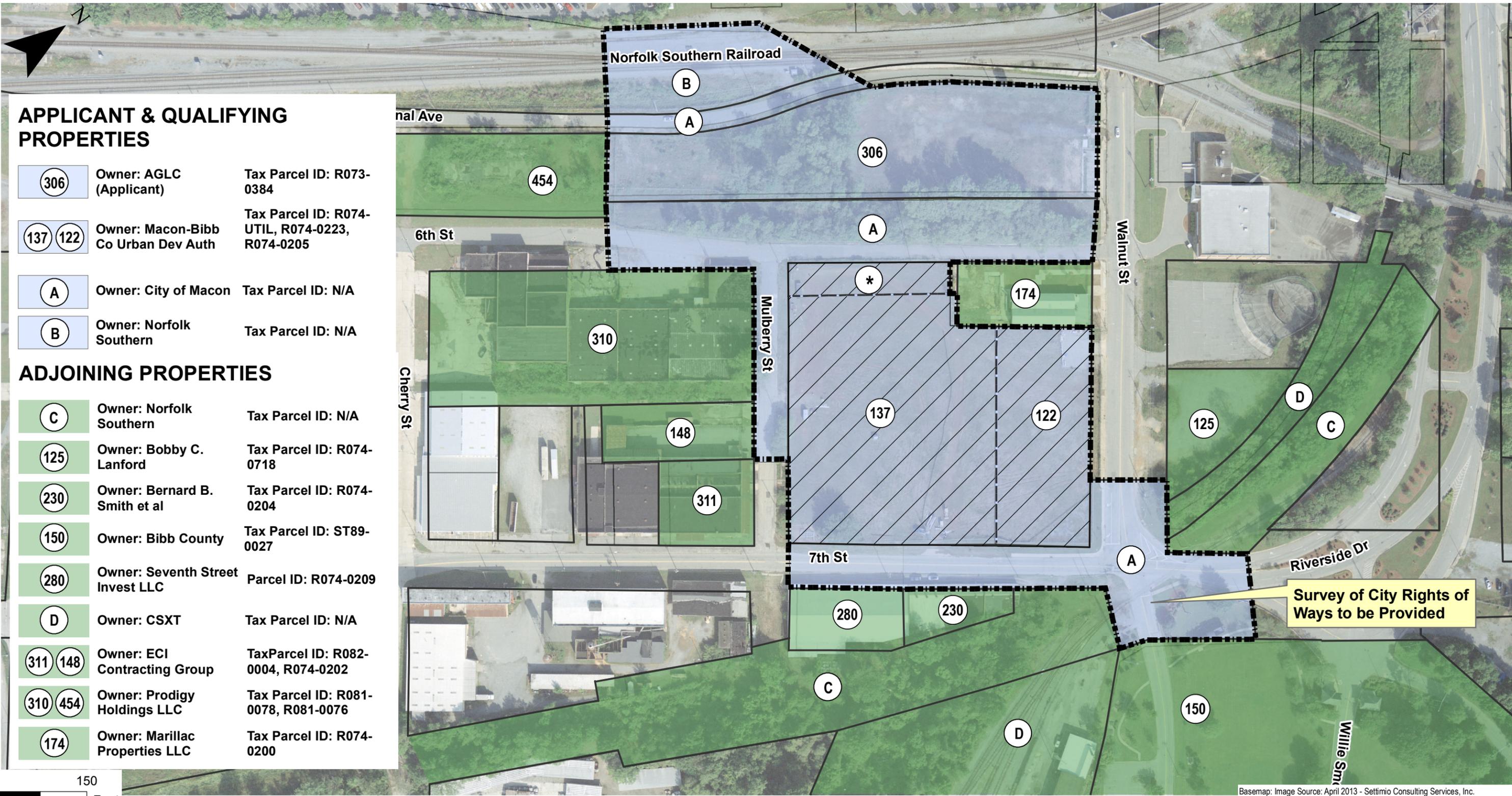
## Environmental Resources Management

|   |           |        |           |           |        |
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| DATE:   | 10/8/2014 | SCALE: | AS SHOWN  | REVISION: | 0      |
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- Shallow Well
- Intermediate Well
- Shallow Bedrock Well
- Deep Bedrock Well
- Existing ISS Area

FIGURE 1-2  
SITE MAP

Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia



### APPLICANT & QUALIFYING PROPERTIES

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

### ADJOINING PROPERTIES

- C Owner: Norfolk Southern Tax Parcel ID: N/A
- 125 Owner: Bobby C. Lanford Tax Parcel ID: R074-0718
- 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 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: R081-0078, R081-0076
- 174 Owner: Marillac Properties LLC Tax Parcel ID: R074-0200



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



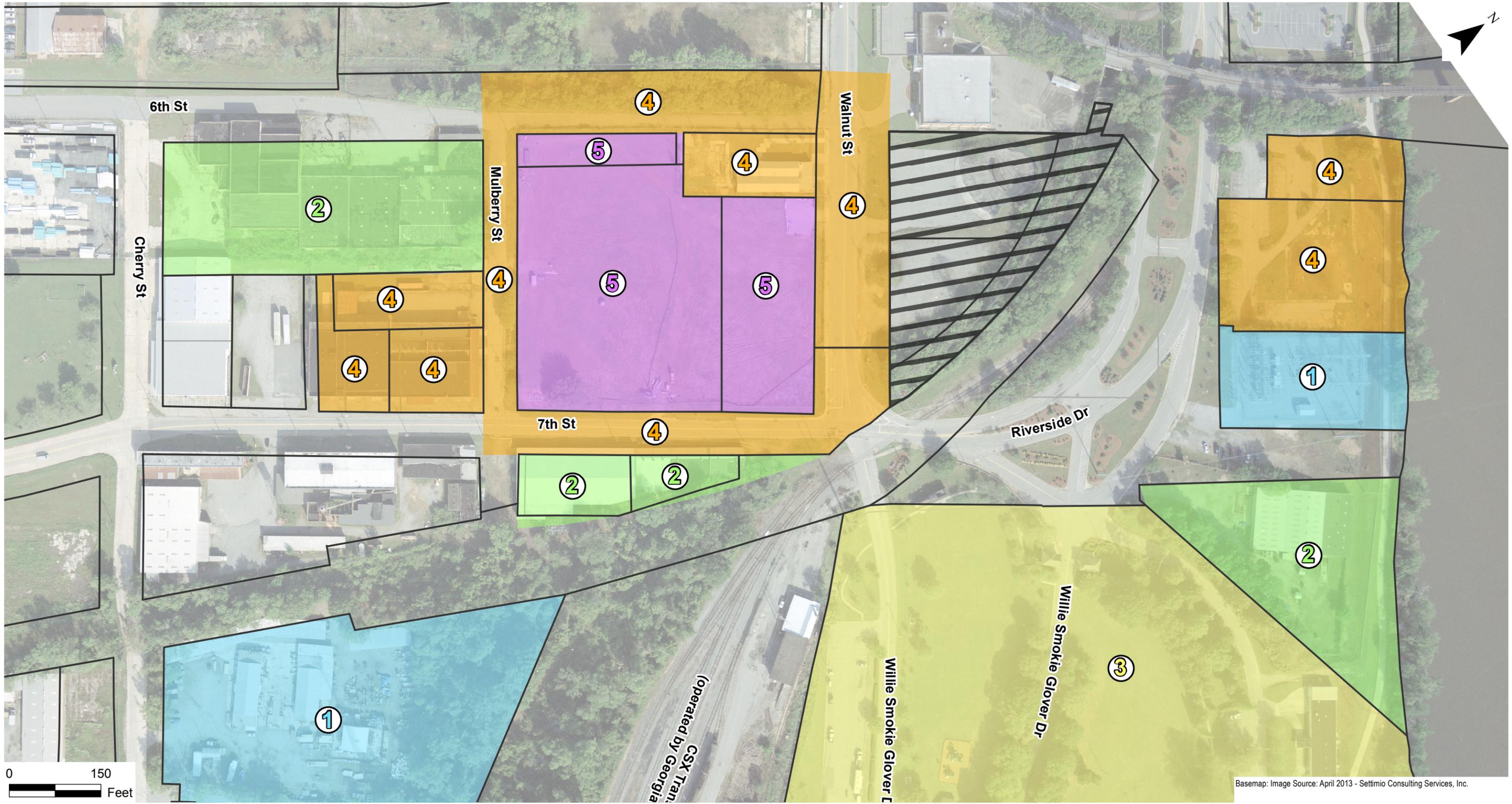
## Environmental Resources Management

|  |           |        |           |           |        |
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- Macon-Bibb County Urban Development Authority Property (Agreement Pending)
- \* Unnumbered Parcel (per Macon-Bibb County Tax Assessors GIS)
- 280 Address Number (per Macon-Bibb County Tax Assessors GIS)
- VRP Applicant & Qualifying Properties Boundary
- Property Line

FIGURE 1-3 - PROPERTY OWNERSHIP MAP

Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia



## Environmental Resources Management



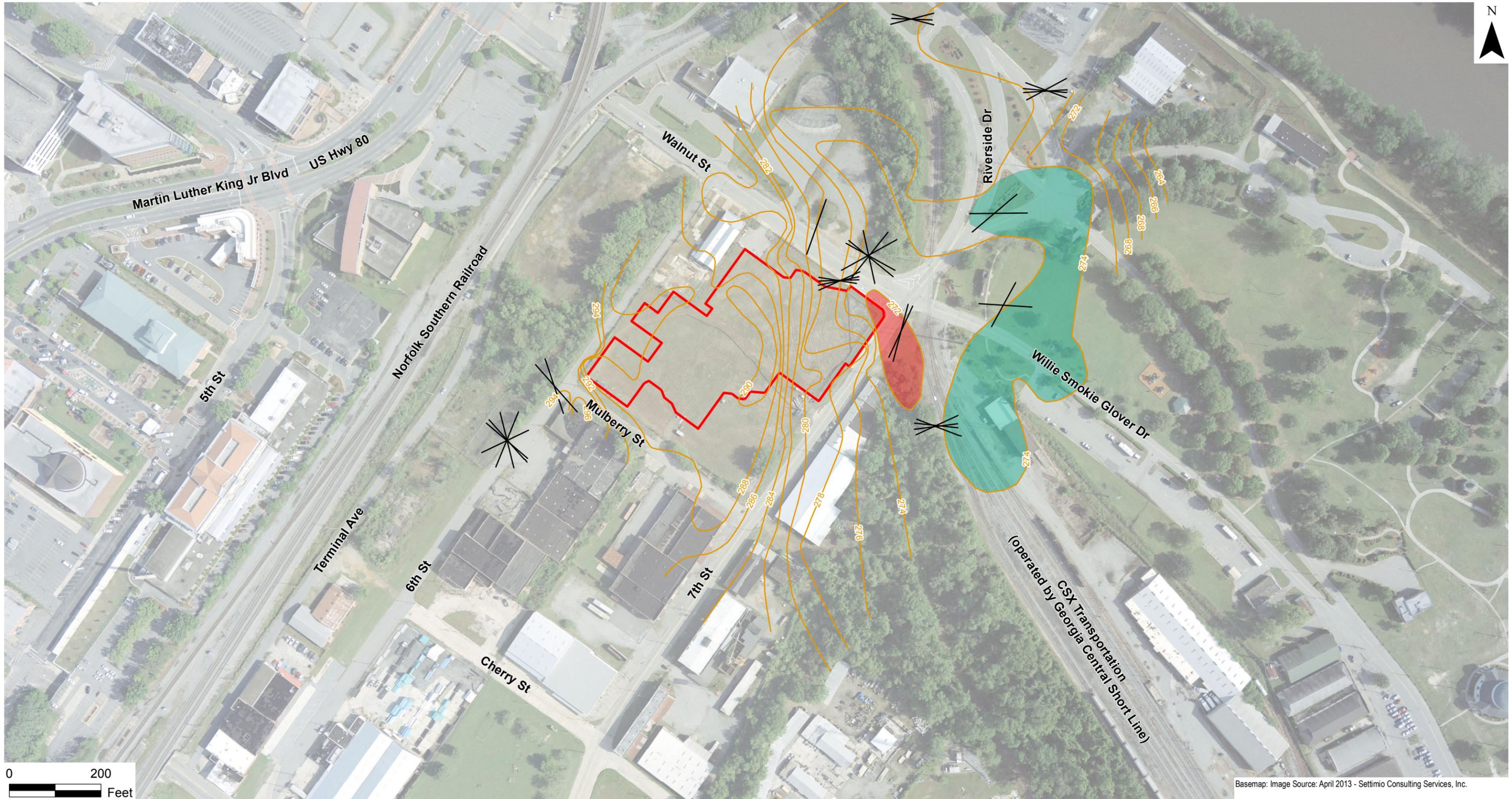
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- Property Line
- ① Type 1 RRS
- ② Type 2 RRS
- ③ Type 3 RRS
- ④ Type 4 RRS
- ⑤ Type 5 RRS
- ▨ Soil Impact Not Associated with MGP Impacts

**FIGURE 2-1 - 2004 CSR  
PARCEL SOIL CERTIFICATIONS**

Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia





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

## Environmental Resources Management



|   |           |        |           |           |        |
|---|-----------|--------|-----------|-----------|--------|
| DESIGN:   | H Sartain | DRAWN: | S Vizuete | CHKD.:    | N Vrey |
| DATE:   | 10/9/2014 | SCALE: | AS SHOWN  | REVISION: | 0      |
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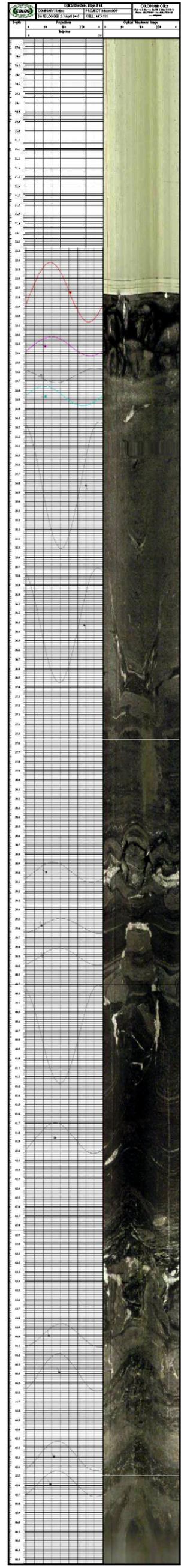
- Bedrock Fracture Orientation
- Saprolite Surface Contour
- Existing ISS Area
- Bedrock High
- Bedrock Low

**FIGURE 3-2 - SAPROLITE SURFACE CONTOURS & APPROXIMATE FRACTURE ORIENTATIONS**

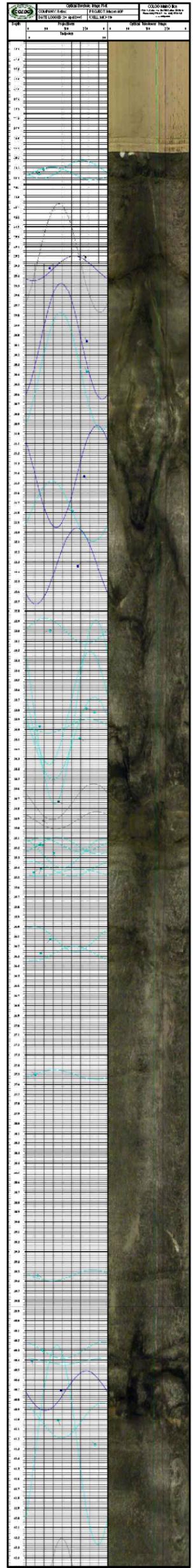
Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia



MW-111D

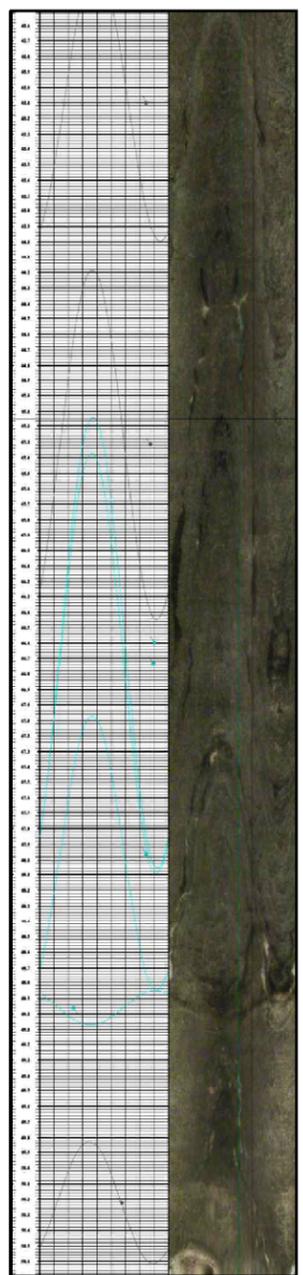


MW-110(D)



Continued

MW-110(D)  
Continued



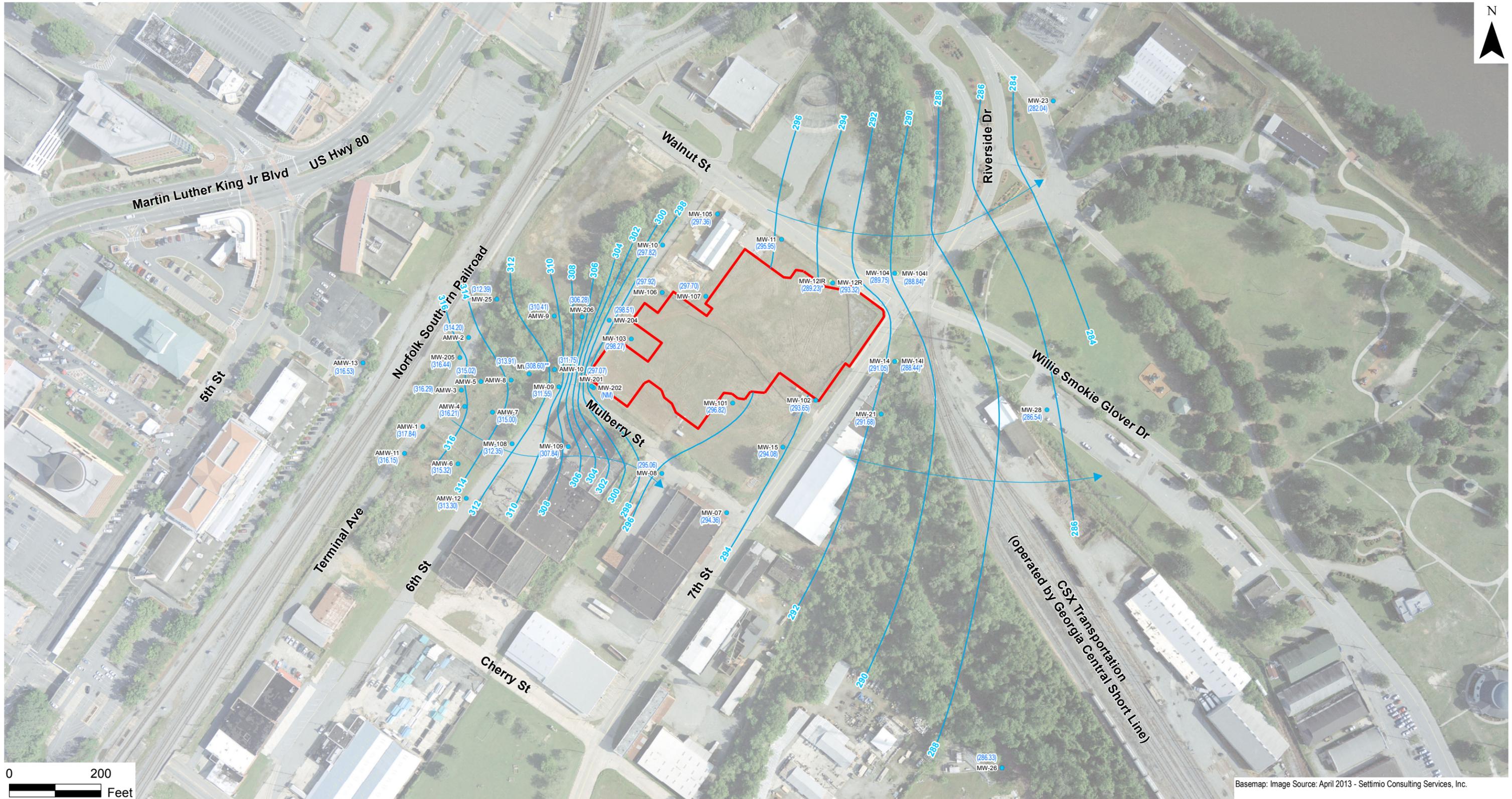
# Environmental Resources Management

FIGURE 3-3 - OPTICAL TELEVIEWER BOREHOLE IMAGES FOR WELLS MW-110(D) & MW-111D

Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia



|  |                  |               |
|--|------------------|---------------|
| DESIGN: N Thompson   | DRAWN: S Vizuite | CHKD.: N Vrey |
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Basemap: Image Source: April 2013 - Setimio Consulting Services, Inc.

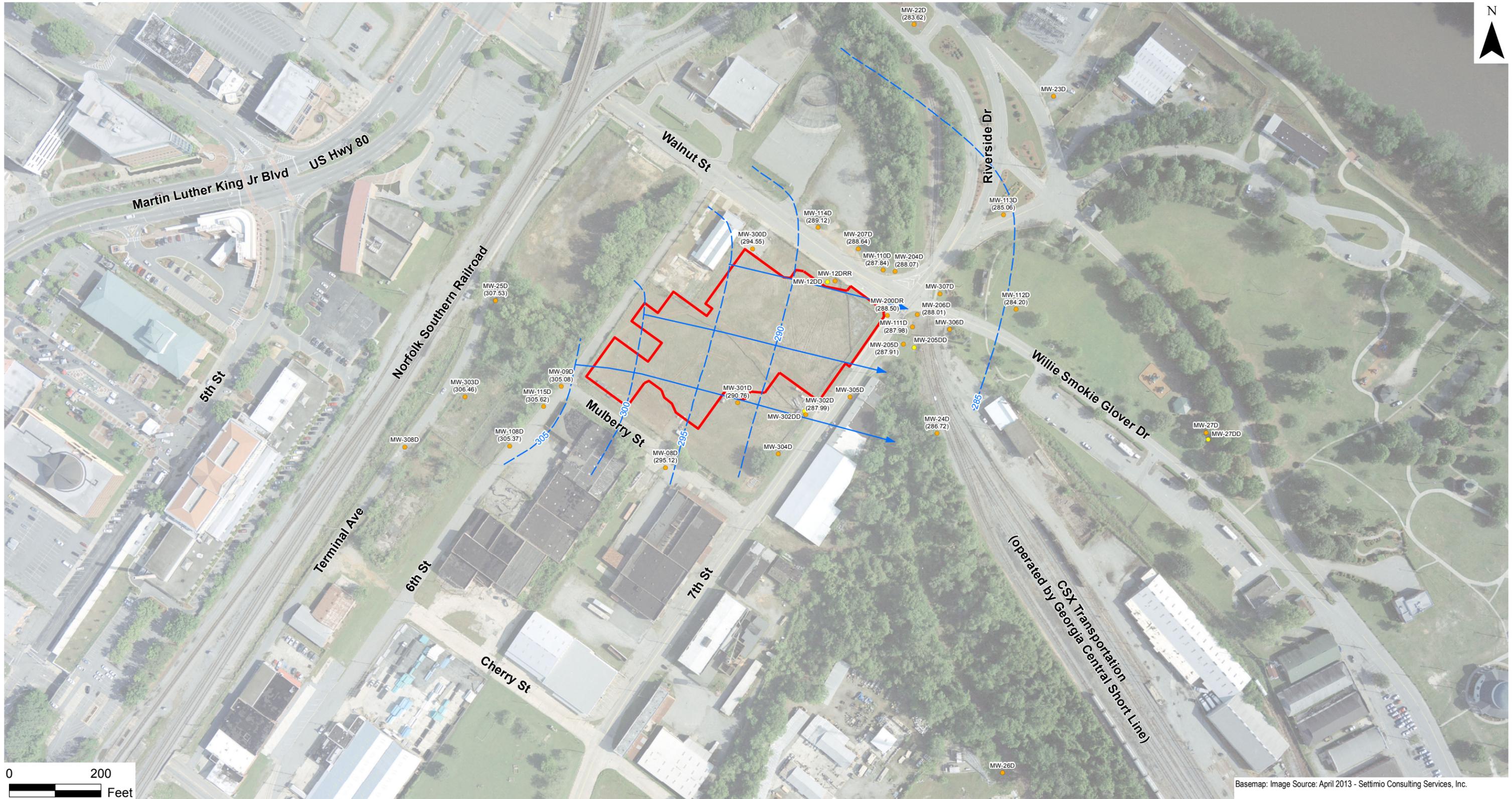
# Environmental Resources Management



- Shallow Well
- Intermediate Well
- Potentiometric Surface Contour
- ← Direction of Groundwater Flow
- Existing ISS Area
- (286.54) Groundwater Elevation 8/5/13 (Feet AMSL)
- (NM) Not Measured
- \* Intermediate Wells Not Used for Contouring
- \*\* MW-207 Not Used for Contouring

**FIGURE 3-4 - ALLUVIUM GROUNDWATER ELEVATION MAP AUGUST 2013**  
 Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia

|   |           |        |          |           |        |
|---|-----------|--------|----------|-----------|--------|
| DESIGN:   | H Sartain | DRAWN: | S Vizuet | CHKD.:    | N Vrey |
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Basemap: Image Source: April 2013 - Settimio Consulting Services, Inc.

# Environmental Resources Management

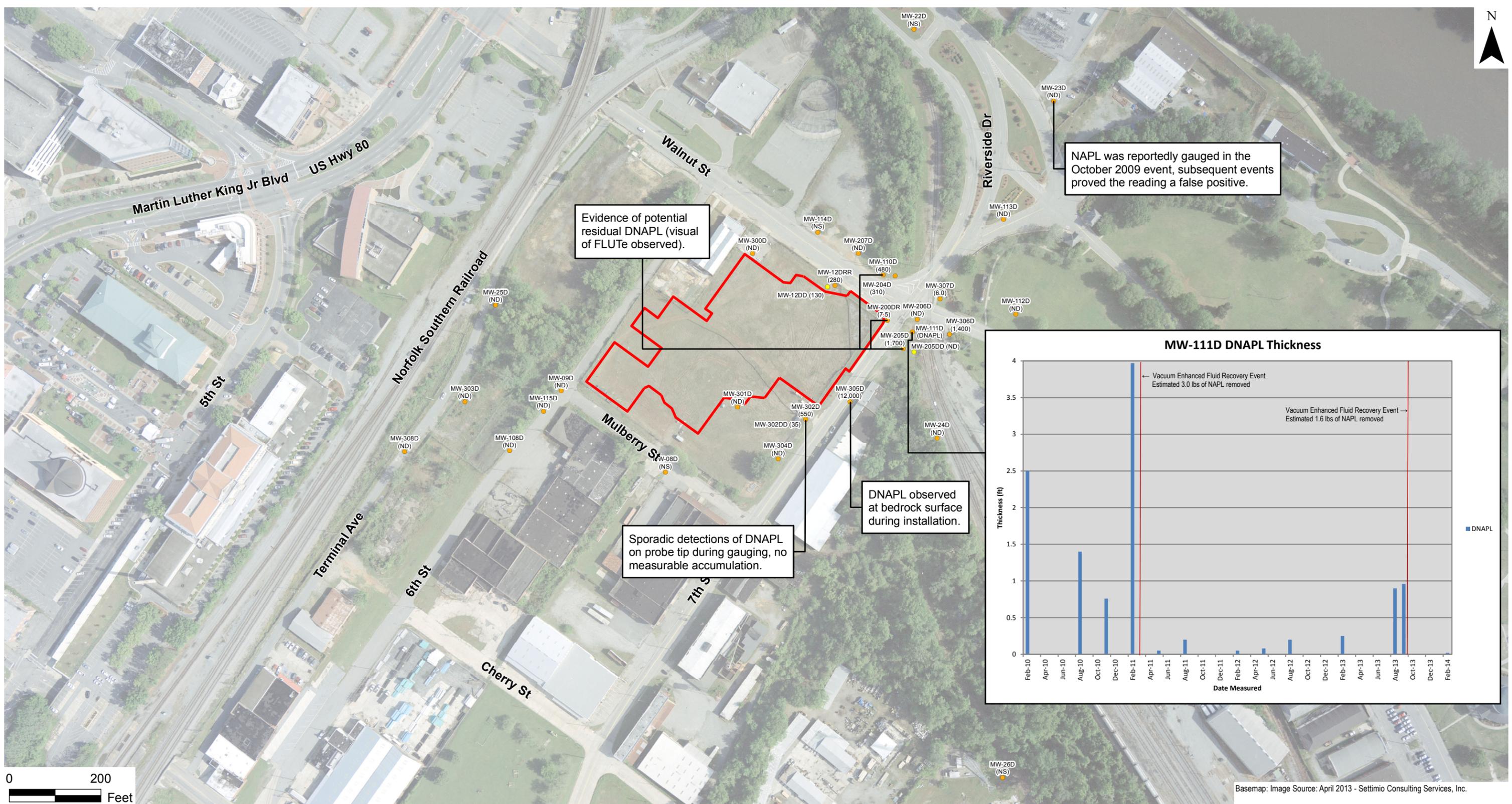


- Shallow Bedrock Well
- Deep Bedrock Well
- Groundwater Elevation Contours (ft AMSL)
- Groundwater Flow Direction
- Existing ISS Area

NOTE:  
Ocmulgee River Elevation: ~280 ft AMSL

**FIGURE 3-5 - AVERAGE GROUNDWATER ELEVATION CONTOURS & FLOW LINES FOR BEDROCK WELLS (MAY 2010 - AUGUST 2013)**  
Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia

|   |           |        |          |           |        |
|---|-----------|--------|----------|-----------|--------|
| DESIGN:   | H Sartain | DRAWN: | S Vizuet | CHKD.:    | N Vrey |
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# Environmental Resources Management

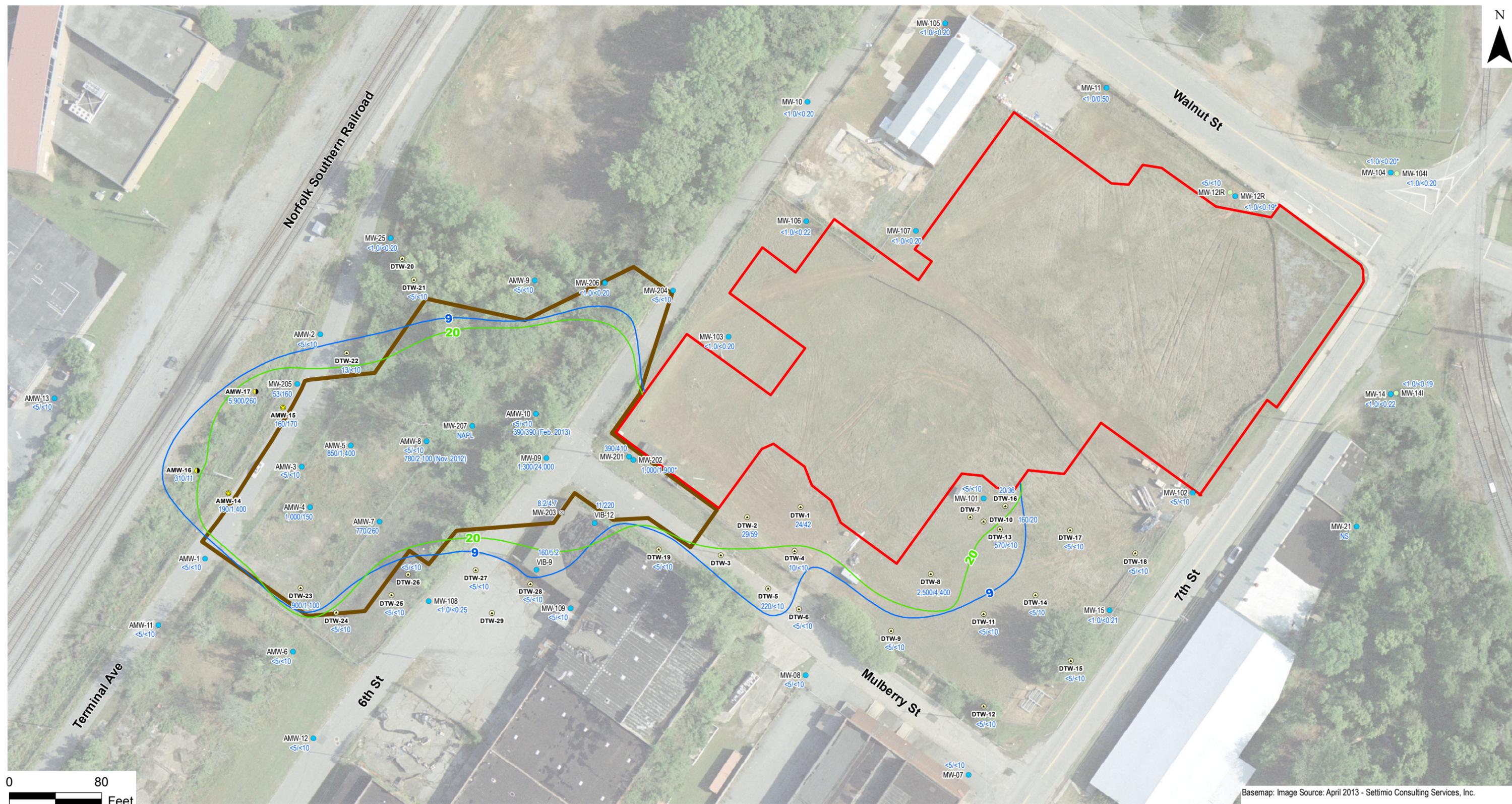
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- Shallow Bedrock Well
- Deep Bedrock Well
- Existing ISS Area
- ( ) Benzene Concentration (ug/L)

NOTE:  
Benzene data shown is February 2014  
NS = Not Sampled  
ND = Not Detected  
DNAPL = Dense Non-Aqueous Phase Liquid

**FIGURE 3-6 - DNAPL OBSERVATIONS IN SITE WELLS**

Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia



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

## Environmental Resources Management

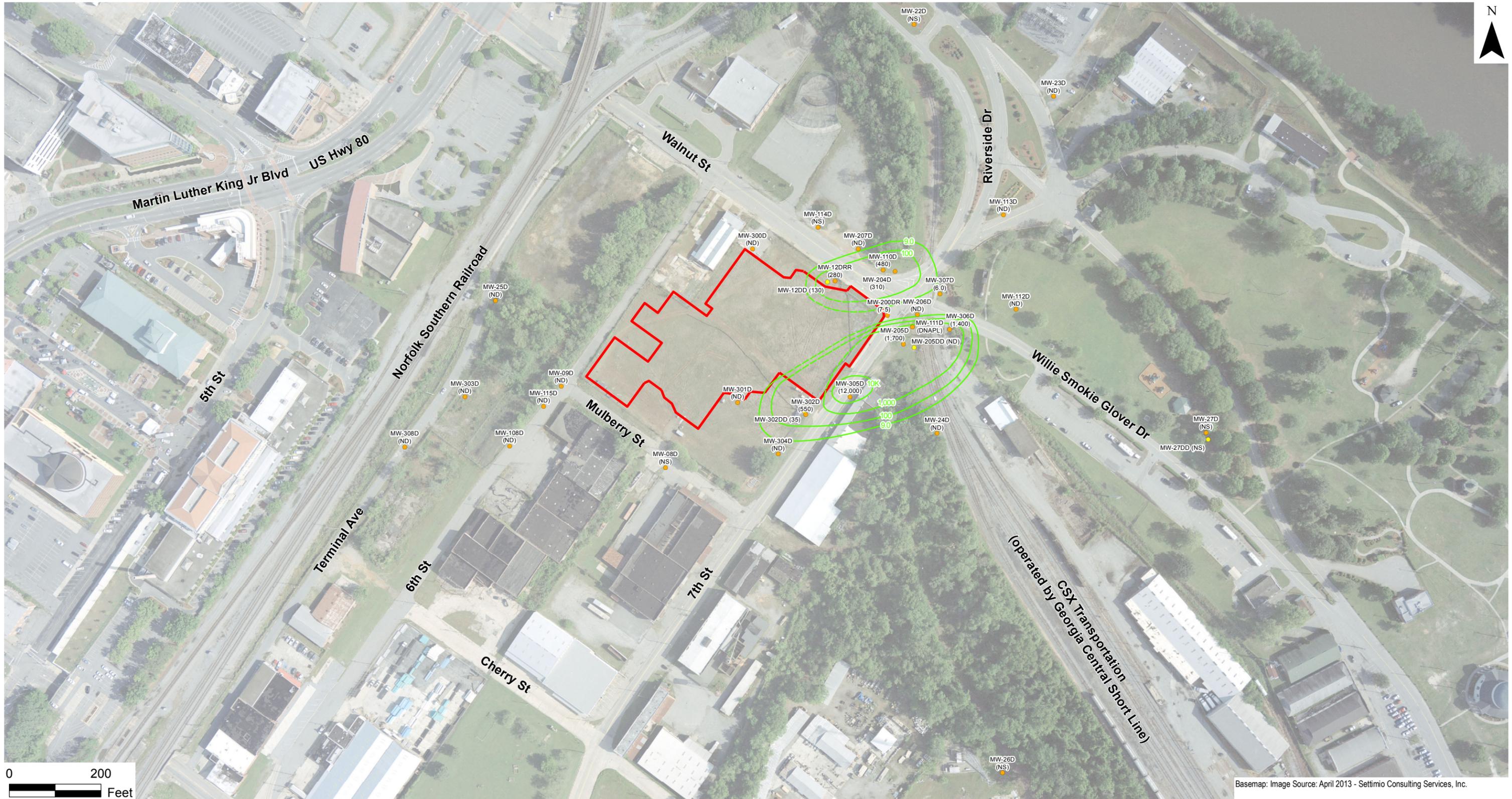


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- Proposed Monitor Well Location
- Proposed Contingency Well Location
- Shallow Well
- Intermediate Well
- ⊗ Destroyed Well
- ⊙ Delineation Temporary Well
- Naphthalene Contour (ug/L)
- Benzene Contour (ug/L)
- Corrective Action Limits
- Existing ISS Area

- 29/59 Benzene/Naphthalene Concentration (ug/L)
- ND None Detected
- NS Not Sampled
- Notes:
- Monitoring well data collected - August 2013
- \* Data collected - February 2013
- DTW data collected - September 2013
- VIB data collected - May 2013

**FIGURE 3-7**  
**BENZENE/NAPHTHALENE IN**  
**ALLUVIUM GROUNDWATER - 2013**  
 Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia



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

# Environmental Resources Management

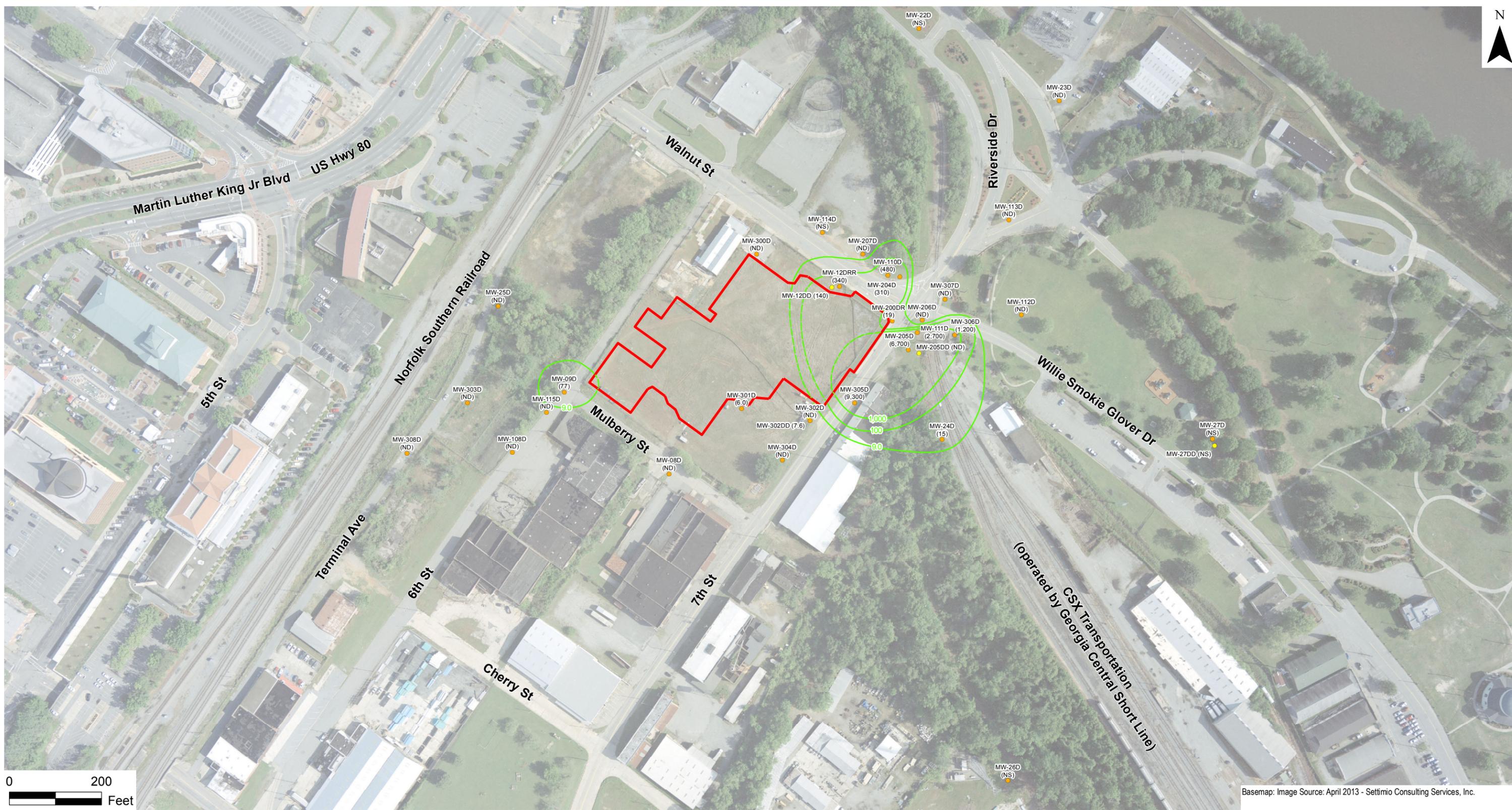


- Shallow Bedrock Well
- Deep Bedrock Well
- Benzene Isoconcentration Contour (Dashed where inferred - Under the ISS mass)
- Existing ISS Area
- ( ) Benzene Concentration (ug/L)

NOTE:  
 Deep bedrock wells not included in contouring.  
 NS = Not Sampled  
 ND = Not Detected

**FIGURE 3-8 - BENZENE IN BEDROCK GROUNDWATER FEBRUARY 2014**  
 Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia

|         |   |        |          |           |        |
|---------|---|--------|----------|-----------|--------|
| DESIGN: | H Sartain   | DRAWN: | S Vizuet | CHKD.:    | N Vrey |
| DATE:   | 10/9/2014   | SCALE: | AS SHOWN | REVISION: | 0      |
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Basemap: Image Source: April 2013 - Settimo Consulting Services, Inc.

# Environmental Resources Management



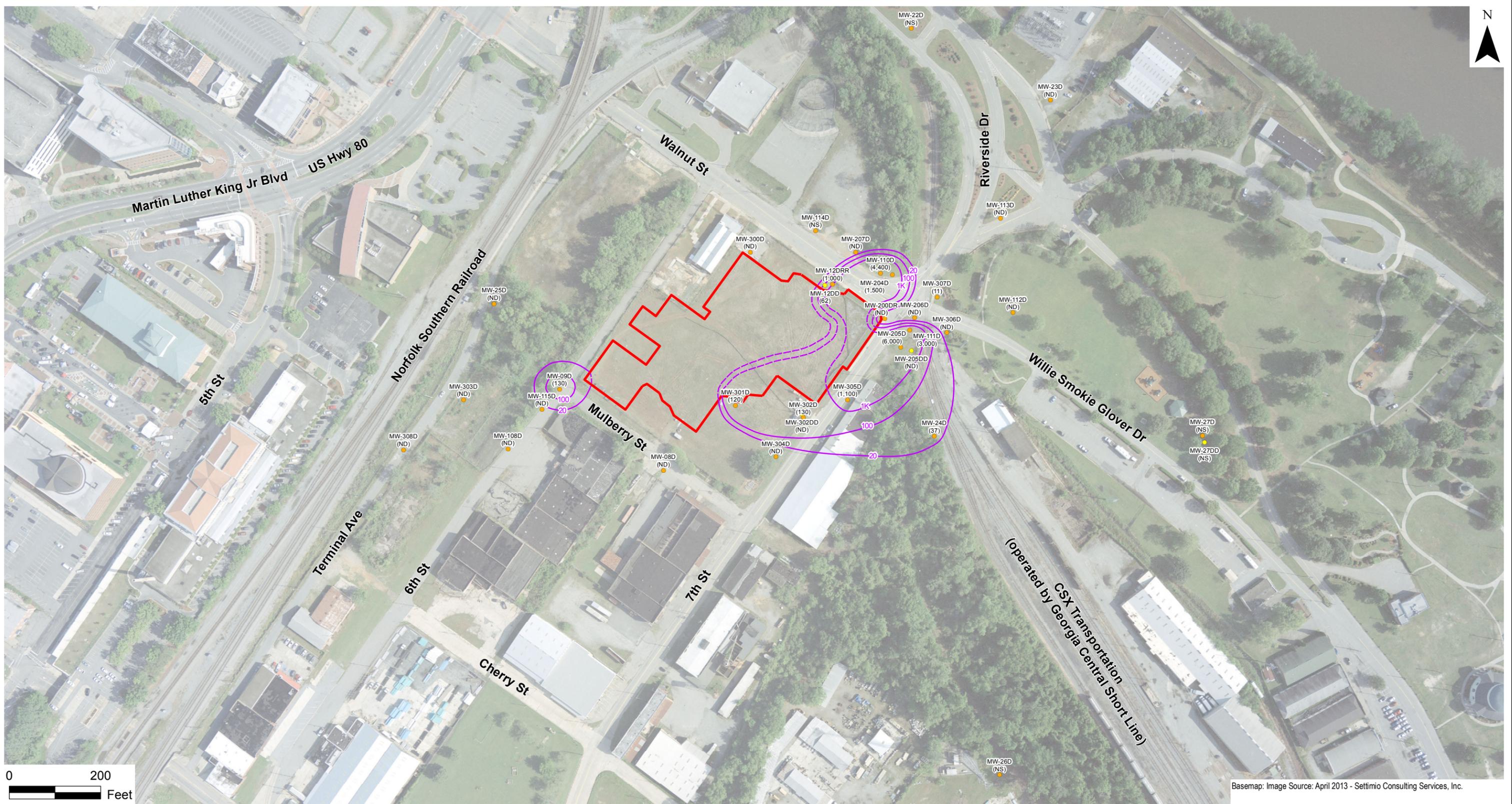
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- Shallow Bedrock Well
- Deep Bedrock Well
- Benzene Isoconcentration Contour *(Dashed where inferred - Under the ISS mass)*
- Existing ISS Area
- ( ) Benzene Concentration (ug/L)

NOTE:  
 Deep bedrock wells not included in contouring.  
 NS = Not Sampled  
 ND = Not Detected

**FIGURE 3-9 - BENZENE IN BEDROCK GROUNDWATER AUGUST 2014**  
 Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia





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

# Environmental Resources Management

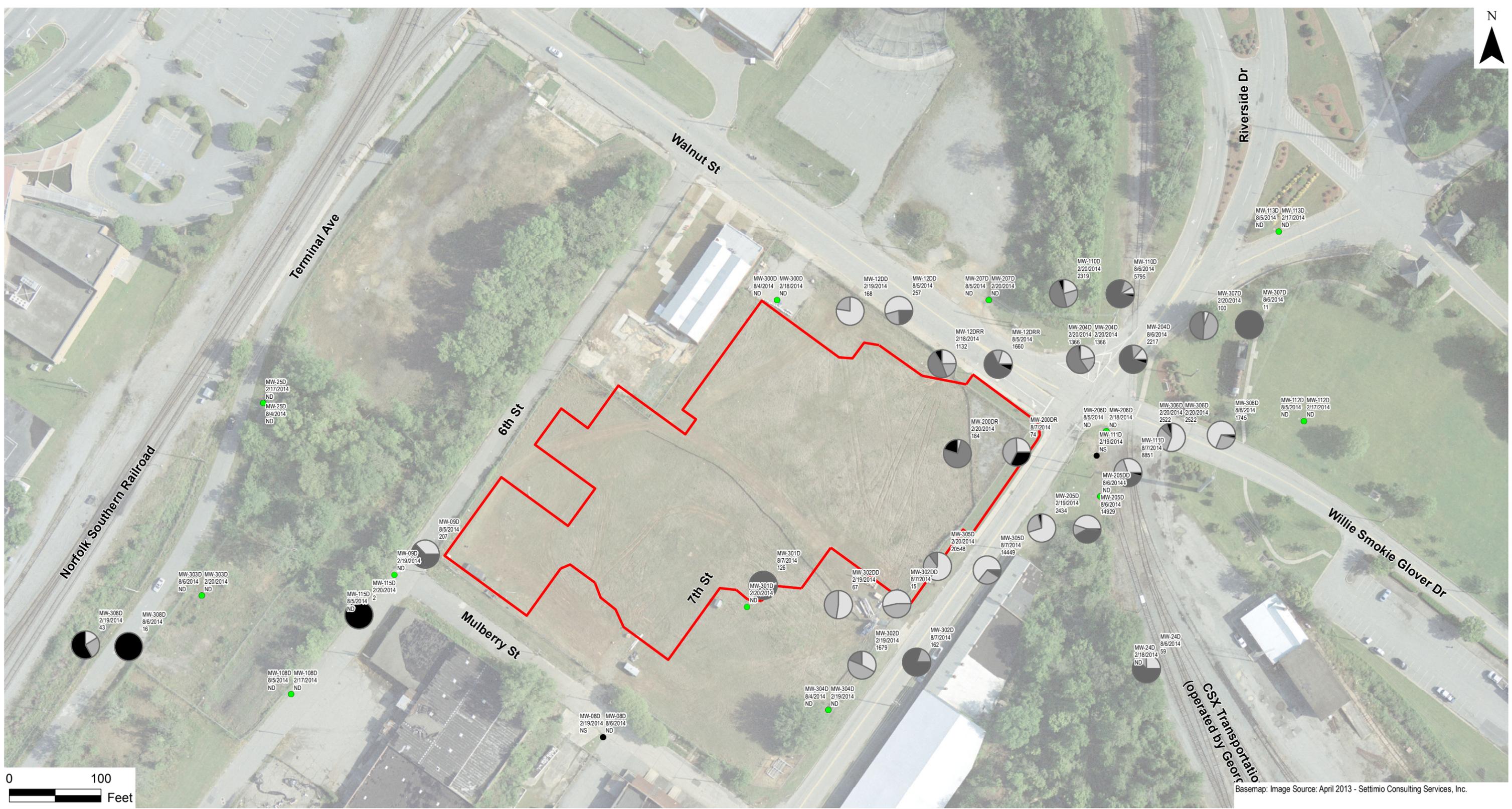


- Shallow Bedrock Well
- Deep Bedrock Well
- Naphthalene Isoconcentration Contour (ug/L) *(Dashed where inferred - Under the ISS mass)*
- Existing ISS Area
- ( ) Naphthalene Concentration (ug/L)

Note:  
 Deep bedrock wells not included in contouring.  
 NS = Not Sampled  
 ND = Not Detected

**FIGURE 3-11 - NAPHTHALENE IN BEDROCK GROUNDWATER AUGUST 2014**  
 Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia

|         |   |        |           |           |        |
|---------|---|--------|-----------|-----------|--------|
| DESIGN: | H Sartain   | DRAWN: | S Vizuete | CHKD.:    | N Vrey |
| DATE:   | 10/9/2014   | SCALE: | AS SHOWN  | REVISION: | 0      |
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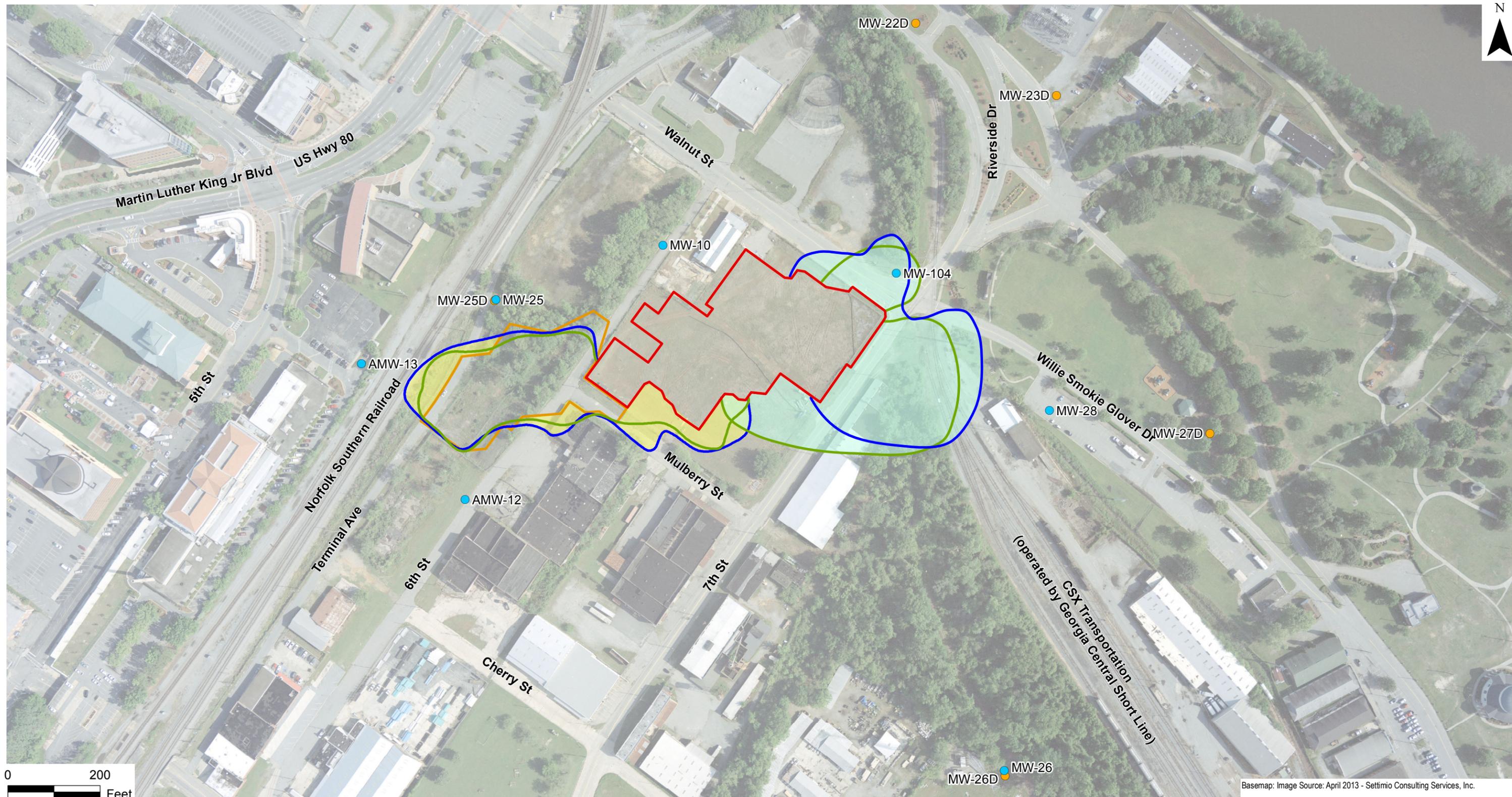
# Environmental Resources Management



|         |   |        |           |           |        |
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| DATE:   | 10/9/2014   | SCALE: | AS SHOWN  | REVISION: | 0      |
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**FIGURE 3-12 - CHEMICAL SPECIATION DATA FOR SELECT BEDROCK WELLS FEBRUARY & AUGUST 2014**

Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia



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

## Environmental Resources Management



|   |           |        |           |           |        |
|---|-----------|--------|-----------|-----------|--------|
| DESIGN:   | H Sartain | DRAWN: | S Vizuete | CHKD.:    | N Vrey |
| DATE:   | 10/8/2014 | SCALE: | AS SHOWN  | REVISION: | 0      |
| FILE: S:\AGL\AGL_Macon\MXD\09 2014 VIRP\AGLMcn_F5-1v2_PtofDemonstration.mxd |           |        |           |           |        |

- Shallow Point of Demonstration Well
- Bedrock Point of Demonstration Well
- Existing ISS Area
- Proposed ISS Area
- Extent of Bedrock Dissolved Phase Impacts
- Extent of Alluvial Dissolved Phase Impacts
- Naphthalene Impact (>20 µg/L)
- Benzene Impact (>5 µg/L)

**FIGURE 5-1**  
**POINT OF**  
**DEMONSTRATION WELLS**  
 Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia

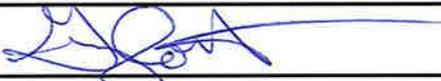


**VRP Application and Checklist**  
*Appendix A*

*Project No. 0176740*  
*Atlanta Gas Light Company*

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

## Voluntary Investigation and Remediation Plan Application Form and Checklist

| VRP APPLICANT (#1) INFORMATION   |  |     |                 |           |                           |
|--|--|-----|-----------------|-----------|---------------------------|
| COMPANY NAME   | Atlanta Gas Light Company (AGLC)   |     |                 |           |                           |
| CONTACT PERSON/TITLE   | Mr. Greg Corbett   |     |                 |           |                           |
| ADDRESS  | Ten Peachtree Place, Atlanta, GA 30309   |     |                 |           |                           |
| PHONE  | 404 584 3719   | FAX | 404 584 3499    | E-MAIL    | gcorbett@aglresources.com |
| GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP   |  |     |                 |           |                           |
| NAME   | Hunter S. Sartain  |     | GA PE/PG NUMBER | PE 032318 |                           |
| COMPANY  | Environmental Resources Management   |     |                 |           |                           |
| ADDRESS  | 3200 Windy Hill Road SE, Suite 1500W, Atlanta, GA 30339                              |     |                 |           |                           |
| PHONE  | 678-486-2700   | FAX | 404-745-0103    | E-MAIL    | hunter.sartain@erm.com    |
| APPLICANT'S CERTIFICATION  |  |     |                 |           |                           |
| <p>In order to be considered a qualifying property for the VRP:</p> <p>(1) The property must have a release of regulated substances into the environment;</p> <p>(2) The property shall not be:</p> <p style="margin-left: 20px;">(A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601.</p> <p style="margin-left: 20px;">(B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or</p> <p style="margin-left: 20px;">(C) A facility required to have a permit under Code Section 12-8-66.</p> <p>(3) Qualifying the property under this part would not violate the terms and conditions under which the division operates and administers remedial programs by delegation or similar authorization from the United States Environmental Protection Agency.</p> <p>(4) Any lien filed under subsection (e) of Code Section 12-8-96 or subsection (b) of Code Section 12-13-12 against the property shall be satisfied or settled and released by the director pursuant to Code Section 12-8-94 or Code Section 12-13-6.</p> <p>In order to be considered a participant under the VRP:</p> <p>(1) The participant must be the property owner of the voluntary remediation property or have express permission to enter another's property to perform corrective action.</p> <p>(2) The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director.</p> <p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p> <p>I also certify that this property is eligible for the Voluntary Remediation Program (VRP) as defined in Code Section 12-8-105 and I am eligible as a participant as defined in Code Section 12-8-106.</p> |  |     |                 |           |                           |
| APPLICANT'S SIGNATURE  |  |     |                 |           |                           |
| APPLICANT'S NAME/TITLE (PRINT)   | Greg Corbett/Managing Director   |     |                 | DATE      | 10/8/14                   |

| QUALIFYING PROPERTY INFORMATION (For additional qualifying properties, please refer to the last page of application form) |   |  |  |
|---|---|--|--|
| HAZARDOUS SITE INVENTORY INFORMATION (if applicable)  |   |  |  |
| HSI Number  | 10511   | Date HSI Site listed   | 7/24/1998                                |
| HSI Facility Name   | Macon MGP Site  | NAICS CODE   | NA                                       |
| PROPERTY INFORMATION  |   |  |  |
| TAX PARCEL ID   | R073-0384   | PROPERTY SIZE (ACRES)  | 2.52 Ac                                  |
| PROPERTY ADDRESS  | 306 Terminal Ave St.  |  |  |
| CITY  | Macon   | COUNTY   | Bibb                                     |
| STATE   | GA  | ZIPCODE  | 31201                                    |
| LATITUDE (decimal format)   | 32.83 Degrees North   | LONGITUDE (decimal format)   | 83.62 Degrees West                       |
| PROPERTY OWNER INFORMATION  |   |  |  |
| PROPERTY OWNER(S)   | Atlanta Gas Light Company   | PHONE #  | 404 584 3719                             |
| MAILING ADDRESS   | Ten Peachtree Place   |  |  |
| CITY  | Atlanta   | STATE/ZIPCODE  | GA 30309                                 |
| ITEM #  | DESCRIPTION OF REQUIREMENT  | Location in VRP<br>(i.e. pg., Table #, Figure #,<br>etc.)  | For EPD<br>Comment Only<br>(Leave Blank) |
| 1.  | <b>\$5,000 APPLICATION FEE</b> IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES.<br>(PLEASE LIST CHECK DATE AND CHECK NUMBER IN COLUMN TITLED "LOCATION IN VRP." PLEASE DO NOT INCLUDE A SCANNED COPY OF CHECK IN ELECTRONIC COPY OF APPLICATION.) | <b>Date: Oct 9, 2014</b><br><b>Check #: 0067459</b>  |  |
| 2.  | <b>WARRANTY DEED(S)</b> FOR QUALIFYING PROPERTY.  | <b>See Appendix B</b>  |  |
| 3.  | <b>TAX PLAT</b> OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).   | <b>See Figure 1-3 of the VIRP.</b>   |  |
| 4.  | <b>ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES</b> OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).  | <b>This VRP Application is Appendix A to the VIRP. In addition, the "Western Portion and MW-101 Area Corrective Action Plan Addendum, Feb 2014" is provided as Appendix C.</b> |  |

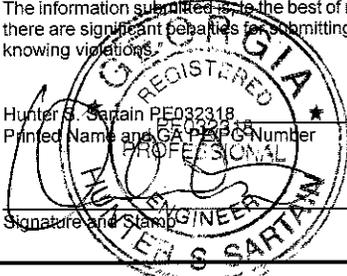
|      |   |  |  |
|------|---|--|--|
| 5.   | <p>The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application, a graphic three-dimensional preliminary conceptual site model (CSM) including a preliminary remediation plan with a table of delineation standards, brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; the preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; a <b>PROJECTED MILESTONE SCHEDULE</b> for investigation and remediation of the site, and after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan during the preceding period. A Gantt chart format is preferred for the milestone schedule.</p> <p>The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary:</p> | <p><b>The VIRP, of which this is appended, includes the requisite information. The Project Milestone Schedule is provided as Figure 6-1.</b></p> |  |
| 5.a. | <p>Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;</p>   | <p><b>Provided in Figure 6-1.</b></p>  |  |
| 5.b. | <p>Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;</p>  | <p><b>Provided in Figure 6-1.</b></p>  |  |
| 5.c. | <p>Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and</p>  | <p><b>Provided in Figure 6-1. Subsequent revisions based on Investigations will be provided during Semi Annual Progress Reports.</b></p>         |  |
| 5.d. | <p>Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.</p>  | <p><b>To be provided upon completion of activities described in the VIRP and subsequent Semi-Annual Progress Reports.</b></p>                    |  |

**SIGNED AND SEALED PE/PG CERTIFICATION AND SUPPORTING DOCUMENTATION:**

"I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.

Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.

The information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Hunter S. Sartain PE032318  
Printed Name and GA PE/PG Number  
  
Signature and Stamp

October 13, 2014  
Date

6.

**ADDITIONAL QUALIFYING PROPERTIES**

| PROPERTY INFORMATION       |  |                            |                         |
|----------------------------|--|----------------------------|-------------------------|
| TAX PARCEL ID              | R074-0223 / R074-0225 / R074-UTIL                    | PROPERTY SIZE (ACRES)      | 4.34 (3.14 Ac / 1.2 Ac) |
| PROPERTY ADDRESS           | 137 Mulberry St / 122 Walnut St                      |                            |                         |
| CITY                       | Macon  | COUNTY                     | Bibb                    |
| STATE                      | GA   | ZIPCODE                    | 31201                   |
| LATITUDE (decimal format)  | 32.83 Degrees North                                  | LONGITUDE (decimal format) | 83.62 Degrees West      |
| PROPERTY OWNER INFORMATION |  |                            |                         |
| PROPERTY OWNER(S)          | Macon Bibb County Urban Development Authority (MUDA) | PHONE #                    |                         |
| MAILING ADDRESS            | 815 Riverside Dr                                     |                            |                         |
| CITY                       | Macon  | STATE/ZIPCODE              | GA 31201-2629           |

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

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

**Warranty Deeds and Right of Entry**  
*Appendix B*

*Project No. 0176740*  
*Atlanta Gas Light Company*

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



Doc ID: 010584800010 Type: GLR  
 Filed: 08/05/2013 at 09:10:00 AM  
 Fee Amt: \$152.00 Page 1 of 10  
 Transfer Tax: \$126.00  
 Bibb County Superior Court  
 Erica Woodford Clerk

BK **9068** PG **23-32**

Space Above This Line for Recorder's Use

This instrument prepared by and  
 after recording return to:  
 Spielman & Hicks, LLC  
 6400 Powers Ferry Road  
 Suite 200  
 Atlanta, Georgia 30339  
 Attn: W. Daniel Hicks, Jr.

**STATE OF GEORGIA**

**COUNTY OF BIBB**

**LIMITED WARRANTY DEED WITH ENVIRONMENTAL COVENANTS**

**THIS LIMITED WARRANTY DEED WITH ENVIRONMENTAL COVENANTS** (this "**Deed**") is made as of the 31 day of July, 2013, by **HARMONY GROUP PROPERTIES, LLC**, a Georgia limited liability company (hereinafter called "**Grantor**"), in favor of **ATLANTA GAS LIGHT COMPANY**, a Georgia corporation (hereinafter called "**Grantee**"). The words "Grantor" and "Grantee" include the neuter, masculine and feminine genders, and the singular and the plural, as the context requires or permits.

**W I T N E S S E T H:**

**FOR AND IN CONSIDERATION** of the sum of Ten Dollars (\$10.00) and other good and valuable consideration, in hand paid at and before the sealing and delivery of these presents, the receipt and sufficiency whereof are hereby acknowledged, Grantor has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm, unto Grantee and the successors, legal representatives and assigns of Grantee, all that tract or parcel of land lying and being in Macon, Bibb County, Georgia that is more particularly described on **Exhibit "A"** attached hereto and by this reference made a part hereof (hereinafter called the "**Property**"); *provided that*, without expanding by implication the

am

scope of the limited warranty set forth hereinbelow, the Property is conveyed subject to all matters described on **Exhibit "B"** attached hereto and by this reference made a part hereof and the further provisions of this Deed (collectively, the "**Permitted Exceptions**").

**TO HAVE AND TO HOLD** the Property, together with any and all of the rights, members and appurtenances thereof to the same being, belonging or in anywise appertaining, to the only proper use, benefit and behoof of Grantee forever, in fee simple, but subject to the Permitted Exceptions; and

**GRANTOR SHALL WARRANT** and forever defend the right and title to the Property unto Grantee, and the successors, legal representatives and assigns of Grantee, against the claims of all persons whomsoever, claiming by, through or under Grantor, but not otherwise; *provided, however*, that the warranties of title made by Grantor herein shall not extend to any claims arising under any of the Permitted Exceptions.

**GRANTEE AGREES**, by its acceptance of this Deed to the Property and by its execution below, with Grantor as follows:

(a) Grantee hereby acknowledges that portions of the Property (or adjacent or neighboring lands) were or may have been used by present or prior owners or operators for the generation, manufacture, refining, transportation, treatment, storage, handling or disposal of Regulated Substances (as hereinafter defined) or materials of known or unknown type, nature and origin, some of which may have been Released (as hereinafter defined) or caused or contributed to or resulted in Environmental Conditions at, in, on, under or emanating onto or from the Property, including (but not limited to) any improvements as well as the soil, surface water, sediment and ground water in the area of the Property and on and under some or all of the Property.

(b) Notwithstanding anything to the contrary in this Deed, as between the Grantee and Grantor, Grantee, at its sole cost and expense, shall be responsible for, and covenants and agrees to undertake or pay, any activities required to bring the Property into compliance with the Nonresidential Risk Reduction Standards (as defined below), whether with regard to Environmental Conditions or Regulated Substances present before or after the date hereof. Grantee acknowledges and agrees that Grantee does and will assume all risk that physical, environmental or other conditions of the Property, including (but not limited to) Environmental Conditions and Regulated Substances existing, contingent or potential, may not have been disclosed by Grantee's review, examination, inspection and investigation of the Property. Grantee waives and releases any and all contractual, statutory, common law and/or other claims or causes of action presently existing or which may come into being at any time in the future which Grantee may otherwise be entitled to assert against Grantor, its present, prior or subsequent shareholders, members, affiliates, direct and ultimate parents and subsidiaries, transferees, lessees, partners and joint venturers, assigns and the past, present and future officers, directors, shareholders, members, employees, representatives and agents of it or any of them ("**Grantor et al.**") arising in whole or in part out of, or relating in any way to, the past or present condition or liabilities, including (but not limited to) the Environmental Condition or associated liabilities and any Costs (as hereafter defined), of the Property or Regulated Substances on, in,

under, at or emanating from the Property (the "**Claims**") and discharges and covenants not to sue Grantor et al. respecting any of same. Grantee agrees that Grantee shall never commence or prosecute against Grantor et al. any action or other proceeding, whether for contribution or otherwise, based upon any claims, demands, causes of actions, obligations, damages or liabilities related in any way to Environmental Conditions, including, but not limited to, all Costs and Claims. Grantee further expressly waives any rights or benefits available or which may be or become available to it under any law or rule of law (whether statutory, common law or otherwise) which provide or may provide that a general release does not extend to claims or matters unknown or not suspected by the releasor at the time of executing the release, even if such claims or matters, had they been known, might have influenced the actions of the releasor, it being the intention of Grantee that the foregoing release and covenant not to sue by Grantee is and shall be a general release and covenant not to sue respecting all Environmental Conditions in, at, from or relating to the Property, whether known, unknown, foreseen, unforeseen, relating to existing or future laws or otherwise. Grantee further acknowledges and agrees that the foregoing release and covenant not to sue is intended to release and bar any claims of any sort otherwise available to Grantee for or with respect to property damage, personal injury or death, including without limitation, loss of rental income or lost profits due to business interruption, costs and expenses comprising the incremental increase in the cost of construction of improvements (if any) on or about the Property, and any loss of marketability or impairment of the value of the Property resulting from a Release, whether past, present or future, of Regulated Substances affecting the Property.

(c) Further as consideration for Grantor's conveyance of the Property, and as a material inducement to Grantor for same, Grantee assumes for the benefit of Grantor any and all liability and/or obligation for, and agrees to indemnify, protect, defend and hold Grantor et al. harmless from, (i) all Claims relating to Regulated Substances that are related to or arise from any and all acts or omissions by Grantee or Grantee's agents, employees, contractors, subcontractors, Grantees, tenants, licensees, invitees, or other third parties who are present on the Property after the date hereof; provided however, that the claim is for Regulated Substances that exceed the Nonresidential Risk Reduction Standards, (ii) all Claims relating to MGP Impacts that result from injury to person or property or loss of life sustained in or about the Property, whether due to the presence of, or exposure to MGP Impacts, (iii) all claims, actions, administrative proceedings (including informal proceedings), judgments, damages, penalties, fines, costs, liabilities (including sums paid in settlement of any Claim), including reasonable attorneys' fees and expenses), reasonable consultant fees, and reasonable expert fees arising from or relating to MGP Impacts (together with Remedial Costs hereafter defined, the "**Costs**") (including without limitation, operating and maintenance costs) incurred in connection with any investigation or monitoring of site conditions, (iv) any costs related to cleanup, containment, remedial, removal, restoration work or other response costs (the "**Remedial Work**") relating to MGP Impacts (the "**Remedial Costs**") and (v) any costs and expenses incurred by Grantor in enforcing the provisions of this Deed.

(d) In connection with any indemnity by Grantee, Grantee shall have the right to assume and take over the defense of any claim against Grantee and engage attorneys to represent both parties in connection therewith, at Grantee's sole cost and expense. Grantor shall endeavor in good faith to notify Grantee of any claims required to be indemnified by Grantee

hereunder within five (5) days after Grantor receives notice of any such claims, and Grantor shall cooperate with Grantee in connection with the defense of any such claims; provided, however, if Grantor fails to notify Grantee within a reasonable time period, at Grantee's election, such failure to notify Grantee shall release Grantee's obligation to indemnify Grantor hereunder as to such claim.

(e) As to claims or actions brought by or on behalf of employees of Grantee, Grantee hereby expressly waives as to the parties indemnified hereunder, for the purpose of the indemnification contained herein, any immunity to which Grantee may otherwise be entitled under any industrial or worker's compensation laws.

(f) For the purposes hereof, (i) "**Release**" or "**Released**" shall mean releasing, spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, disposing or dumping, regardless of whether the result of an intentional or unintentional act or omission, (ii) "**Regulated Substances**" shall mean, without limitation, any pollutant, dangerous substance, toxic substance, hazardous or non hazardous waste, hazardous material, hazardous substance or contaminant as defined in or regulated pursuant to any Environmental Law, (iii) "**Environmental Law**" shall mean any and all laws, statutes, ordinances, rules, regulations, orders, or determinations of any governmental or other agency in effect or which hereinafter become effective pertaining to health and safety or the environment, including (without limitation) the Clean Air Act, the Resource Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Water Pollution Control Act, the Safe Drinking Water Act, the Occupational Safety and Health Act, the Toxic Substances Control Act (TSCA), all as amended, and any and all state and local counterparts or similar legislation, (iv) "**Environmental Condition**" or "**Environmental Conditions**" shall mean any condition with respect to the ground, subsurface soil, ambient air, surface waters, groundwaters, leachate, run on or run off, stream or other sediments and similar environmental medium on or off the Property, which condition requires investigation and/or remedial or corrective action and/or compliance with any Environmental Law or permit requirements, standards, rules, regulations, ordinances and consent orders, (v) "**MGP Impacts**" shall mean the presence of Regulated Substances, including metals and PAHs on, in, under or above the Property associated with the operation of the former manufactured gas plant that meet Nonresidential Risk Reduction Standards, (vi) "**Nonresidential Risk Reduction Standards**" shall mean Type 3, Type 4 or Type 5 Risk Reduction Standards applicable to nonresidential property as established in the Rules of the Georgia Department of Natural Resources, Environmental Protection Division Chapter 391-3-19 in effect as of the date of this Deed.

**THIS DEED** may be executed in multiple counterparts, each of which shall be deemed an original and all of which collectively shall constitute one instrument.

[Signatures Begin on Following Page]

IN WITNESS WHEREOF, Grantor and Grantee have caused this Deed to be executed by their respective duly authorized representatives as of the day, month and year first written above.

**GRANTOR:**

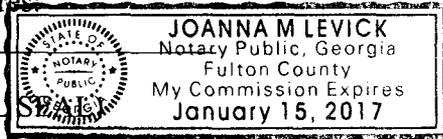
Executed in the presence of:

\_\_\_\_\_  
Unofficial Witness

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

(NOTARIAL SEAL)



**HARMONY GROUP PROPERTIES, LLC**, a Georgia limited liability company

By: \_\_\_\_\_

Name: Henry Oliner

Title: Managing Member

**GRANTEE:**

**ATLANTA GAS LIGHT COMPANY**, a Georgia corporation

Executed in the presence of:

\_\_\_\_\_  
Unofficial Witness

\_\_\_\_\_  
Notary Public

My Commission Expires: \_\_\_\_\_

(NOTARIAL SEAL)

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

IN WITNESS WHEREOF, Grantor and Grantee have caused this Deed to be executed by their respective duly authorized representatives as of the day, month and year first written above.

**GRANTOR:**

Executed in the presence of:

**HARMONY GROUP PROPERTIES, LLC, a  
Georgia limited liability company**

\_\_\_\_\_  
Unofficial Witness

By: \_\_\_\_\_

\_\_\_\_\_  
Notary Public

Name: Henry Oliner  
Title: Managing Member

My Commission Expires:  
\_\_\_\_\_

(NOTARIAL SEAL)

**GRANTEE:**

Executed in the presence of:

**ATLANTA GAS LIGHT COMPANY, a  
Georgia corporation**

*[Signature]*  
\_\_\_\_\_  
Unofficial Witness

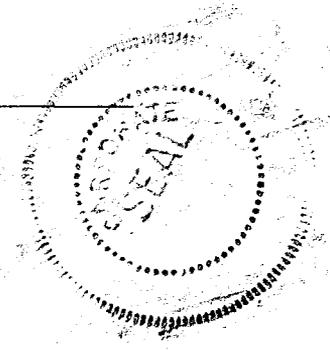
By: *[Signature]* \_\_\_\_\_

*[Signature]*  
\_\_\_\_\_  
Notary Public

Name: Jeffrey P. Brown  
Title: SUP & Deputy GC

My Commission Expires:  
\_\_\_\_\_

(NOTARIAL SEAL)



**EXHIBIT "A"**

**LEGAL DESCRIPTION**

**PARCEL ONE:**

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

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

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

**PARCEL TWO:**

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

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

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

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

**EXHIBIT "B"**

**PERMITTED EXCEPTIONS**

1. Taxes and assessments for 2013 and subsequent years.
2. Matters shown on Plat recorded at Plat Book 1278, Page 619, Records of Bibb County, Georgia.
3. All matters shown on ALTA/ACSM Survey prepared by Phoenix Solutions, Inc., for Atlanta Gas Light and Chicago Title Insurance Company dated April 28, 2013, and bearing the seal of Zachary R. Garrett, Georgia Registered Land Surveyor No. 3169.
4. No representations or warranties are made with regard to title to Parcel Two of the Property described in **Exhibit "A"**, and title to the Property is subject to any claims made by the City of Macon or any other governmental authority or the public with respect to any portion of the Property located to the West of the fence on the Property running more or less parallel and closest to the pavement of Terminal Avenue.
5. Without limiting Item 4 foregoing, the rights of others in and to any portion of the Property contained within the right-of-way of Terminal Avenue.
6. Covenants, restrictions and other terms and provisions set forth in the Deed to which this **Exhibit "B"** is attached.

| SECTION A - SELLER'S INFORMATION (Do not use agent's information)  |                   |  |                 | SECTION C - TAX COMPUTATION   |                 |
|--|-------------------|--|-----------------|---|-----------------|
| SELLER'S BUSINESS / ORGANIZATION / OTHER NAME<br>Harmony Group Properties, LLC   |                   |  |                 | Exempt Code<br>If no exempt code enter NONE   |                 |
| MAILING ADDRESS (STREET & NUMBER)<br>4131 Broadway   |                   |  |                 | 1. Actual Value of consideration received by seller<br>Complete Line 1A if actual value unknown |                 |
| CITY, STATE / PROVINCE / REGION, ZIP CODE, COUNTRY<br>Macon, GA 31206 USA  |                   | DATE OF SALE<br>7/31/2013  |                 | 1A. Estimated fair market value of Real and<br>Personal property                                |                 |
| SECTION B - BUYER'S INFORMATION (Do not use agent's information)   |                   |  |                 | 2. Fair market value of Personal Property only  |                 |
| BUYERS'S BUSINESS / ORGANIZATION / OTHER NAME<br>Atlanta Gas Light Company   |                   |  |                 | 3. Amount of liens and encumbrances<br>not removed by transfer                                  |                 |
| MAILING ADDRESS (Must use buyer's address for tax billing & notice purposes)<br>c/o AGL Resources Inc. Ten Peachtree Plaza |                   |  |                 | 4. Net Taxable Value<br>(Line 1 or 1A less Lines 2 and 3)                                       |                 |
| CITY, STATE / PROVINCE / REGION, ZIP CODE, COUNTRY<br>Atlanta, GA 30309 USA  |                   | Check Buyers Intended Use<br>( ) Residential ( ) Commercial<br>( ) Agricultural ( ) Industrial |                 | 5. TAX DUE at .10 per \$100 or fraction thereof<br>(Minimum \$1.00)                             |                 |
| SECTION D - PROPERTY INFORMATION (Location of Property (Street, Route, Hwy, etc))  |                   |  |                 |   |                 |
| HOUSE NUMBER & EXTENSION (ex 265A)   |                   | PRE-DIRECTION, STREET NAME AND TYPE, POST DIRECTION  |                 |   | SUITE NUMBER    |
| COUNTY<br>BIBB   |                   | CITY (IF APPLICABLE)<br>Macon  |                 | MAP & PARCEL NUMBER<br>R073-0384  | ACCOUNT NUMBER  |
| TAX DISTRICT   | GMD               | LAND DISTRICT  | ACRES           | LAND LOT  | SUB LOT & BLOCK |
| SECTION E - RECORDING INFORMATION (Official Use Only)  |                   |  |                 |   |                 |
| DATE<br>8/5/13   | DEED BOOK<br>9668 |  | DEED PAGE<br>23 | PLAT BOOK   | PLAT PAGE       |

ADDITIONAL BUYERS  
None

9/10 M



Doc ID: 010584810006 Type: GLR  
Filed: 08/05/2013 at 09:10:00 AM  
Fee Amt: \$18.00 Page 1 of 6  
Bibb County Superior Court  
Erica Woodford Clerk

BK **9068** PG **33-38**

Space Above This Line for Recorder's Use

This instrument prepared by, and  
after recording return to:  
Spielman & Hicks, LLC  
6400 Powers Ferry Road  
Suite 300  
Atlanta, Georgia 30339  
Attn: W. Daniel Hicks, Jr.

**STATE OF GEORGIA**

**COUNTY OF BIBB**

**QUITCLAIM DEED**

**THIS QUITCLAIM DEED** (this "**Deed**") is made as of the 31 day of July, 2013, by **HARMONY GROUP PROPERTIES, LLC**, a Georgia limited liability company (hereinafter called "**Grantor**"), in favor of **ATLANTA GAS LIGHT COMPANY**, a Georgia corporation (hereinafter called "**Grantee**"). The words "Grantor" and "Grantee" include the neuter, masculine and feminine genders, and the singular and the plural, as the context requires or permits.

**FOR AND IN CONSIDERATION** of the sum of Ten Dollars (\$10.00) in hand paid to Grantor by Grantee at and before the execution, sealing and delivery hereof, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor has, except for and subject to the express limitation hereinafter set forth, remised, released, conveyed and forever quitclaimed, and by these presents does remise, release, convey and forever quitclaim, unto Grantee and the successors, legal representatives and assigns of Grantee, all right, title, interest, claim or demand Grantor has or may have in and to all that tract or parcel of land lying and being in Macon, Bibb County, Georgia, that is more particularly described on **Exhibit "A"** attached hereto and by this reference made a part hereof (hereinafter called the "**Property**").

**TO HAVE AND TO HOLD** the Property in order that neither Grantor nor any person claiming by, through or under Grantor shall at any time by any means or ways have, claim or

demand any title or interest in or to the Property or any of the rights, members and appurtenances thereof, subject to and except as set forth in the following paragraph.

**NOTWITHSTANDING THE FOREGOING** or any contrary provision of this Deed, Grantor has not, does not and shall not in any way release, waive, modify, terminate or otherwise convey, transfer, limit or impair any rights or benefits created and established by and/or reserved in that certain Limited Warranty Deed with Environmental Covenants (the "**Limited Warranty Deed**") from Grantor to Grantee of even date herewith, as executed by Grantee and to be recorded with this Deed on or about the date hereof, which run in favor of Grantor and Grantor, et. al., as defined in such Limited Warranty Deed, all of which are hereby expressly reserved and retained by Grantor.

**THE PURPOSE** of this Deed is to quitclaim to Grantee all right, title and interest of Grantor in and to the Property (being generally the same property conveyed by the Limited Warranty Deed) using a legal description drawn from Grantee's current survey of the Property, so as to divest Grantor of any right, title or interest in or to any strips or gores or other discrepancies established or revealed by such survey (but expressly subject to the reservation of the foregoing paragraph).

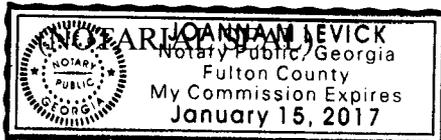
**IN WITNESS WHEREOF**, Grantor has caused this Deed to be executed by its duly authorized representative on the day, month and year first written above.

Executed in the presence of:

Unofficial Witness

Notary Public

My Commission Expires:



**GRANTOR:**

**HARMONY GROUP PROPERTIES, LLC, a  
Georgia limited liability company**

By:

Name: HENRY OLINER  
Title: Managing Member

## EXHIBIT A

### LEGAL DESCRIPTION

#### TRACT 1:

All that tract of land lying and being in the City of Macon, Bibb County, in the State of Georgia, being all of Lots 1 and 8 of the Old City Square 16 and a portion of Lots 2, 7, and an original 20 foot wide alley running north to south within Old City Square 16, also being a portion of the original 180 foot wide right-of-way of Mulberry Street running north to south, and a portion of Lot 8 of Old City Square 25 as shown on an ALTA/ACSM survey for Atlanta Gas Light & Chicago Title Insurance Company prepared by Phoenix Solutions, Inc., dated June 28, 2013 and stamped by Zachary R. Garrett, RLS 3169, and being more particularly described as follows:

Commencing at a ½ inch rebar found at the intersection of the southwestern right-of-way of Willie Smoker Glover Drive and the northern right-of-way of Walnut Street, being 120 feet wide at this point; thence South 35°17'40" West a distance of 60.12 feet to the theoretical centerline of Walnut Street; thence along said theoretical centerline North 54°42'20" West a distance of 655.98 feet to a point; thence leaving said theoretical centerline South 35°17'40" West a distance of 60.00 feet to an iron pin set at the intersection of the southerly right of way margin of Walnut Street and the eastern right of way margin of a road named Terminal Ave, said point being the **POINT OF BEGINNING**;

Thence along said southerly right of way margin of Walnut Street South 54°42'20" East a distance of 155.86 feet to a P-K nail found at the intersection of the southern right of way margin of Walnut Street (being 120 feet wide at this point) and the western right of way margin of Sixth Street (being 120 feet wide at this point); thence leaving right of way of Walnut Street and running along said right of way of Sixth Street South 35°10'45" West a distance of 779.20 feet to a ½" rebar with cap found; thence leaving said right of way of Sixth Street North 55°13'40" West a distance of 96.84 feet to a ½" rebar with cap found on the easterly right of way of Terminal Avenue; thence running along said easterly right of way of Terminal Avenue the following courses and distances;

North 37°15'45" East, 50.12 feet;  
Thence North 34°03'45" East, 50.00 feet;  
Thence North 34°23'45" East, 25.00 feet;  
Thence North 30°02'45" East, 25.00 feet;  
Thence North 25°44'45" East, 50.00 feet;  
Thence North 20°27'45" East, 50.00 feet;  
Thence North 17°54'45" East, 50.00 feet;  
Thence North 14°34'45" East, 42.80 feet;  
Thence North 17°33'45" East, 7.20 feet;  
Thence North 23°52'45" East, 50.00 feet;  
Thence North 28°52'45" East, 50.00 feet;  
Thence North 31°46'45" East, 50.00 feet;  
Thence North 33°35'45" East, 52.40 feet;

Thence North 36°12'45" East, 47.60 feet;  
Thence North 38°50'45" East, 50.00 feet;  
Thence North 40°09'45" East, 50.00 feet;  
Thence North 39°37'45" East, 50.00 feet;  
Thence North 39°38'45" East, 39.82 feet to the **POINT OF BEGINNING**.

**TRACT 2:**

All that tract of land lying and being in the City of Macon, Bibb County, in the State of Georgia, being a portion of Lots 2, 7, and an original 20 foot wide alley running north to south within Old City Square 16, also being a portion of the original 180 foot wide right-of-way of Mulberry Street running north to south, and a portion of Lots 7 and 8 of Old City Square 25 as shown on an ALTA/ACSM survey for Atlanta Gas Light & Chicago Title Insurance Company prepared by Phoenix Solutions, Inc., and being more particularly described as follows:

**Commencing** at a ½ inch rebar found at the intersection of the southwestern right-of-way of Willie Smoker Glover Drive and the northern right-of-way of Walnut Street, being 120 feet wide at this point; thence South 35 °17'40" West a distance of 60.12 feet to the theoretical centerline of Walnut Street; thence along said theoretical centerline North 54° 42'20" West a distance of 655.98 feet to a point; thence leaving said theoretical centerline South 35°17'40" West a distance of 60.00 feet to an iron pin set at the intersection of the southern right of way margin of Walnut street and the eastern right of way margin of Terminal Ave, said point being the **POINT OF BEGINNING**;

Thence leaving said right of way margin of Walnut Street and running along said easterly right of way of Terminal Avenue the following courses and distances;

South 39°38'45" West, 39.82 feet;  
Thence South 39°37'45" West, 50.00 feet;  
Thence South 40°09'45" West, 50.00 feet;  
Thence South 38°50'45" West, 50.00 feet;  
Thence South 36°12'45" West, 47.60 feet;  
Thence South 33°35'45" West, 52.40 feet;  
Thence South 31°46'45" West, 50.00 feet;  
Thence South 28°52'45" West, 50.00 feet;  
Thence South 23°52'45" West, 50.00 feet;  
Thence South 17°33'45" West, 7.20 feet;  
Thence South 14°34'45" West, 42.80 feet;  
Thence South 17°54'45" West, 50.00 feet;  
Thence South 20°27'45" West, 50.00 feet;  
Thence South 25°44'45" West, 50.00 feet;  
Thence South 30°02'45" West, 25.00 feet;  
Thence South 34°23'45" West, 25.00 feet;  
Thence South 34°03'45" West, 50.00 feet;  
Thence South 37°15'45" West, 50.12 feet;

Thence leaving said easterly right of way of Terminal Avenue North 55°13'40" West, a distance of 19.84 feet to an iron pin set on the westerly right of way of Terminal Ave; Thence running along the westerly right of way margin of Terminal Avenue the following courses and distances;

North 37°15'45" East, 49.86;  
Thence North 34°03'45" East, 50.00;  
Thence North 34°23'45" East, 24.30;  
Thence North 30°02'45" East, 23.50;  
Thence North 25°44'45" East, 48.30;  
Thence North 20°27'45" East, 48.60;  
Thence North 17°54'45" East, 49.00;  
Thence North 14°34'45" East, 42.80;  
Thence North 17°33'45" East, 8.80;  
Thence North 23°52'45" East, 52.00;  
Thence North 28°52'45" East, 51.40;  
Thence North 31°46'45" East, 50.80;  
Thence North 33°35'45" East, 53.30;  
Thence North 36°12'45" East, 48.40;  
Thence North 38°50'45" East, 50.70;  
Thence North 40°09'45" East, 50.00;  
Thence North 39°37'45" East, 50.00;  
Thence North 39°38'45" East, 38.36;

Thence leaving said westerly right of way of Terminal Avenue South 54°42'20" East, a distance of 19.93 feet to the **POINT OF BEGINNING**.

| SECTION A - SELLER'S INFORMATION (Do not use agent's Information)  |                   |  |           | SECTION C - TAX COMPUTATION   |   |
|--|-------------------|--|-----------|---|---|
| SELLER'S BUSINESS / ORGANIZATION / OTHER NAME<br>Harmony Group Properties, LLC   |                   |  |           | Exempt Code<br>If no exempt code enter NONE   | Deed Confirming Title<br>Already Vested |
| MAILING ADDRESS (STREET & NUMBER)<br>4131 Broadway   |                   |  |           | 1. Actual Value of consideration received by seller<br>Complete Line 1A if actual value unknown | \$126,000.00                            |
| CITY, STATE / PROVINCE / REGION, ZIP CODE, COUNTRY<br>Macon, GA 31206 USA  |                   | DATE OF SALE<br>7/31/2013  |           | 1A. Estimated fair market value of Real and<br>Personal property                                | \$0.00                                  |
| SECTION B - BUYER'S INFORMATION (Do not use agent's Information)   |                   |  |           | 2. Fair market value of Personal Property only  | \$0.00                                  |
| BUYER'S BUSINESS / ORGANIZATION / OTHER NAME<br>Atlanta Gas Light Company  |                   |  |           | 3. Amount of liens and encumbrances<br>not removed by transfer                                  | \$0.00                                  |
| MAILING ADDRESS (Must use buyer's address for tax billing & notice purposes)<br>c/o AGL Resources Inc. Ten Peachtree Place |                   |  |           | 4. Net Taxable Value<br>(Line 1 or 1A less Lines 2 and 3)                                       | \$0.00                                  |
| CITY, STATE / PROVINCE / REGION, ZIP CODE, COUNTRY<br>Atlanta, GA 30309 USA  |                   | Check Buyers Intended Use<br>( ) Residential ( ) Commercial<br>( ) Agricultural ( ) Industrial |           | 5. TAX DUE at .10 per \$100 or fraction thereof<br>(Minimum \$1.00)                             | \$0.00                                  |
| SECTION D - PROPERTY INFORMATION (Location of Property (Street, Route, Hwy, etc))  |                   |  |           |   |   |
| HOUSE NUMBER & EXTENSION (ex 265A)   |                   | PRE-DIRECTION, STREET NAME AND TYPE, POST DIRECTION  |           |   | SUITE NUMBER                            |
| COUNTY<br>BIBB   |                   | CITY (IF APPLICABLE)<br>Macon  |           | MAP & PARCEL NUMBER<br>R-073-0384   | ACCOUNT NUMBER                          |
| TAX DISTRICT   | GMD               | LAND DISTRICT  | ACRES     | LAND LOT  | SUB LOT & BLOCK                         |
| SECTION E - RECORDING INFORMATION (Official Use Only)  |                   |  |           |   |   |
| DATE<br>8/5/13   | DEED BOOK<br>9668 | DEED PAGE<br>33  | PLAT BOOK | PLAT PAGE   |   |

ADDITIONAL BUYERS

None

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NT

Return recorded document to:

Ed S. Sell, III  
Sell & Melton, LLP  
P. O. Box 229  
Macon, Georgia 32102-0229

STATE OF GEORGIA  
COUNTY OF BIBB

  
Doc ID: 004894170007 Type: GLR  
Filed: 01/02/2007 at 12:10:00 PM  
Fee Amt: \$20.00 Page 1 of 7  
Bibb County Superior Court  
Dianne Brannen Clerk  
BK 7344 PG 49-55

**LIMITED WARRANTY DEED**

THIS INDENTURE, made as of the 18<sup>th</sup> day of November, 2006, between  
**ATLANTA GAS LIGHT COMPANY**, a corporation organized and existing under the laws of  
the State of Georgia,

as party of the first part (hereinafter referred to as "Grantor"), and

**MACON-BIBB COUNTY URBAN DEVELOPMENT AUTHORITY**, a public body  
corporate and politic of the State of Georgia

as party of the second part (hereinafter referred to as "Grantee"); the words "Grantor" and  
"Grantee" include their respective heirs, successors, and assigns where the context requires or  
permits.

**WITNESSETH:**

THAT, Grantor, for and in consideration of the sum of Ten and No/100 Dollars (\$10.00),  
and other good and valuable considerations, in hand paid at and before the sealing and delivery  
of these presents, the receipt and sufficiency whereof are hereby acknowledged, has granted,  
bargained, sold, aliened, conveyed and confirmed, and by these presents does hereby grant,  
bargain, sell, alien, convey and confirm unto Grantee all those certain tracts or parcels of real  
property lying and being in the City of Macon, Bibb County, Georgia, consisting of Lot No. 1,  
part of Lot No. 2, Lot No. 3, and Lot No. 4 in Square 15, according to the plan of the City of

ATLANTA:4849041.2

16/11

Macon, Georgia, being more particularly described on Exhibit "A" attached hereto and made a part hereof, together with all improvements thereon and appurtenances thereto.

This conveyance is made subject to those certain matters described on Exhibit "B" attached hereto and made a part hereof (the "Permitted Exceptions").

RESERVING, HOWEVER, to Grantor the easements, rights and privileges described in Exhibit "C" attached hereto and incorporated herein by reference (hereinafter collectively referred to as the "Reserved Easements").

TO HAVE AND TO HOLD said tract or parcel of real property, with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in any manner appertaining, to the only proper use, benefit and behoof of Grantee, forever in FEE SIMPLE.

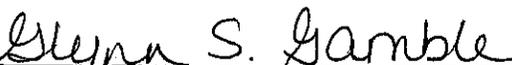
AND GRANTOR will warrant and forever defend the right and title to the above described property, subject to the Permitted Exceptions and the Reserved Easements, unto Grantee against the claims of all persons claiming by, through or under Grantor, but not otherwise.

IN WITNESS WHEREOF, Grantor has signed and sealed this deed the day and year first above written.

Signed, sealed and delivered  
in the presence of:

  
\_\_\_\_\_

Unofficial Witness

  
\_\_\_\_\_

Notary Public

My Commission Expires:

\_\_\_\_\_

GRANTOR:

ATLANTA GAS LIGHT COMPANY, a  
corporation organized and existing under the  
laws of the State of Georgia

By:   
\_\_\_\_\_

Name: Brett Stovern

Title: Vice President and Treasurer  
*MM*

[NOTARY SEAL]



**EXHIBIT "A"**

**LEGAL DESCRIPTION**

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

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

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

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

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

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

## EXHIBIT "B"

### PERMITTED EXCEPTIONS

1. All current and subsequent years taxes, assessments, special assessments, water charges and sewer rents and any other impositions, accrued or unaccrued, fixed or not fixed, upon or charged against all or any part of the Property (collectively "Taxes") which are liens not yet due and payable.
2. Such state of facts, encumbrances and title objections that would be disclosed or shown by a competent civil engineer's true and accurate ALTA/ACSM Urban Survey and inspection of the Property.
3. Title to that portion of the property within the bounds of any public right-of-way, including but not limited to the rights of the public to any part of the property within public roads.
4. Rights of upper, lower and adjacent riparian owners in and to the waters of any creeks, streams, branches and the natural flow thereof.
5. Any underground lines, feeders, laterals, wires, cables, conduits, mains and pipes.
6. Present and future building restrictions, zoning laws, ordinances, resolutions, orders, and regulations, and all ordinances, laws, regulations and orders of all federal, state, county, and municipal governments, agencies, boards, bureaus, commissions, authorities and bodies of any other governmental or quasi-governmental authority having or acquiring jurisdiction with respect to the Property.
7. Declaration of Restrictive Covenants and Notice, dated as of March 1, 2001, by Atlanta Gas Light Company, filed for record March 2, 2001 at 12:58 p.m., and recorded in Deed Book 4863, Page 260, Real Property Records of Bibb County, Georgia.
8. Declaration of Restrictive Covenants and Notice, dated as of the same date herewith, by Atlanta Gas Light Company, filed for record in the Real Property Records of Bibb County, Georgia.
9. Any and all matters on record.

## EXHIBIT "C"

### RESERVED EASEMENTS

Grantor, for itself and its successors, successors-in-title and assigns, hereby reserves, the non-exclusive right and easement on, over, across, under and through that tract of land (the "Easement Area") described on Exhibit "A" attached hereto and made a part hereof, for purposes of (i) installing, testing, operating, inspecting, sampling, maintaining, repairing, replacing, altering, relocating, removing, and abandoning in place one or more monitoring wells and related equipment, appurtenances and facilities necessary and appropriate for the use and maintenance of said monitoring wells (hereinafter collectively referred to as the "Monitoring Wells"); (ii) installing, testing, operating, inspecting, sampling, maintaining, repairing, replacing, altering, relocating, removing, and abandoning in place one or more monitoring and injection wells and related equipment, appurtenances and facilities necessary and appropriate for the treatment of groundwater (hereinafter collectively referred to as the "Remediation Systems"); (iii) ingress and egress from the nearest public road to the Monitoring Wells and Remediation Systems on the Easement Area in order to provide Grantee convenient access to said Monitoring Wells and Remediation Systems at any time and from time to time, for the uses and purposes set forth in subparts (i) and (ii) above; and (iv) such other rights as may be necessary for the enjoyment of the rights and privileges provided by this Monitoring Well Easement (herein sometimes referred to as the "Agreement"). The term of this Agreement shall commence on the date hereof and shall expire on the date which is one hundred twenty (120) days following the date Grantee receives written notice from the Georgia Environmental Protection Division with respect to the Easement Area, so as to eliminate the need for any Monitoring Wells and Remediation Systems on the Easement Area.

In the event of a destruction of one or more Monitoring Wells or Remediation Systems, or related equipment, Grantee shall be permitted, at Grantor's cost, to replace such well and equipment in locations in close proximity to each such well or equipment which was destroyed. Grantee agrees to use commercially reasonable efforts to place any new Monitoring Wells or Remediation Systems or equipment in locations consistent with Grantor's development plans, provided, however, that all such locations shall meet all requirements of the Georgia Environmental Protection Department and all applicable environmental laws, rules, regulations, codes, ordinances, orders, directives or requests of any governmental authority.

Grantor covenants and agrees to use the Easement Area for purposes compatible with the rights as granted to Grantee in or permitted by this Agreement and shall not interfere with or permit any other person to interfere with Grantee's use of easements, rights and privileges granted under this Agreement.

Grantee will notify (either in writing or verbally) Grantor at least five (5) days prior to any entry onto the Easement Area for the purposes of installing, maintaining, repairing, replacing, altering, relocating or removing any Monitoring Wells or Remediation Systems; provided, however, no notice shall be required for any entry for the purposes of performing ordinary sampling or inspection or for emergencies of the Monitoring Wells or Remediation Systems.

No delay or interruption by Grantee in the use or enjoyment of any right or easement hereby granted shall result in the loss, limitation or abandonment of any of the right, title, interest, easement or estate granted hereby.

The easements set forth in this Agreement shall be for the use, benefit and enjoyment of Grantee, and its successors and assigns, and their respective agents, employees, servants, contractors and subcontractors. This Agreement, each and all of its terms, conditions and provisions, and the easements, rights, and privileges created hereby shall be binding upon and inure to the benefit of Grantee and Grantor and their respective successors, successors-in-title, grantees, assignees, and their respective tenants, subtenants, licensees, permittees and lenders. The interpretation, construction and performance of this Agreement shall be governed by the laws of the State of Georgia.

**TO HAVE AND TO HOLD** said easements, rights and privileges, together with all and singular the privileges and appurtenances thereto in anywise belonging unto Grantee, and its successors and assigns for the term set forth herein. Grantor does hereby bind itself, and its successors, successors-in-title and assigns to warrant and forever defend Grantor's title to the Easement Area, possession thereof and all and singular the easements, rights and privileges granted hereunder unto Grantee, and its successors, successors-in-title and assigns, against the lawful claims and demands of all persons claiming by, through or under Grantor, but not otherwise.

| SECTION A - SELLER'S INFORMATION (Do not use agent's information)                              |                   |  |               | SECTION C - TAX COMPUTATION   |                 |                               |
|--|-------------------|--|---------------|---|-----------------|-------------------------------|
| SELLER'S BUSINESS / ORGANIZATION / OTHER NAME<br>Atlanta Gas Light Company                     |                   |  |               | Exempt Code<br>If no exempt code enter NONE   |                 | Govt/NonProfit<br>Public Corp |
| MAILING ADDRESS (STREET & NUMBER)<br>Ten Peachtree Place, NE                                   |                   |  |               | 1. Actual Value of consideration received by seller<br>Complete Line 1A if actual value unknown |                 | \$70,740.00                   |
| CITY, STATE / PROVINCE / REGION, ZIP CODE, COUNTRY<br>Atlanta, GA 30309 USA                    |                   | DATE OF SALE<br>11/18/2006   |               | 1A. Estimated fair market value of Real and<br>Personal property                                |                 | \$0.00                        |
| SECTION B - BUYER'S INFORMATION (Do not use agent's information)                               |                   |  |               | 2. Fair market value of Personal Property only  |                 | \$0.00                        |
| BUYERS'S BUSINESS / ORGANIZATION / OTHER NAME<br>Macon-Bibb County Urban Development Authority |                   |  |               | 3. Amount of liens and encumbrances<br>not removed by transfer                                  |                 | \$0.00                        |
| MAILING ADDRESS (Must use buyer's address for tax billing & notice purposes)<br>P. O. Box 169  |                   |  |               | 4. Net Taxable Value<br>(Line 1 or 1A less Lines 2 and 3)                                       |                 | \$0.00                        |
| CITY, STATE / PROVINCE / REGION, ZIP CODE, COUNTRY<br>Macon, GA 31202-0169 USA                 |                   | Check Buyers Intended Use<br>( ) Residential (X) Commercial<br>( ) Agricultural ( ) Industrial |               | 5. TAX DUE at .10 per \$100 or fraction thereof<br>(Minimum \$1.00)                             |                 | \$0.00                        |
| SECTION D - PROPERTY INFORMATION (Location of Property (Street, Route, Hwy, etc))              |                   |  |               |   |                 |                               |
| HOUSE NUMBER & EXTENSION (ex 265A)   |                   | PRE-DIRECTION, STREET NAME AND TYPE, POST DIRECTION<br>Seventh Street                          |               |   | SUITE NUMBER    |                               |
| COUNTY<br>BIBB   |                   | CITY (IF APPLICABLE)<br>Macon  |               | MAP & PARCEL NUMBER<br>R7-4-OC15-1A&4A  |                 | ACCOUNT NUMBER<br>None        |
| TAX DISTRICT   | GMD               | LAND DISTRICT  | ACRES<br>0.18 | LAND LOT  | SUB LOT & BLOCK |                               |
| SECTION E - RECORDING INFORMATION (Official Use Only)  |                   |  |               |   |                 |                               |
| DATE<br>01-02-07   | DEED BOOK<br>7344 | DEED PAGE<br>49  | PLAT BOOK     | PLAT PAGE   |                 |                               |

**ADDITIONAL BUYERS**

None

Return recorded document to:

Ed S. Sell, III  
Sell & Melton, LLP  
P. O. Box 229  
Macon, Georgia 32102-0229

STATE OF GEORGIA

COUNTY OF BIBB



Doc ID: 004894240007 Type: GLR  
Filed: 01/02/2007 at 12:10:00 PM  
Fee Amt: \$20.00 Page 1 of 7  
Bibb County Superior Court  
Dianne Brannen Clerk

BK 7344 PG 62-68

**LIMITED WARRANTY DEED**

THIS INDENTURE, made as of the 18<sup>th</sup> day of November, 2006, between

**AGL MACON HOLDINGS, INC.**, a corporation organized and existing under the laws of the State of Georgia,

as party of the first part (hereinafter referred to as "Grantor"), and

**MACON-BIBB COUNTY URBAN DEVELOPMENT AUTHORITY**, a public body corporate and politic of the State of Georgia

as party of the second part (hereinafter referred to as "Grantee"); the words "Grantor" and "Grantee" include their respective heirs, successors, and assigns where the context requires or permits.

**WITNESSETH:**

THAT, Grantor, for and in consideration of the sum of Ten and No/100 Dollars (\$10.00), and other good and valuable considerations, in hand paid at and before the sealing and delivery of these presents, the receipt and sufficiency whereof are hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does hereby grant, bargain, sell, alien, convey and confirm unto Grantee all those certain tracts or parcels of real property lying and being in the City of Macon, Bibb County, Georgia, consisting of parts of Lot No. 6, Lot No. 7 and Lot No. 8 in Square 15, according to the plan of the City of Macon,

ATLANTA:4838230.2

Georgia, being more particularly described on Exhibit "A" attached hereto and made a part hereof, together with all improvements thereon and appurtenances thereto.

This conveyance is made subject to those certain matters described on Exhibit "B" attached hereto and made a part hereof (the "Permitted Exceptions").

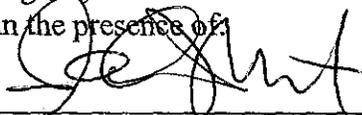
RESERVING, HOWEVER, to Grantor the easements, rights and privileges described in Exhibit "C" attached hereto and incorporated herein by reference (hereinafter collectively referred to as the "Reserved Easements").

TO HAVE AND TO HOLD said tract or parcel of real property, with all and singular the rights, members and appurtenances thereof, to the same being, belonging, or in any manner appertaining, to the only proper use, benefit and behoof of Grantee, forever in FEE SIMPLE.

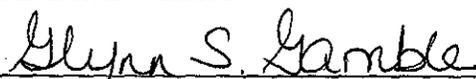
AND GRANTOR will warrant and forever defend the right and title to the above described property, subject to the Permitted Exceptions and the Reserved Easements, unto Grantee against the claims of all persons claiming by, through or under Grantor, but not otherwise.

IN WITNESS WHEREOF, Grantor has signed and sealed this deed the day and year first above written.

Signed, sealed and delivered  
in the presence of:



Unofficial Witness



Notary Public

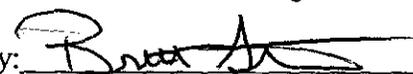
My Commission Expires:

[NOTARY SEAL]



GRANTOR:

AGL MACON HOLDINGS, INC., a  
corporation organized and existing under the  
laws of the State of Georgia

By: 

Name: Brett Stovern

Title: Vice President and Treasurer

WWT

**EXHIBIT "A"**

**LEGAL DESCRIPTION**

ALL THAT TRACT OR PARCEL of land lying and being in the City of Macon, Bibb County, Georgia, consisting of parts of Lots 6, 7 and 8, in Square 15, according to the plan of the City of Macon, together with a part of a 25-foot encroachment into and along Seventh Street, and a part of a 10-foot alley between Lots 6 and 7 closed by an Act of the Legislature of the State of Georgia and described as follows:

BEGINNING at a point on Walnut Street where the line between Lots 5 and 6 intersects the original lot line of Square 15, and running thence in a southeasterly direction along Walnut Street a distance of 347.75 feet to a point 25 feet into Seventh Street; thence at right angles (right) and in a southwesterly direction along the line of the 25-foot encroachment into Seventh Street a distance of 150 feet; thence at right angles (right) and in a northwesterly direction a distance of 347.75 feet to the line of Lot 5 in said Square 15; thence at right angles (right) in a northeasterly direction and along the line of said Lot 5, a distance of 150 feet to the beginning point on Walnut Street, being improved property, more particularly shown on plat of survey made by Joe Thomas, Surveyor, dated January 8, 1965. This is the same property as described in Deed Book 2154, Page 340 and 341, Clerk's Office, Bibb Superior Court.

## EXHIBIT "B"

### PERMITTED EXCEPTIONS

1. All current and subsequent years taxes, assessments, special assessments, water charges and sewer rents and any other impositions, accrued or unaccrued, fixed or not fixed, upon or charged against all or any part of the Property (collectively "Taxes") which are liens not yet due and payable.
2. Such state of facts, encumbrances and title objections that would be disclosed or shown by a competent civil engineer's true and accurate ALTA/ACSM Urban Survey and inspection of the Property.
3. Title to that portion of the property within the bounds of any public right-of-way, including but not limited to the rights of the public to any part of the property within public roads.
4. Rights of upper, lower and adjacent riparian owners in and to the waters of any creeks, streams, branches and the natural flow thereof.
5. Any underground lines, feeders, laterals, wires, cables, conduits, mains and pipes.
6. Present and future building restrictions, zoning laws, ordinances, resolutions, orders, and regulations, and all ordinances, laws, regulations and orders of all federal, state, county, and municipal governments, agencies, boards, bureaus, commissions, authorities and bodies of any other governmental or quasi-governmental authority having or acquiring jurisdiction with respect to the Property.
7. Declaration of Restrictive Covenants and Notice, dated as of March 1, 2001, by AGL Macon Holdings, Inc., filed for record March 2, 2001 at 12:58 p.m., and recorded in Deed Book 4863, Page 265, Real Property Records of Bibb County, Georgia.
8. Any and all matters on record.

**EXHIBIT "C"**

**RESERVED EASEMENTS**

Grantor, for itself and its successors, successors-in-title and assigns, hereby reserves, the non-exclusive right and easement on, over, across, under and through that tract of land (the "Easement Area") described on Exhibit "A" attached hereto and made a part hereof, for purposes of (i) installing, testing, operating, inspecting, sampling, maintaining, repairing, replacing, altering, relocating, removing, and abandoning in place one or more monitoring wells and related equipment, appurtenances and facilities necessary and appropriate for the use and maintenance of said monitoring wells (hereinafter collectively referred to as the "Monitoring Wells"); (ii) installing, testing, operating, inspecting, sampling, maintaining, repairing, replacing, altering, relocating, removing, and abandoning in place one or more monitoring and injection wells and related equipment, appurtenances and facilities necessary and appropriate for the treatment of groundwater (hereinafter collectively referred to as the "Remediation Systems"); (iii) ingress and egress from the nearest public road to the Monitoring Wells and Remediation Systems on the Easement Area in order to provide Grantee convenient access to said Monitoring Wells and Remediation Systems at any time and from time to time, for the uses and purposes set forth in subparts (i) and (ii) above; and (iv) such other rights as may be necessary for the enjoyment of the rights and privileges provided by this Monitoring Well Easement (herein sometimes referred to as the "Agreement"). The term of this Agreement shall commence on the date hereof and shall expire on the date which is one hundred twenty (120) days following the date Grantee receives written notice from the Georgia Environmental Protection Division with respect to the Easement Area, so as to eliminate the need for any Monitoring Wells and Remediation Systems on the Easement Area.

In the event of a destruction of one or more Monitoring Wells or Remediation Systems, or related equipment, Grantee shall be permitted, at Grantor's cost, to replace such well and equipment in locations in close proximity to each such well or equipment which was destroyed. Grantee agrees to use commercially reasonable efforts to place any new Monitoring Wells or Remediation Systems or equipment in locations consistent with Grantor's development plans, provided, however, that all such locations shall meet all requirements of the Georgia Environmental Protection Department and all applicable environmental laws, rules, regulations, codes, ordinances, orders, directives or requests of any governmental authority.

Grantor covenants and agrees to use the Easement Area for purposes compatible with the rights as granted to Grantee in or permitted by this Agreement and shall not interfere with or permit any other person to interfere with Grantee's use of easements, rights and privileges granted under this Agreement.

Grantee will notify (either in writing or verbally) Grantor at least five (5) days prior to any entry onto the Easement Area for the purposes of installing, maintaining, repairing, replacing, altering, relocating or removing any Monitoring Wells or Remediation Systems; provided, however, no notice shall be required for any entry for the purposes of performing ordinary sampling or inspection or for emergencies of the Monitoring Wells or Remediation Systems.

No delay or interruption by Grantee in the use or enjoyment of any right or easement hereby granted shall result in the loss, limitation or abandonment of any of the right, title, interest, easement or estate granted hereby.

The easements set forth in this Agreement shall be for the use, benefit and enjoyment of Grantee, and its successors and assigns, and their respective agents, employees, servants, contractors and subcontractors. This Agreement, each and all of its terms, conditions and provisions, and the easements, rights, and privileges created hereby shall be binding upon and inure to the benefit of Grantee and Grantor and their respective successors, successors-in-title, grantees, assignees, and their respective tenants, subtenants, licensees, permittees and lenders. The interpretation, construction and performance of this Agreement shall be governed by the laws of the State of Georgia.

**TO HAVE AND TO HOLD** said easements, rights and privileges, together with all and singular the privileges and appurtenances thereto in anywise belonging unto Grantee, and its successors and assigns for the term set forth herein. Grantor does hereby bind itself, and its successors, successors-in-title and assigns to warrant and forever defend Grantor's title to the Easement Area, possession thereof and all and singular the easements, rights and privileges granted hereunder unto Grantee, and its successors, successors-in-title and assigns, against the lawful claims and demands of all persons claiming by, through or under Grantor, but not otherwise.

| SECTION A – SELLER'S INFORMATION (Do not use agent's information)                              |  |  |  | SECTION C – TAX COMPUTATION   |  |
|--|--|--|--|---|--|
| SELLER'S BUSINESS / ORGANIZATION / OTHER NAME<br>AGL Macon Holdings, Inc.                      |  |  |  | Exempt Code<br>If no exempt code enter NONE   |  |
| MAILING ADDRESS (STREET & NUMBER)<br>Ten Peachtree Place, NE                                   |  |  |  | Govt/NonProfit<br>Public Corp   |  |
| CITY, STATE / PROVINCE / REGION, ZIP CODE, COUNTRY<br>Atlanta, GA 30309 USA                    |  | DATE OF SALE<br>11/18/2006   |  | 1. Actual Value of consideration received by seller<br>Complete Line 1A if actual value unknown |  |
| SECTION B – BUYER'S INFORMATION (Do not use agent's information)                               |  |  |  | \$41,760.00   |  |
| BUYERS'S BUSINESS / ORGANIZATION / OTHER NAME<br>Macon-Bibb County Urban Development Authority |  |  |  | 1A. Estimated fair market value of Real and<br>Personal property                                |  |
| MAILING ADDRESS (Must use buyer's address for tax billing & notice purposes)<br>P. O. Box 169  |  |  |  | \$0.00  |  |
| CITY, STATE / PROVINCE / REGION, ZIP CODE, COUNTRY<br>Macon, GA 31202-0169 USA                 |  | Check Buyers Intended Use<br>( ) Residential (X) Commercial<br>( ) Agricultural ( ) Industrial |  | 2. Fair market value of Personal Property only  |  |
| SECTION D – PROPERTY INFORMATION (Location of Property (Street, Route, Hwy, etc))              |  |  |  | \$0.00  |  |
| HOUSE NUMBER & EXTENSION (ex 265A)   |  | PRE-DIRECTION, STREET NAME AND TYPE, POST DIRECTION<br>Seventh Street                          |  | 3. Amount of liens and encumbrances<br>not removed by transfer                                  |  |
| COUNTY<br>BIBB   |  | CITY (IF APPLICABLE)<br>Macon  |  | 4. Net Taxable Value<br>(Line 1 or 1A less Lines 2 and 3)                                       |  |
| TAX DISTRICT   |  | LAND DISTRICT  |  | \$0.00  |  |
| GMD  |  | ACRES<br>1.1   |  | 5. TAX DUE at .10 per \$100 or fraction thereof<br>(Minimum \$1.00)                             |  |
| LAND LOT   |  | SUB LOT & BLOCK  |  |   |  |
| SECTION E – RECORDING INFORMATION (Official Use Only)  |  |  |  |   |  |
| DATE<br>01-02-07   |  | DEED BOOK<br>7344  |  | DEED PAGE<br>60   |  |
|  |  |  |  | PLAT BOOK   |  |
|  |  |  |  | PLAT PAGE   |  |

**ADDITIONAL BUYERS**  
None

005217

FILED  
CLERK'S OFFICE  
01 MAR -2 PM 12:58  
SUPERIOR COURT OF  
BIBB COUNTY, GEORGIA

**AFTER RECORDING RETURN TO:**

Carol Geiger  
Kilpatrick Stockton LLP  
1100 Peachtree Street, Suite 2800  
Atlanta, Georgia 30309-4530

Record and return to:  
Jill Shipley Thompson  
Martin, Snow, Grant & Napier  
P. O. Box 1606  
Macon, GA 31202-1606

**DECLARATION OF RESTRICTIVE COVENANTS AND NOTICE**

THIS DECLARATION is made this 1<sup>st</sup> day of March, 2001, by  
ATLANTA GAS LIGHT COMPANY a Georgia Corporation (hereinafter referred to as  
"Declarant").

**WITNESSETH:**

WHEREAS, Declarant owns the property described on Exhibit "A" hereto attached  
and made a part hereof (the "Property"); and

WHEREAS, the Property contains "hazardous substances" as defined under the  
Georgia Hazardous Site Response Act, O.C.G.A. §12-8-90, *et seq.*, and, accordingly,  
Declarant desires to restrict the use of the Property as provided herein.

NOW, THEREFORE, Declarant does hereby subject the Property to the covenants,  
restrictions, easements and rights hereinafter stated:

1. Definitions. For purposes of this Declaration, the following terms shall have  
the following meanings, unless the context requires otherwise:

"AGLC" shall mean Atlanta Gas Light Company, a Georgia corporation, its successors and assigns.

"Director" shall mean the Director of EPD, as hereinafter defined.

"EPD" shall mean the Georgia Department of Natural Resources, Environmental Protection Division, as well as any successor state agency with responsibility for and jurisdiction over environmental matters.

"Hazardous Substances" shall have the same meaning as under HSRA, as hereinafter defined.

"HSRA" shall mean the Hazardous Site Response Act, O.C.G.A. § 12-8-90, *et seq.*

2. Restrictive Covenants. Declarant hereby:

a. prohibits the use of groundwater beneath the Property as a source of drinking water or for any other purpose that could result in human ingestion as defined in the Rules for HSRA, Rule 391-3-19-.02(2)(i), incorporated herein by reference, in effect at the time of this Declaration;

b. restricts the use of the Property to non-residential uses as defined in the Rules for HSRA in effect at the time of this Declaration;

c. prohibits the disturbance of any material stabilized in accordance with the Corrective Action Plan submitted on October 2, 2000 (revised December 1, 2000) and all modifications submitted thereafter, without prior notice to and approval from EPD; and

d. agrees to install and maintain permanent markers on each side of the Property that delineate the restricted area and prohibits the disturbance or removal of such markers.

This Declaration is made in accordance with Ga. Comp. R. & Regs. 391-3-19-.08(7), which expressly authorizes the use of restrictive covenants to prohibit activities on the Property that may substantially interfere with a remedial action, operation and maintenance, long-term monitoring, or other measures to ensure the integrity of any remedial action. The foregoing are hereinafter collectively referred to as the "Restrictive Covenants".

3. Improvements. Any and all improvements located in whole or in part on all or any portion of the Property, and the construction, operation, use and maintenance of the Property and such improvements, shall be subject to and shall comply with the Restrictive Covenants.

4. Covenants running with the land. Declarant acknowledges and agrees that the Restrictive Covenants are appurtenant to and run with the land, and shall be binding and enforceable against all future owners of the Property including Declarant, its successors and assigns, and any trustee appointed to manage the Property. Should a transfer or sale of the Property occur before such time as the Restrictive Covenants have been amended or revoked then said Restrictive Covenants shall be binding on the transferee(s) or purchaser(s).

The Restrictive Covenants shall inure to the benefit of EPD, AGLC and their respective successors and assigns and shall be enforceable by the Director or his agents or assigns and AGLC or its successors and assigns in a court of competent jurisdiction. The Restrictive Covenants shall remain in full force and effect in accordance with O.C.G.A. § 44-5-60(c), unless and until the Director determines that the Property meets Type 1 or 2 Risk Reduction Standards, as defined in the Rules for Hazardous Site Response Chapter 391-3-19-.07.

5. Severability. In the event that any of the provisions contained in this Declaration shall for any reason be held to be invalid, illegal or unenforceable in any respect in a final ruling or judgment of a court of competent jurisdiction from which no appeal has been or can be taken, the remainder of the Restrictive Covenants shall not be affected thereby and each term, covenant, condition and provision hereof shall remain valid and enforceable to the fullest extent permitted by law.

6. Statutory Notice. This property has been listed on the state's hazardous site inventory and has been designated as needing corrective action due to the presence of hazardous wastes, hazardous constituents, or hazardous substances regulated under state law. Contact the property owner or the Georgia Environmental Protection Division for further information concerning this property. This notice is provided in compliance with the Georgia Hazardous Site Response Act. This Declaration is a condition of approval for the Corrective Action Plan submitted to EPD on October 2, 2000 (revised December 1, 2000) and all modifications submitted thereafter for the Property and is a requirement under Consent Order EPD-HSR-227 entered into by AGLC on July 11, 2000.

7. General Provisions.

(a) Headings. The use of headings, captions and numbers in this Declaration is solely for the convenience of identifying and indexing the various provisions in this Declaration and shall in no event be considered otherwise in construing or interpreting any provision in this Declaration.

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

(c) Time of Essence. Time is of the essence of this Declaration.

(d) Applicable Law. This Declaration shall be governed by, construed under and interpreted and enforced in accordance with the laws of the State of Georgia.

IN WITNESS WHEREOF, Declarant has signed and sealed this Declaration, all the day, month, and year first above written.

Signed, sealed and delivered in the presence of:

Carl Gajjar  
Unofficial Witness

Annie C. Harris  
Notary Public

(NOTARY SEAL)  
My Commission Expires:  
Notary Public, Rockdale County, Georgia  
My Commission Expires March 17, 2002

DECLARANT:  
ATLANTA GAS LIGHT COMPANY,  
a Georgia Corporation

By: Paul R. Shlanta

Name: Paul Shlanta

Title: Senior Vice President

(CORPORATE SEAL)

GEORGIA, Bibb County, Clerk's Office Superior Court  
Filed for Record MAR - 2 2001 at 12:58 PM  
Recorded MAR - 5 2001  
Dep. Clerk

EXHIBIT A

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

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

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

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

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

The land embraced in the above described encroachment was granted in fee simple by the City of Macon under legislative authority in two deeds: one deed was made to Giles G. Hardeman on May 24, 1907 and recorded in Deed Book 136, Page 651, and the other to the Macon Gas Company, dated January 6, 1927 and recorded in Deed Book 3187, page 634, Clerk's Office, Bibb Superior Court.

BOOK 4863 PAGE 260

GEORGIA, Bibb County, Clerk's Office Superior Court

Filed for Record MAR - 2 2001 at 12:58 PM

Recorded MAR - 5 2001

Dep. Clerk *Jm*

Doc ID: 004823280004 Type: GLR  
Filed: 11/01/2006 at 10:33:00 AM  
Fee Amt: \$16.00 Page 1 of 4  
Bibb County Superior Court  
Dianne Brannen Clerk  
BK 7273 PG 52-55

After Recording Return To:  
MCKENNA LONG & ALDRIDGE LLP  
303 PEACHTREE STREET, SUITE  
ATLANTA, GEORGIA 30308  
ATTN: Brian T. Holmes, Esq.

CROSS REFERENCE:  
Deed Book 4863, page 260

Records of Bibb County, Georgia

**FIRST AMENDMENT TO DECLARATION OF  
RESTRICTIVE COVENANTS AND NOTICE**

This **FIRST AMENDMENT TO DECLARATION OF RESTRICTIVE COVENANTS AND NOTICE** (this "Amendment"), is made as of the 31<sup>st</sup> day of October, 2006, by **Atlanta Gas Light Company**, a Georgia corporation (hereinafter referred to as "Declarant").

**WITNESSETH:**

**WHEREAS**, the Declarant entered into that certain Declaration of Restrictive Covenants and Notice, dated March 1, 2001 ("Declaration") and recorded in Deed Book 4860, Page 260 of the Bibb County, Georgia records;

**WHEREAS**, the City of Macon conveyed certain real property to the Declarant described in that certain Quitclaim Deed dated October 6, 2004, recorded in Deed Book 6381, Page 223, Bibb County, Georgia records (the "Additional Property").

**WHEREAS**, Declarant desires to amend the Declaration in order to add the Additional Property to the Declaration;

**NOW, THEREFORE**, Declarant does hereby modify and amend the aforementioned Declaration as follows:

1. **Recitals.** The above recitals are true and correct and are hereby incorporated herein by this reference.

2. **Amendment to Declaration.** The Declaration is hereby amended such that the term "Property" in the Declaration shall include the Additional Property as more particularly described in Exhibit "A" attached hereto and made a part hereof by this reference. The Additional Property shall be subject to all the same covenants, restrictions, easements and rights provided for in the Declaration.

3. Miscellaneous. It is agreed by the Declarant that all of the other terms and conditions of the Declaration shall remain in full force and effect, other than as modified herein.

**[SIGNATURES BEGIN ON THE FOLLOWING PAGE]**

IN WITNESS WHEREOF, the parties have executed this Amendment effective as of the date first above written.

**DECLARANT:**

Signed, sealed and delivered  
in the presence of:

*[Signature]*  
Witness

**Atlanta Gas Light Company,**  
a Georgia corporation

By: *[Signature]* (Seal)  
Name: Brett Stovern  
Its: Vice Pres. and Treasurer *waf*

*Glynn S. Gamble*

Notary Public

[NOTARIAL SEAL]



EXHIBIT "A"

**LEGAL DESCRIPTION OF "ADDITIONAL PROPERTY"**

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

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

Tract described herein constitutes all of the 20 foot alley running through Square 15, from Sixth Street to Seventh Street except for 1/2 of the 20 foot alley adjacent to Original Lot 5, being a parcel of land 10 feet by 104.25 feet. The tract described herein with the exception above contains 7,997.5 square feet or 0.18 acre.

**COG**  
**Safety & Environmental Department**

Central of Georgia Railroad Company  
1200 Peachtree Street, NE - Box 13  
Atlanta, GA 30309  
Phone (404) 582-5185  
Fax (678) 512-5508  
steven.aufdenkampe@nscorp.com

October 7, 2014

Department of Natural Resources  
Environmental Protection Division  
Jeff Cown, Branch Chief, Land Protection Division  
2 Martin Luther King Drive  
Suite 1054, East Floyd Tower  
Atlanta, Georgia 30334

**Subject: Atlanta Gas Company – Former Macon MGP Site  
HSI #10511**

Dear Mr. Cown:

This letter is to inform the Georgia Environmental Protection Division (EPD) that Central of Georgia (COG) authorizes Atlanta Gas Light Company (AGLC) to enroll COG's property, particularly described on the enclosed attachment, into the Georgia Voluntary Remediation Program.

Consistent with my letter dated February 25, 2014, to Greg Corbett of AGLC (copy attached), COG is willing to grant AGLC continued access to the property for investigation and monitoring activities and will negotiate the implementation of any institutional controls on the COG property that may be required by EPD.

Sincerely,



Steven Aufdenkampe  
Engineer, Environmental Remediation

Enclosure

cc: Matt Gernand, Norfolk Southern  
Greg Corbett, Atlanta Gas Light Company  
Carol Geiger, Kazmarek Mowrey Cloud Laseter LLP  
Tim Earl, Georgia Power Company  
Erik Rolle, Georgia Power Company  
Holly Hill, Troutman Sanders LLP

February 25, 2014

Mr. Greg Corbett, P. E.  
AGL Resources  
Ten Peachtree Place, NE  
Atlanta, GA 30309

**Subject: Central of Georgia Property Access in Macon, Georgia**

Dear Mr. Corbett:

This letter is in response to the request by Atlanta Gas Light Company (“AGLC”) and Georgia Power Company (“GPC”) for access to Central of Georgia’s (“COG”) right of way for remediation activities associated with a former Macon MGP site located on what is now Terminal Avenue in Macon, Georgia. During a meeting on January 7, 2014, you summarized the results of investigations that took place on a COG’s property under a mutually agreed upon scope of work and access agreement. The former Macon MGP site is listed on the Georgia HSI #10511 and the cleanup of the impacts from the former operations are being supervised by the Georgia Department of Environmental Division (EPD). Based on your presentation of the data, we understand that MGP residuals extend northward beyond Terminal Avenue and onto the COG property. We understand the MGP impacts are largely limited to dissolved phase contaminants.

During the meeting, you presented corrective action options including the excavation of saturated zone MGP impacts on railroad property or traditional vertical in situ solidification/stabilization approaches, as well as removal of additional non-impacted soils to access impacted media. Based on the local topography, any proposed work on COG property would entail removal and/or solidification of media present at up to 35 feet below ground surface. COG also understands that AGLC and GPC intend to conduct this type of remediation work on Terminal Avenue which is adjacent to the COG property and within 65 feet of our nearest track.

The COG right of way in this area consists of a double main line, which is a critical transportation pathway for COG’s rail network. Any disruption to this double main line for a significant period of time would have a substantial negative impact to our rail system and its customers. As a result, any remedial actions that could cause interference with the operations of this line are not acceptable. This includes potential track settlement, interference with railroad communication lines, switches, or signals, and ground surface disturbances that could cause structural impact to the railroad bedding materials. The options discussed during the meeting, including the excavation of saturated zone impacts under the rail and surrounding areas or traditional vertical in-situ solidification/stabilization, are not viable options, as they may require a lengthy shutdown of all or portions of the double main line and present a risk of jeopardizing the geotechnical integrity of the track, bedding material, and/or underlying soils.

Due to these factors, COG cannot grant AGL and GPC access that permits such intrusive cleanup activities on the COG owned right of way. Additionally, COG urges that the remedial activities on non-COG-owned properties proceed with appropriate protections in place to prevent any geotechnical or other issues that could potentially interrupt track operations.

COG is willing, for a fee, to provide continued access to the property for investigation and monitoring activities, and to implement necessary institutional controls on the COG property that may be required by EPD. COG appreciates your understanding that it is our obligation to provide safe and efficient service to our customers. As always, we expect and appreciate your routine communications regarding your progress and the information collected.

Sincerely,



Steven Aufdenkampe  
Engineer, Environmental Remediation

cc: Matt Gernand  
Robert W. Mitchell  
Erik Rolle

**ROBERT A.B. REICHERT**  
Mayor

Telephone: (478) 751-7170  
Facsimile: (478) 751-7931



MACON-BIBB COUNTY  
GOVERNMENT CENTER  
700 POPLAR STREET  
MACON, GEORGIA 31202

Mailing Address:  
P.O. BOX 247  
MACON, GEORGIA 31202-0247

**MACON-BIBB COUNTY  
OFFICE OF THE MAYOR**

September 4, 2014

Department of Natural Resources  
Environmental Protection Division  
ATTN: Jeff Cown, Branch Chief, Land Protection Division  
2 Martin Luther King Drive  
Suite 1054, East Floyd Tower  
Atlanta, GA 30334

RE: Atlanta Gas Light Company – Former Macon MGP Site

Dear Mr. Cown:

This letter is to inform the Georgia Environmental Protection Division (hereinafter “EPD”) that Macon-Bibb County authorizes Atlanta Gas Light Company to enter several County owned streets and properties (hereinafter collectively referred to as “County Property”), with said County Property more particularly described on the enclosed attachment, into the Georgia Voluntary Remediation Program.

Furthermore, Macon-Bibb County consents to and authorizes Atlanta Gas Light Company to perform all corrective actions on the County Property, including In-situ Solidification, as described in the Voluntary Investigation and Remediation Plan, to which this letter is included. Macon-Bibb County further agrees to execute a covenant restricting the use of groundwater underneath the County Property in conformance with Chapter 16 of Title 44, “Uniform Environmental Covenants Act.”

If you have any additional questions or concerns, please feel free to contact my office.

Sincerely,

Robert A.B. Reichert  
Mayor, Macon Bibb-County

cc: Mr. Greg Corbett, Atlanta Gas Light Company  
Ms. Carol Geiger, Kazmarek Mowrey Cloud Laseter LLP

**Western Portion and MW-101 Area Groundwater CAP Addendum**  
*Appendix C*

*Project No. 0176740*  
*Atlanta Gas Light Company*

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

**Boring Logs and Well Construction Diagrams**  
*Appendix D*

*Project No. 0176740*  
*Atlanta Gas Light Company*

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















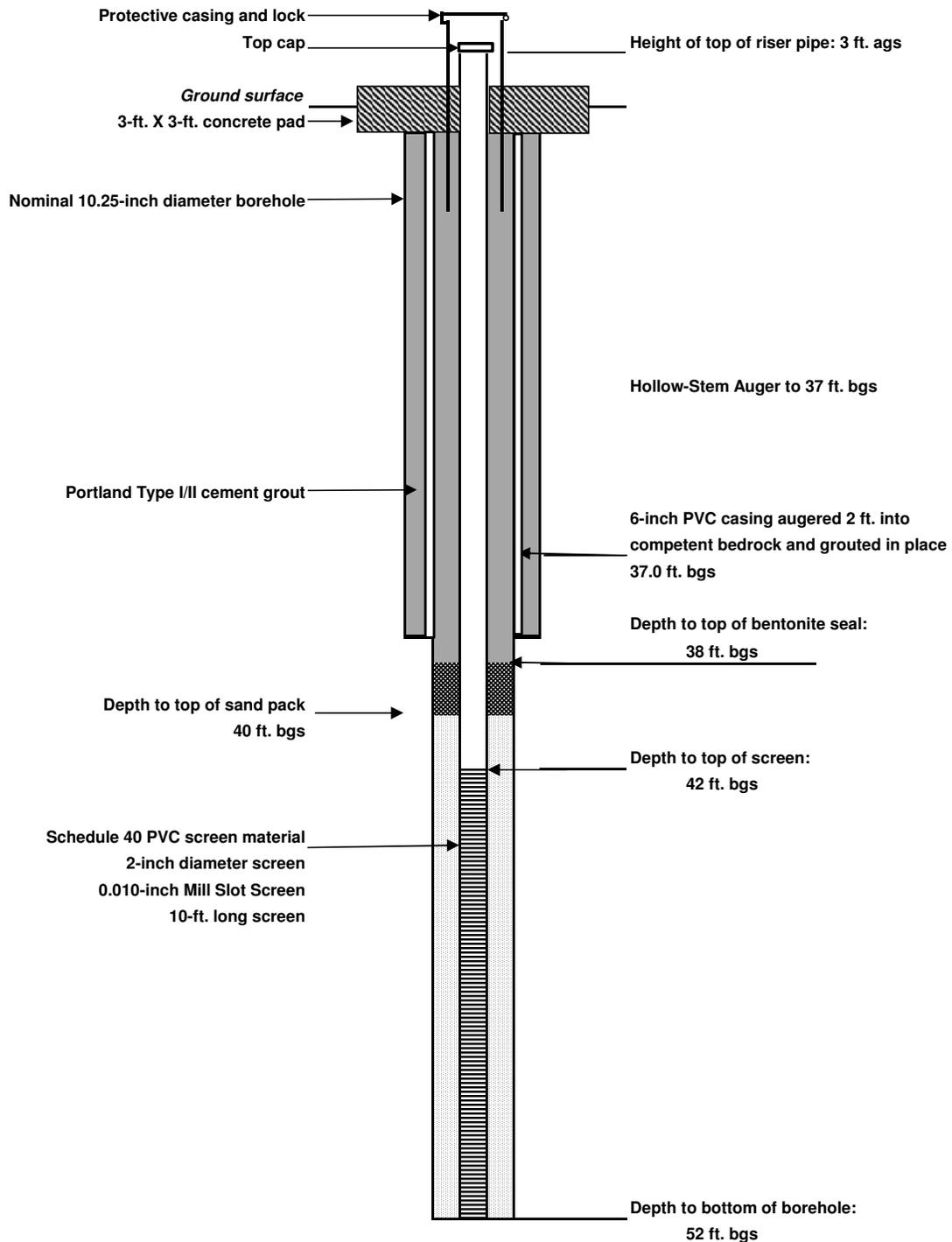


# MONITORING WELL MW-12DRR CONSTRUCTION

Drilling Method: HSA/Rock Core

Completion Depth: 52 ft. bgs

Installation Date: 11/5/13



NOT TO SCALE



## ENVIRONMENTAL RESOURCES MANAGEMENT

3200 Windy Hill Road SE  
Suite 1500W  
Atlanta, GA 30339

www.erm.com

Phone: (678) 486-2700 Fax: (404) 745-0103

Geologist: JIM

Log Created by: JIM

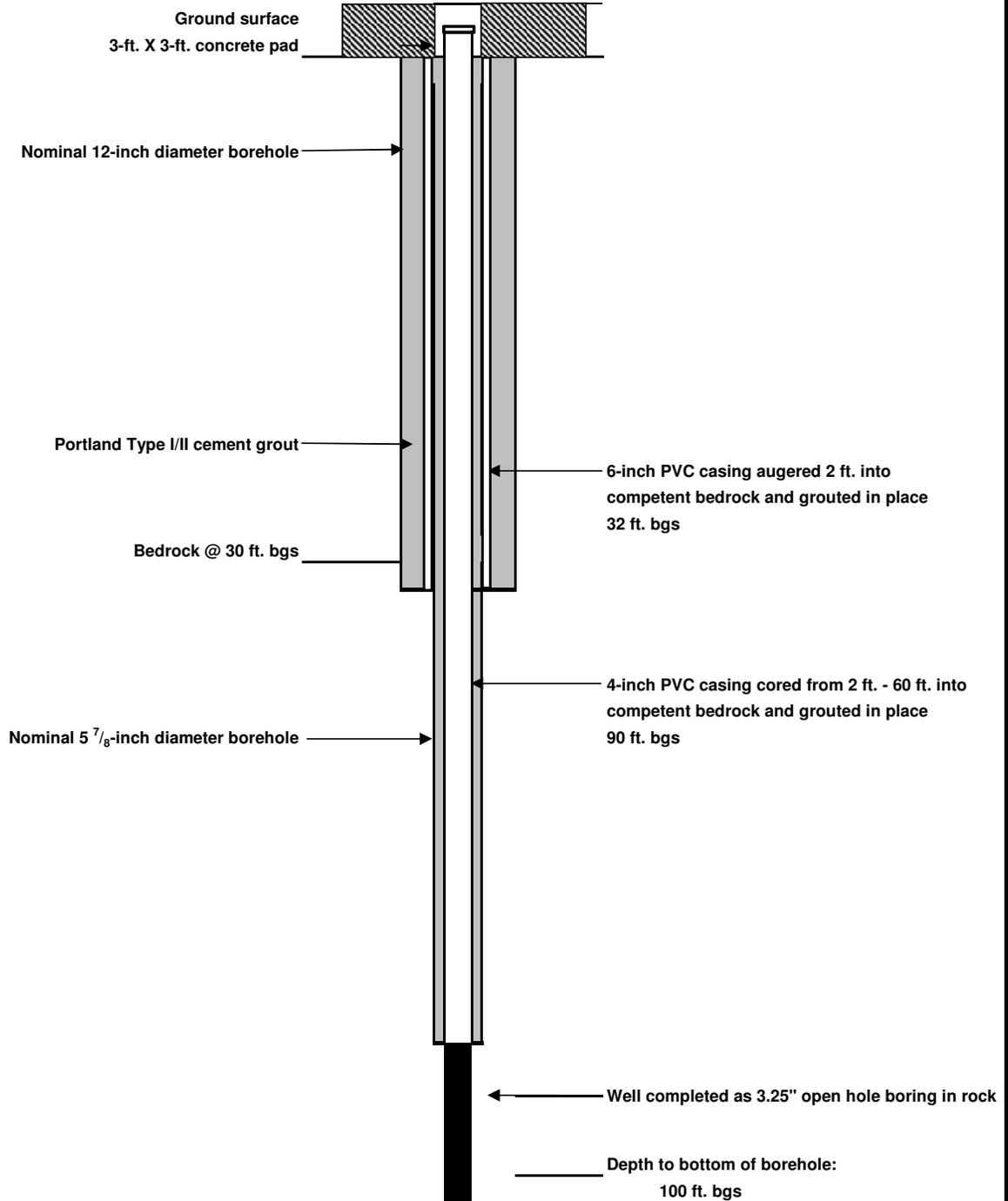
Checked by: AK

# MONITORING WELL MW-205DD CONSTRUCTION

Drilling Method: HSA/Rock Core

Completion Depth: 100 ft. bgs

Installation Date: 4/23/14 - 4/30/14



NOT TO SCALE



**ENVIRONMENTAL RESOURCES  
MANAGEMENT**

3200 Windy Hill Road SE  
Suite 1500W  
Atlanta, GA 30339

www.erm.com

Phone: (678) 486-2700 Fax: (404) 745-0103

Open Borehole Screen: 90-100

6" casing 0-32

4" casing 0-90

Geologist: JIM

Log Created by: JIM

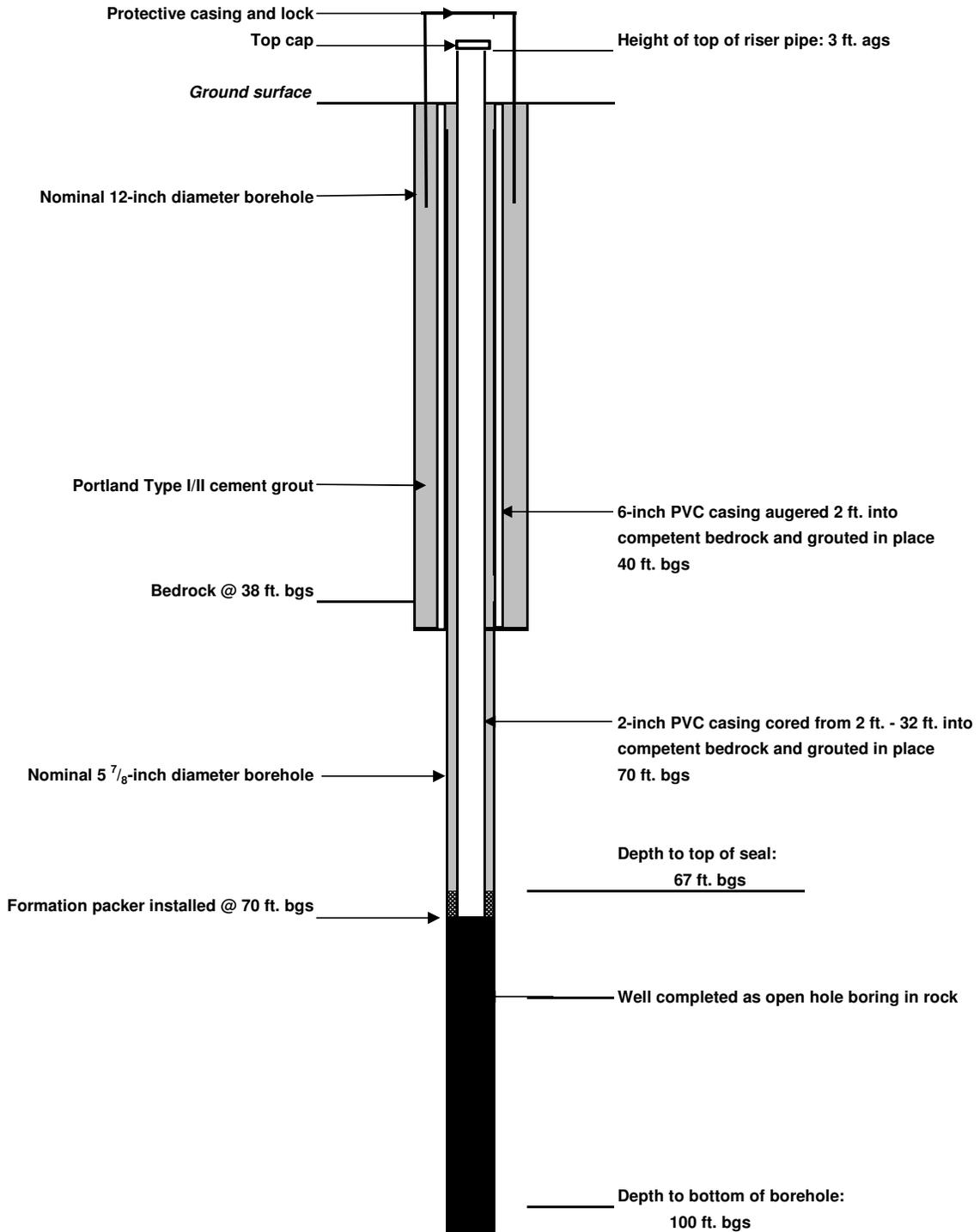
Checked by: AK

# MONITORING WELL MW-302DD CONSTRUCTION

Drilling Method: HSA/Rock Core

Completion Depth: 100 ft. bgs

Installation Date: 4/16/13 - 4/18/13



NOT TO SCALE



**ENVIRONMENTAL RESOURCES  
MANAGEMENT**

3200 Windy Hill Road SE  
Suite 1500W  
Atlanta, GA 30339

www.erm.com

Phone: (678) 486-2700 Fax: (404) 745-0103

Open Borehole Screen: 70-100

6" casing 0-40

2" casing 0-70

Geologist: JIM

Log Created by: JIM

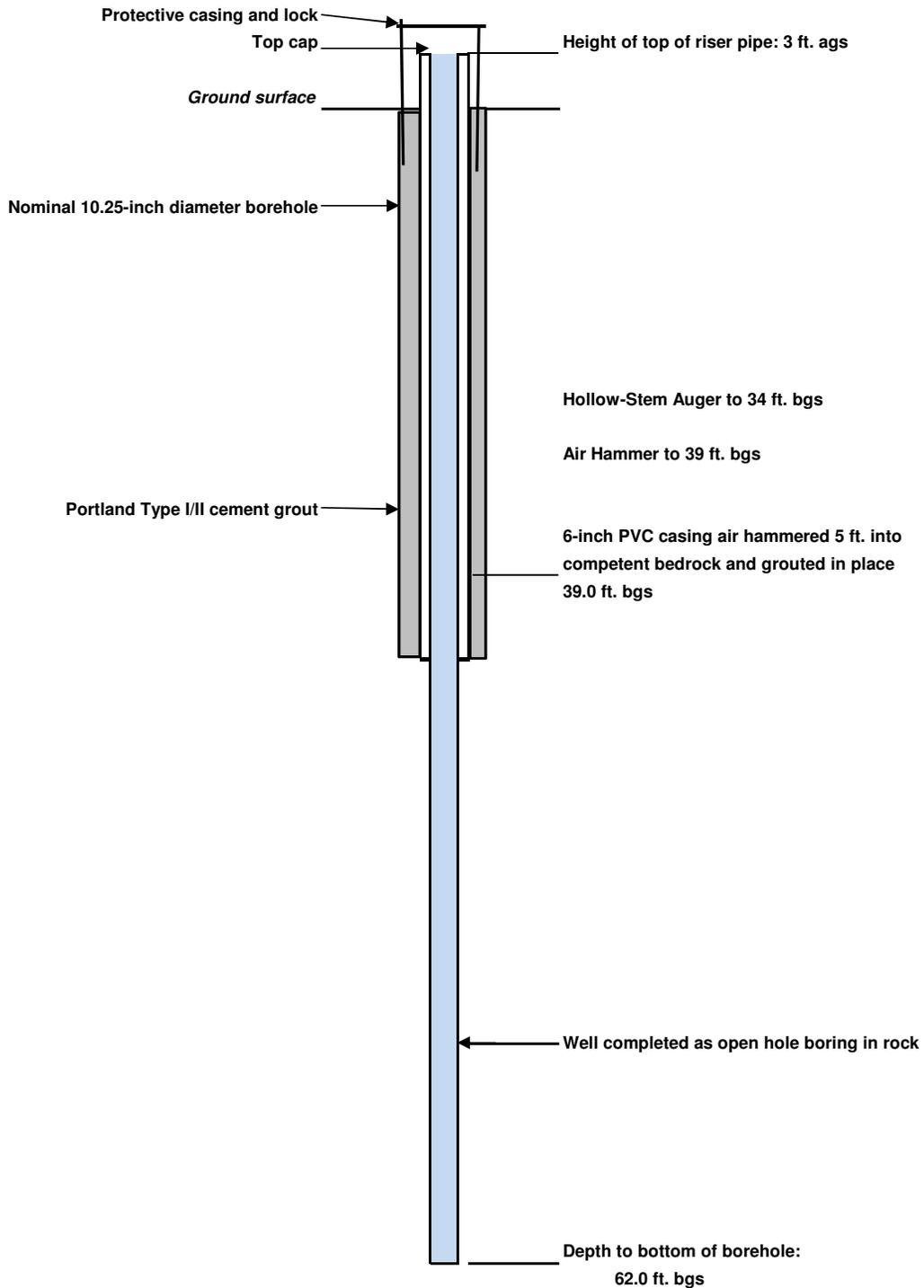
Checked by: AK

# MONITORING WELL MW-304D CONSTRUCTION

Drilling Method: HSA/Air Hammer/Rock Core

Completion Depth: 62 ft. bgs

Installation Date: 11/5/13



NOT TO SCALE



**ENVIRONMENTAL RESOURCES  
MANAGEMENT**

3200 Windy Hill Road SE  
Suite 1500W  
Atlanta, GA 30339

www.erm.com

Phone: (678) 486-2700 Fax: (404) 745-0103

Geologist: JIM

Log Created by: JIM

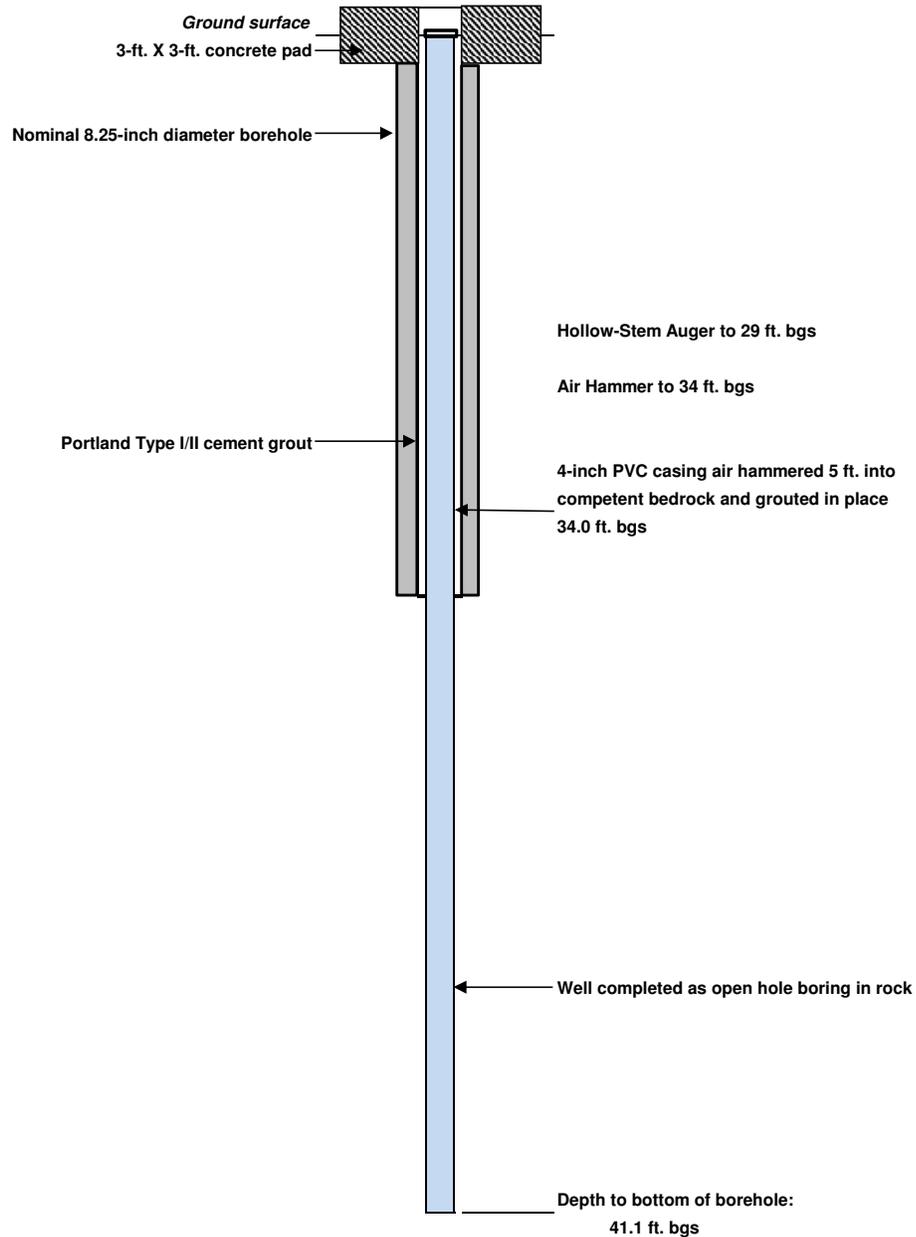
Checked by: AK

# MONITORING WELL MW-305D CONSTRUCTION

Drilling Method: HSA/Air Hammer/Rock Core

Completion Depth: 41.1 ft. bgs

Installation Date: 11/18/13



NOT TO SCALE



## ENVIRONMENTAL RESOURCES MANAGEMENT

3200 Windy Hill Road SE  
Suite 1500W  
Atlanta, GA 30339

www.erm.com

Phone: (678) 486-2700 Fax: (404) 745-0103

Geologist: JIM

Log Created by: JIM

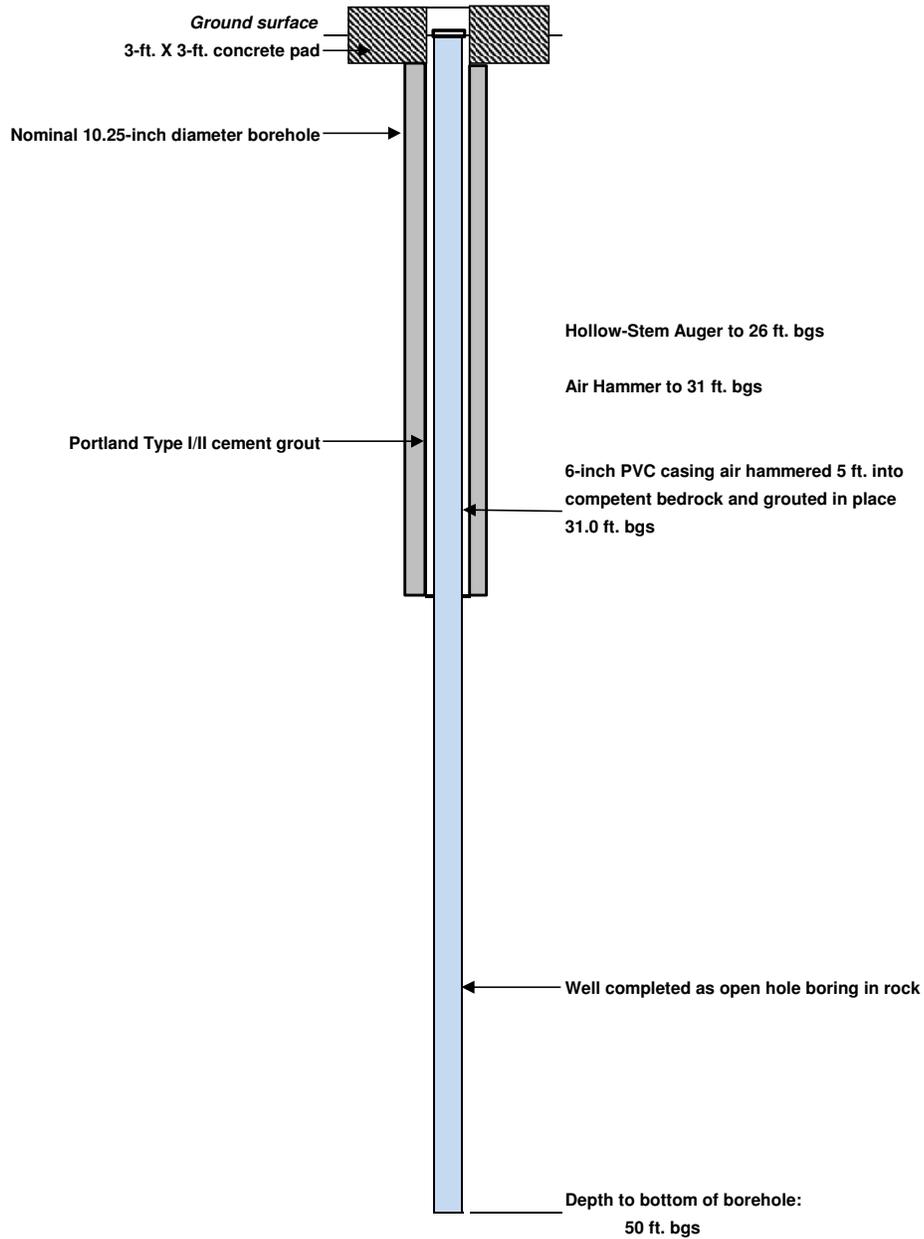
Checked by: AK

# MONITORING WELL MW-306D CONSTRUCTION

Drilling Method: HSA/Air Hammer/Rock Core

Completion Depth: 50 ft. bgs

Installation Date: 11/7/13



NOT TO SCALE



**ENVIRONMENTAL RESOURCES  
MANAGEMENT**

3200 Windy Hill Road SE  
Suite 1500W  
Atlanta, GA 30339

www.erm.com

Phone: (678) 486-2700 Fax: (404) 745-0103

Geologist: JIM

Log Created by: JIM

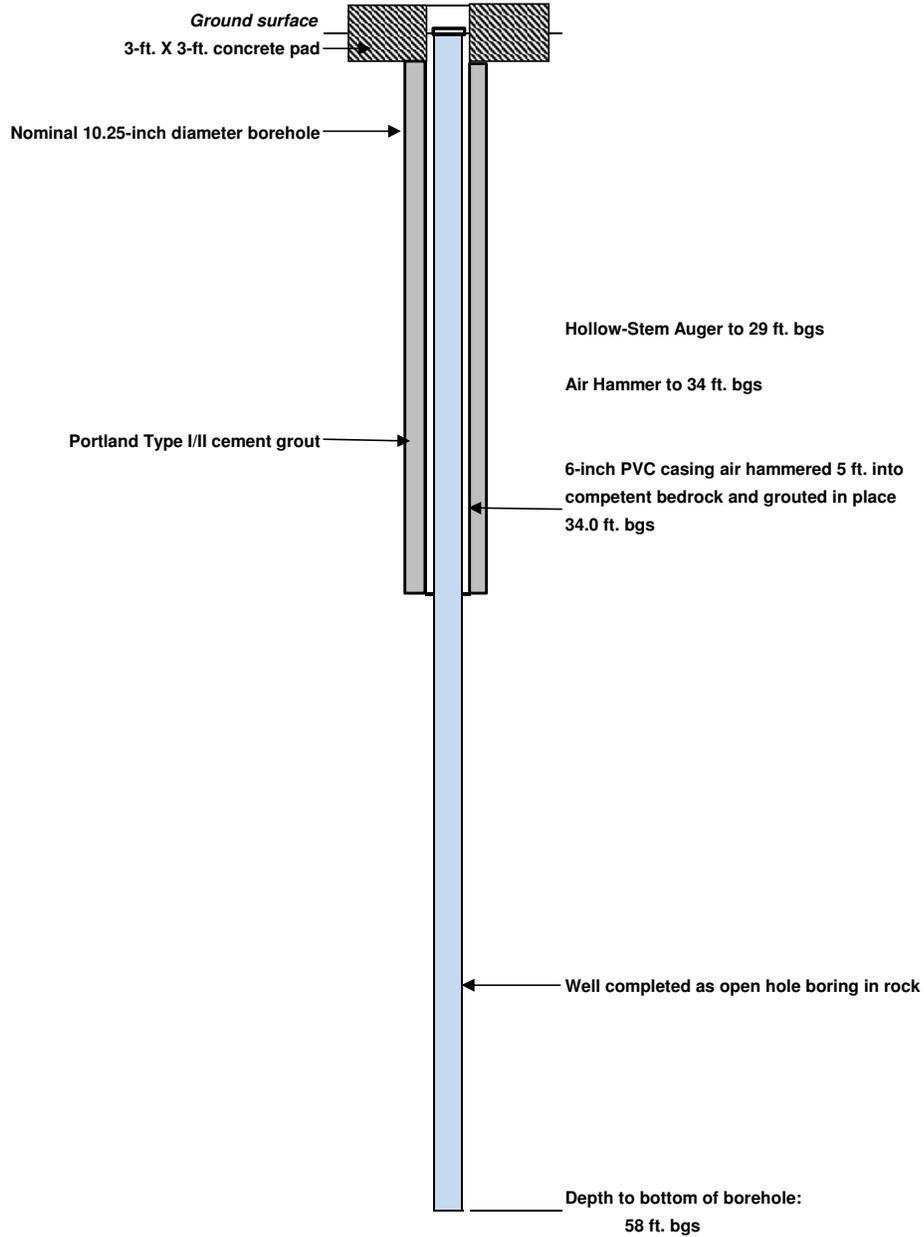
Checked by: AK

# MONITORING WELL MW-307D CONSTRUCTION

Drilling Method: HSA/Air Hammer/Rock Core

Completion Depth: 58 ft. bgs

Installation Date: 11/12/13



NOT TO SCALE



**ENVIRONMENTAL RESOURCES  
MANAGEMENT**

3200 Windy Hill Road SE  
Suite 1500W  
Atlanta, GA 30339

www.erm.com  
Phone: (678) 486-2700 Fax: (404) 745-0103

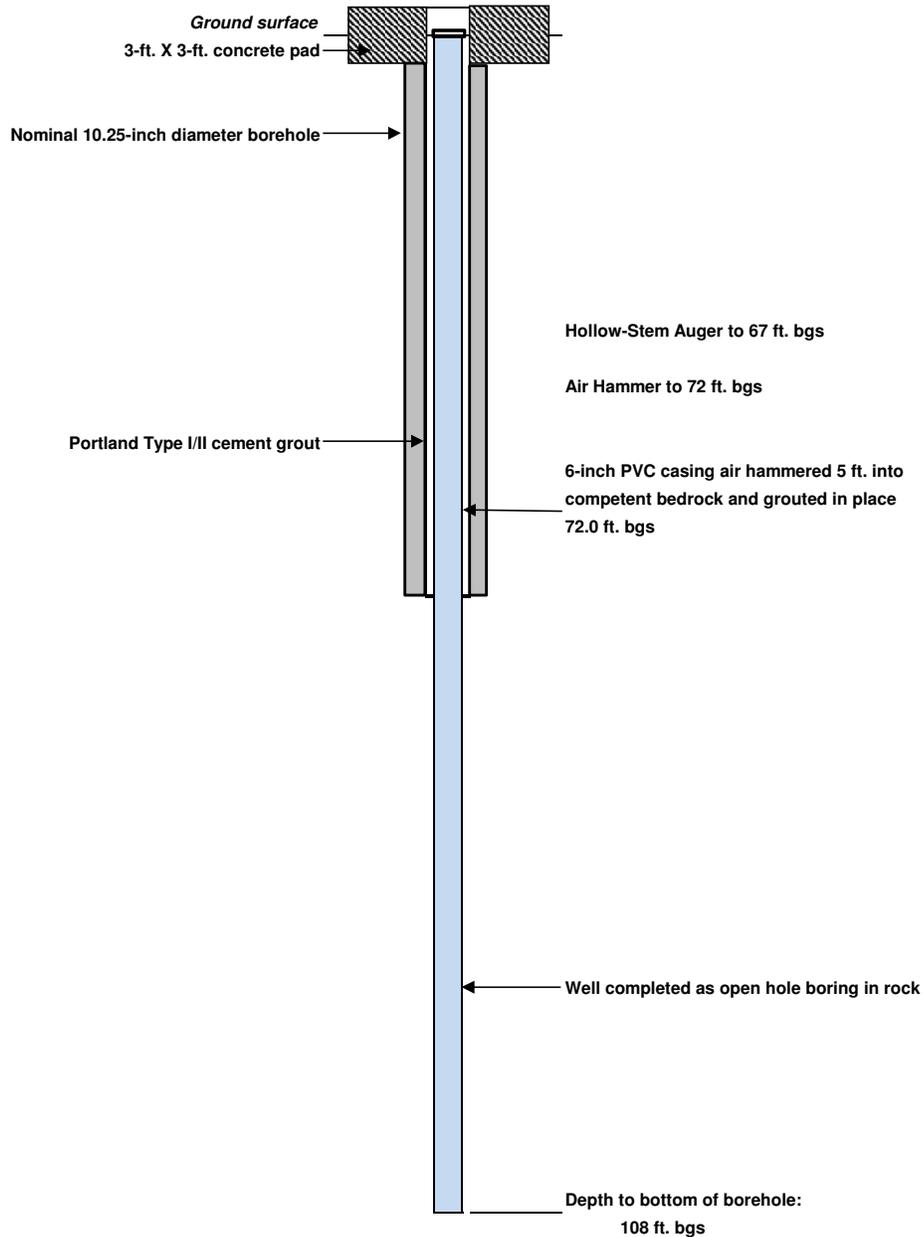
Geologist: JIM  
Log Created by: JIM  
Checked by: AK

# MONITORING WELL MW-308D CONSTRUCTION

Drilling Method: HSA/Air Hammer/Rock Core

Completion Depth: 108 ft. bgs

Installation Date: 11/6/13



NOT TO SCALE



**ENVIRONMENTAL RESOURCES  
MANAGEMENT**

3200 Windy Hill Road SE  
Suite 1500W  
Atlanta, GA 30339

www.erm.com

Phone: (678) 486-2700 Fax: (404) 745-0103

Geologist: JIM

Log Created by: JIM

Checked by: AK

**VEFR Event Reports**  
*Appendix E*

*Project No. 0176740*  
*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<sup>®</sup>/ISCO-EFR<sup>®</sup>/COSOLV<sup>®</sup> Technologies  
Treatability Studies / Research & Development*

March 7, 2011

Mr. Jim Morrison  
Environmental Resources Management, Inc.  
3350 Peachtree Road, Suite 1120  
Atlanta, Georgia 30326

**Subject: Enhanced Fluid Recovery (EFR<sup>®</sup>) Results  
Event No. 1 and 2  
Former AGL MGP Site  
137 Mulberry Street  
Macon, Georgia**

Dear Mr. Morrison:

Please find attached the data summary for the two initial EFR<sup>®</sup> events conducted at the subject site on February 16 and 17, 2011. The following summarizes the results of these initial events.

## **SUMMARY OF RESULTS**

### **Event No. 1 (February 16, 2011)**

Dense non-aqueous phase liquids (DNAPL) were detected in the gauged monitor well (MW-111D – 0.75 feet) prior to conducting this EFR<sup>®</sup> event. This EFR<sup>®</sup> event was performed for a duration of 6.75 hours at one extraction point, consisting of monitor well MW-111D. DNAPL was not detected in the extraction well upon completion of this event.

An estimated total of 40.2 equivalent gallons of oil-like materials (OLM) was removed during this event, including approximately 40 gallons of DNAPL measured in the vacuum truck and approximately 0.2 equivalent gallon of OLM (a calculated 2 pounds of hydrocarbons) contained in the offgas vapor. Hydrocarbon removal rates fluctuated in the range from 0.3 to 0.8 pound per hour.

Offgas concentrations ranged from 220 to 800 parts per million (PPM<sub>v</sub>) during this EFR<sup>®</sup> event. Flow rates ranged from 37 to 74 cubic feet per minute (CFM). In-well vacuums recorded at the extraction well are detailed in the EFR<sup>®</sup> Field Data Sheet and summarized below:

| <u>Extraction Well</u> | <u>Vacuum Reading</u> |
|------------------------|-----------------------|
| MW-111D                | 11 inches of mercury  |

The client collected drawdown measurements during the extraction process. Approximately 1,395 gallons of liquid, including 40 gallons of DNAPL, were removed during this event and transported to Aquaterra (Oxford, Georgia) for disposal.

Mr. Jim Morrison  
March 7, 2011  
Page 2

**Event No. 2 (February 17, 2011)**

DNAPL was not detected in the gauged monitor well prior to, or upon completion of, conducting this EFR<sup>®</sup> event. This EFR<sup>®</sup> event was performed for a duration of 7.25 hours at one extraction point, consisting of monitor well MW-101. DNAPL was not detected in the extraction well upon completion of this event.

A calculated total of 1.1 pound of hydrocarbons (approximately 0.1 equivalent gallon of OLM) were removed during this EFR<sup>®</sup> event. Hydrocarbon removal rates fluctuated in the range from 0.13 to 0.17 pound per hour.

Offgas concentrations ranged from 120 to 150 PPM<sub>v</sub> during this EFR<sup>®</sup> event. Flow rates ranged from 37 to 39 CFM. In-well vacuums recorded at the extraction well are detailed in the EFR<sup>®</sup> Field Data Sheet and summarized below:

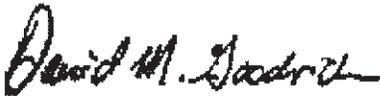
|                        |                       |
|------------------------|-----------------------|
| <u>Extraction Well</u> | <u>Vacuum Reading</u> |
| MW-101                 | 19 inches of mercury  |

The client collected drawdown measurements during the extraction process. Approximately 675 gallons of liquid were removed during this event and transported to Environmental Remedies (Atlanta, Georgia) for disposal. DNAPL was not detected in the vacuum truck tank upon completion of this event.

Thank you for the opportunity to team with ERM in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

EcoVac Services



David M. Goodrich, P.G.  
President

# EFR<sup>®</sup> FIELD DATA SHEET

| Client: ERM  |             |                                      | Facility Name: Former AGL MGP Site |                 |  |                  |          | Event #: 1    |                      |                        |               |                     |                      |
|--|-------------|--------------------------------------|------------------------------------|-----------------|--|------------------|----------|---------------|----------------------|------------------------|---------------|---------------------|----------------------|
| Facility Address: 137 Mullberry Street, Macon, GA  |             |                                      | Technician: Hanson                 |                 |  |                  |          | Date: 2/16/11 |                      |                        |               |                     |                      |
| Extraction Well(s)   | Time hh:mm  | Extraction Well-head Vacuum (in. Hg) |                                    |                 |  |                  |          |               | Vacuum Truck Exhaust |                        |               |                     |                      |
|  |             | Inlet                                | MW-111D                            |                 |  |                  |          |               | Concentration PPM    | Offgas Velocity FT/MIN | Flow Rate CFM | Removal Rate LBS/HR | Interval Removal LBS |
| Start Time:  | 7:15        |                                      |                                    |                 |  |                  |          |               |                      |                        |               |                     |                      |
| MW-111D  | 7:30        | 26                                   | 11                                 |                 |  |                  |          | 380           | 1,500                | 74                     | 0.8           | 0.2                 |                      |
| "  | 7:45        | 26                                   | 11                                 |                 |  |                  |          | 380           | 1,500                | 74                     | 0.8           | 0.2                 |                      |
| "  | 8:00        | 26                                   | 11                                 |                 |  |                  |          | 380           | 1,500                | 74                     | 0.8           | 0.2                 |                      |
| "  | 8:15        | 26                                   | 11                                 |                 |  |                  |          | 380           | 1,500                | 74                     | 0.8           | 0.2                 |                      |
| "  | 8:30        | 26                                   | 11                                 |                 |  |                  |          | 240           | 1,000                | 49                     | 0.3           | 0.1                 |                      |
| "  | 9:00        | 26                                   | 11                                 |                 |  |                  |          | 220           | 1,000                | 49                     | 0.3           | 0.2                 |                      |
| "  | 9:30        | 26                                   | 11                                 |                 |  |                  |          | 800           | 750                  | 37                     | 0.8           | 0.4                 |                      |
| "  | 10:00       | 26                                   | 11                                 |                 |  |                  |          | 600           | 750                  | 37                     | 0.6           | 0.3                 |                      |
| "  | 10:30       | 26                                   | 11                                 |                 |  |                  |          | 450           | 750                  | 37                     | 0.5           | 0.2                 |                      |
| "  | 11:00       | 26                                   | 11                                 |                 |  |                  |          | 400           | 750                  | 37                     | 0.4           | 0.2                 |                      |
| "  | 12:00       | 26                                   | 11                                 |                 |  |                  |          | 400           | 800                  | 39                     | 0.4           | 0.4                 |                      |
| "  | 13:00       | 26                                   | 11                                 |                 |  |                  |          | 380           | 750                  | 37                     | 0.4           | 0.4                 |                      |
| "  | 14:00       | 26                                   | 11                                 |                 |  |                  |          | 340           | 750                  | 37                     | 0.4           | 0.4                 |                      |
| 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"          | 46.3                                 | 45.55                              | 6.84            | 0.75   | 0.00             | 30.80    | 0.00          | -23.96               |                        |               |                     |                      |
| <b>Vacuum Truck Information</b>  |             | Well ID                              | Breather Port                      | Stinger Depth** | <b>Recovery/Disposal Information</b>   |                  |          |               |                      |                        |               |                     |                      |
| Subcontractor:   | AllVac      | MW-111D                              | 0 (closed)                         | 47 feet         | Hydrocarbons Removed (vapor): 3 pounds   |                  |          |               |                      |                        |               |                     |                      |
| Truck Operator:  | Hanson      |                                      |                                    |                 | Hydrocarbons Removed (liquid): 40 gallons  |                  |          |               |                      |                        |               |                     |                      |
| Truck No.:   | 149         |                                      |                                    |                 | Total Hydrocarbons Removed: 40.4 equiv. gal.                                     |                  |          |               |                      |                        |               |                     |                      |
| Vacuum Pumps:  | Becker      |                                      |                                    |                 | Molecular Weight Utilized: 180 g/mole  |                  |          |               |                      |                        |               |                     |                      |
| Pump Type:   | Twin LC-44s |                                      |                                    |                 | Disposal Facility: Aquaterra   |                  |          |               |                      |                        |               |                     |                      |
| Tank Capacity (gal.):  | 2,894       |                                      |                                    |                 | Manifest Number: 021611  |                  |          |               |                      |                        |               |                     |                      |
| Stack I.D. (inches)  | 3.0         |                                      |                                    |                 | Total Liquids Removed: 1,395 gallons   |                  |          |               |                      |                        |               |                     |                      |
| <br><a href="http://www.ecovacservices.com">www.ecovacservices.com</a><br>888-4ECOVAC |             | Time:                                | 7:15 to 14:00                      |                 | **08:20 - added 5 ft of stinger; 08:45 - added another 5 ft of stinger;          |                  |          |               |                      |                        |               |                     |                      |
|  |             | # Pumps:                             | 2                                  |                 | 09:30 - added an additional 5 ft of stingers                                     |                  |          |               |                      |                        |               |                     |                      |
|  |             | RPMs:                                | 1,000                              |                 |  |                  |          |               |                      |                        |               |                     |                      |
|  |             | Time:                                |                                    |                 |  |                  |          |               |                      |                        |               |                     |                      |
|  |             | # Pumps:                             |                                    |                 | Removed DP caps so client could guage wells every half hour - client took DP and |                  |          |               |                      |                        |               |                     |                      |
|  |             | RPMs:                                |                                    |                 | drawdown readings  |                  |          |               |                      |                        |               |                     |                      |
| Time:  |             |                                      |                                    |                 |  |                  |          |               |                      |                        |               |                     |                      |
| # Pumps:   |             |                                      |                                    |                 |  |                  |          |               |                      |                        |               |                     |                      |
| RPMs:  |             |                                      |                                    |                 |  |                  |          |               |                      |                        |               |                     |                      |

# EFR<sup>®</sup> FIELD DATA SHEET

| Client: ERM  |               | Facility Name: Former AGL MGP Site      |                               |               |               |  | Event #: 2 |                      |                              |                  |                           |                            |
|--|---------------|---|-------------------------------|---------------|---------------|--|------------|----------------------|------------------------------|------------------|---------------------------|----------------------------|
| Facility Address: 137 Mulberry Street, Macon, GA   |               |   | Technician: Hanson            |               |               | Date: 2/17/11  |            |                      |                              |                  |                           |                            |
| Extraction Well(s)   | Time<br>hh:mm | Extraction Well-head Vacuum<br>(in. Hg) |                               |               |               |  |            | Vacuum Truck Exhaust |                              |                  |                           |                            |
|  |               | Inlet                                   | MW-101                        |               |               |  |            | Concentration<br>PPM | Offgas<br>Velocity<br>FT/MIN | Flow Rate<br>CFM | Removal<br>Rate<br>LBS/HR | Interval<br>Removal<br>LBS |
| Start Time:  | 6:45          |   |                               |               |               |  |            |                      |                              |                  |                           |                            |
| MW-101   | 7:00          | 26                                      | 19                            |               |               |  |            | 150                  | 800                          | 39               | 0.17                      | 0.04                       |
| "  | 7:15          | 26                                      | 19                            |               |               |  |            | 140                  | 800                          | 39               | 0.16                      | 0.04                       |
| "  | 7:30          | 26                                      | 19                            |               |               |  |            | 140                  | 800                          | 39               | 0.16                      | 0.04                       |
| "  | 7:45          | 26                                      | 19                            |               |               |  |            | 150                  | 800                          | 39               | 0.17                      | 0.04                       |
| "  | 8:00          | 26                                      | 19                            |               |               |  |            | 140                  | 800                          | 39               | 0.16                      | 0.04                       |
| "  | 8:15          | 26                                      | 19                            |               |               |  |            | 140                  | 800                          | 39               | 0.16                      | 0.04                       |
| "  | 8:30          | 29                                      | 19                            |               |               |  |            | 140                  | 800                          | 39               | 0.16                      | 0.04                       |
| "  | 9:00          | 29                                      | 19                            |               |               |  |            | 120                  | 800                          | 39               | 0.13                      | 0.07                       |
| "  | 9:30          | 29                                      | 19                            |               |               |  |            | 140                  | 800                          | 39               | 0.16                      | 0.08                       |
| "  | 10:00         | 29                                      | 19                            |               |               |  |            | 120                  | 800                          | 39               | 0.13                      | 0.07                       |
| "  | 10:30         | 29                                      | 19                            |               |               |  |            | 120                  | 800                          | 39               | 0.13                      | 0.07                       |
| "  | 11:00         | 29                                      | 19                            |               |               |  |            | 140                  | 800                          | 39               | 0.16                      | 0.08                       |
| "  | 12:00         | 29                                      | 19                            |               |               |  |            | 140                  | 750                          | 37               | 0.15                      | 0.15                       |
| "  | 13:00         | 29                                      | 19                            |               |               |  |            | 140                  | 750                          | 37               | 0.15                      | 0.15                       |
| "  | 14:00         | 29                                      | 19                            |               |               |  |            | 120                  | 750                          | 37               | 0.13                      | 0.13                       |
| Well Gauging Data:   |               |   | Before EFR <sup>®</sup> Event |               |               | After EFR <sup>®</sup> Event   |            |                      | Corr. DTW<br>Change (ft)     |                  |                           |                            |
| Well No.   | Diam.         | TD (ft)                                 | DTN (ft)                      | DTW (ft)      | NAPL (ft)     | DTN (ft)   | DTW (ft)   | NAPL (ft)            |                              |                  |                           |                            |
| MW-101   | 2"            | 19.4                                    | -                             | 11.36         | 0.00          | -  | 15.12      | 0.00                 | -3.76                        |                  |                           |                            |
| <b>Vacuum Truck Information</b>  |               |   | Well ID                       | Breather Port | Stinger Depth | <b>Recovery/Disposal Information</b>   |            |                      |                              |                  |                           |                            |
| Subcontractor:   | AllVac        |   | MW-101                        | 0 (closed)    | 12 feet       | Hydrocarbons Removed (vapor):  |            | 1.1                  | pounds                       |                  |                           |                            |
| Truck Operator:  | Hanson        |   |                               |               |               | Hydrocarbons Removed (liquid):   |            | 0                    | gallons                      |                  |                           |                            |
| Truck No.:   | 149           |   |                               |               |               | Total Hydrocarbons Removed:  |            | 0.1                  | equiv. gal.                  |                  |                           |                            |
| Vacuum Pumps:  | Becker        |   |                               |               |               | Molecular Weight Utilized:   |            | 180                  | g/mole                       |                  |                           |                            |
| Pump Type:   | Twin LC-44s   |   |                               |               |               | Disposal Facility:   |            | ERL                  |                              |                  |                           |                            |
| Tank Capacity (gal.):  | 2,894         |   |                               |               |               | Manifest Number:   |            | 021711               |                              |                  |                           |                            |
| Stack I.D. (inches)  | 3.0           |   |                               |               |               | Total Liquids Removed:   |            | 675                  | gallons                      |                  |                           |                            |
| <br><br><a href="http://www.ecovacservices.com">www.ecovacservices.com</a><br>888-4ECOVAC |               |   | Time:                         | 6:45 to 14:00 |               | Removed DP caps so client could guage wells every half hour - client took DP and drawdown readings |            |                      |                              |                  |                           |                            |
|  |               |   | # Pumps:                      | 2             |               |  |            |                      |                              |                  |                           |                            |
|  |               |   | RPMs:                         | 1,000         |               |  |            |                      |                              |                  |                           |                            |
|  |               |   | Time:                         |               |               |  |            |                      |                              |                  |                           |                            |
|  |               |   | # Pumps:                      |               |               |  |            |                      |                              |                  |                           |                            |
|  |               |   | RPMs:                         |               |               |  |            |                      |                              |                  |                           |                            |
| Time:  |               |   |                               |               |               |  |            |                      |                              |                  |                           |                            |
| # Pumps:   |               |   |                               |               |               |  |            |                      |                              |                  |                           |                            |
| RPMs:  |               |   |                               |               |               |  |            |                      |                              |                  |                           |                            |

NON-HAZARDOUS WASTE MANIFEST 1. Generator ID Number 2. Page 1 of 1 3. Emergency Response Phone 4. Waste Tracking Number 021611

5. Generator's Name and Mailing Address: **AG LLC**  
**137 Mulberry St, Macon, GA**  
 Generator's State Address (if different than mailing address)

6. Transporter 1 Company Name: **Allvac Services** U.S. EPA ID Number

7. Transporter 2 Company Name U.S. EPA ID Number

8. Designated Facility Name and Site Address: **Aqua-Terra**  
**760 more st**  
**Oxford, GA**  
 Facility's Phone: **770-823-2382** U.S. EPA ID Number

| 9. Waste Shipping Name and Description       | 10. Containers |           | 11. Total Quantity | 12. Unit Wt./Vol. |
|--|----------------|-----------|--------------------|-------------------|
|  | No.            | Type      |                    |                   |
| 1. <b>Non-Haz Non-Regulated Ground Water</b> | <b>1</b>       | <b>TT</b> | <b>1395</b>        | <b>G</b>          |
| 2.   |                |           |                    |                   |
| 3.   |                |           |                    |                   |
| 4.   |                |           |                    |                   |

13. Special Handling Instructions and Additional Information

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.  
 Generator's/Officer's Printed/Typed Name: **Joe Tan** Signature: *Joe Tan* Month: **02** Day: **16** Year: **2011**

15. International Shipments  Import to U.S.  Export from U.S. Port of entry/exit: Date Issued U.S.:

16. Transporter Acknowledgment of Receipt of Materials  
 Transporter Signature (for exports only): Date Issued U.S.:

Transporter 1 Printed/Typed Name: **Joe Hanson** Signature: *Joe Hanson* Month: **2** Day: **16** Year: **11**  
 Transporter 2 Printed/Typed Name: Signature: Month: Day: Year:

17. Discrepancy  
 17a. Discrepancy Indication Space  Quantity  Type  Residue  Partial Rejection  Full Rejection  
 Manifest Reference Number: U.S. EPA ID Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number  
 Facility's Phone:  
 17c. Signature of Alternate Facility (or Generator) Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a  
 Printed/Typed Name: **JAMES NEAL** Signature: *James Neal* Month: **02** Day: **16** Year: **11**

UW156974

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of

3. Emergency Response Phone

4. Waste Tracking Number

021711

5. Generator's Name and Mailing Address

Former AGI  
137 Mulberry St  
Macon, GA

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name

Allvac Service

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

Eri  
460 Sam Hill Ave  
Atlanta, GA  
Facility's Phone: 1-800-399-2783

U.S. EPA ID Number

| 9. Waste Shipping Name and Description       | 10. Containers |                  | 11. Total Quantity | 12. Unit (M/A/Vol) |         |   |
|--|----------------|------------------|--------------------|--------------------|---------|---|
|  | No.            | Type             |                    |                    |         |   |
| 1. Non-Hazardous Non-Regulated Foundamentals | 50#            | 5301-20002/20006 | -1-                | TT                 | 675 GAL | * |
| 2.   |                |                  |                    |                    |         |   |
| 3.   |                |                  |                    |                    |         |   |
| 4.   |                |                  |                    |                    |         |   |

8,38

13. Special Handling Instructions and Additional Information

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Owner's Printed/Typed Name

Joe Tam

Signature

Joe Tam

Month Day Year

12 17 2011

15. International Shipments

Import to U.S.

Export from U.S.

Port of entry/exit:

Date leaving U.S.:

Transporter Signature (for exports only):

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

Joe Hanson

Signature

Joe Hanson

Month Day Year

02 17 11

Transporter 2 Printed/Typed Name

Signature

Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

Full Rejection

1000 Gallons Required

Manifest Reference Number

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name

ER

Signature

Ricardo Cornelius

Month Day Year

12 17 11

GENERATOR

TRANSPORTER

DESIGNATED FACILITY

# **ECOVAC SERVICES**

*The World Leader in Mobile Dual-Phase/Multi-Phase Extraction and  
Patented SURFAC<sup>®</sup>/ISCO-EFR<sup>®</sup>/COSOLV<sup>®</sup> Technologies  
Treatability Studies / Research & Development*

October 3, 2013

Mr. Jim Morrison  
Environmental Resources Management, Inc.  
3350 Peachtree Road, Suite 1120  
Atlanta, Georgia 30326

**Subject: Enhanced Fluid Recovery (EFR<sup>®</sup>) Results  
Events No. 3 and 4  
Former AGL MGP Site  
137 Mulberry Street  
Macon, Georgia**

Dear Mr. Morrison:

Please find attached the data summary for the two EFR<sup>®</sup> events conducted at the subject site on September 23, 2013 (Event No. 3) and September 24, 2013 (Event No. 4). Two previous EFR<sup>®</sup> events have been conducted at the subject site on February 16 and 17, 2011. The following summarizes the results of these EFR<sup>®</sup> events.

## **SUMMARY OF RESULTS**

### **Event No. 3 (September 22, 2013)**

Dense non-aqueous phase liquids (DNAPL) were detected in one of the gauged monitor wells (MW-111D – 0.96 feet) prior to conducting this EFR<sup>®</sup> event. This EFR<sup>®</sup> event was conducted for 5.5 hours at one extraction point, consisting of monitor well MW-111D. DNAPL was not detected in the extraction well upon completion of this event.

An estimated total of 1.6 pounds of hydrocarbons was removed during this event, including approximately 0.2 equivalent gallon of oil-like materials (OLM). Hydrocarbon removal rates ranged from 0.2 to 0.4 pound per hour.

Offgas concentrations ranged from 200 to 400 parts per million (PPM<sub>v</sub>) during this EFR<sup>®</sup> event. Flow rates ranged from 29 to 34 cubic feet per minute (CFM). In-well vacuums recorded at the extraction well are detailed in the EFR<sup>®</sup> Field Data Sheet and summarized below:

Extraction Well  
MW-111D

In-Well Vacuum  
1 to 2 inches of mercury

The client collected drawdown measurements during the extraction process. Approximately 899 gallons of liquid were removed during this event and transported to Environmental Remedies (Atlanta, Georgia) for disposal. DNAPL was not detected in the vacuum truck tank upon completion of this event.

*105 Weatherstone Drive, Suite 610 – Woodstock, Georgia 30188  
(770) 592-1001 - Fax (770) 592-1801  
[www.ecovacservices.com](http://www.ecovacservices.com)*

Mr. Jim Morrison  
October 3, 2013  
Page 2

**Event No. 4 (September 24, 2013)**

DNAPL were not detected in MW-302D prior to, or upon completion of, conducting this EFR<sup>®</sup> event. This EFR<sup>®</sup> event was conducted for seven hours at one extraction point, consisting of monitor well MW-302D.

An estimated total of 0.7 pound of hydrocarbons was removed during this event, including approximately 0.1 equivalent gallon of OLM. Hydrocarbon removal rates ranged from 0.2 to 0.4 pound per hour.

Offgas concentrations ranged from 40 to 100 PPM<sub>v</sub> during this EFR<sup>®</sup> event. Flow rates remained at 59 CFM. In-well vacuums recorded at the extraction well are detailed in the EFR<sup>®</sup> Field Data Sheet and summarized below:

Extraction Well  
MW-302D

In-Well Vacuum  
18 inches of mercury

The client collected drawdown measurements during the extraction process. Approximately 55 gallons of liquid were removed during this event and transported to Environmental Remedies (Atlanta, Georgia) for disposal. DNAPL was not detected in the vacuum truck tank upon completion of this event.

Thank you for the opportunity to team with ERM in serving the environmental needs of your clients. We look forward to working with you again in the future to provide innovative and cost effective environmental solutions at this and other sites.

Sincerely,

EcoVac Services



David M. Goodrich, P.G.  
President

# EFR<sup>®</sup> FIELD DATA SHEET

| Client: ERM  |               |   | Facility Name: Former AGL MGP Site |                |               |  |          | Event #: 3           |                              |                  |                           |                            |
|--|---------------|---|------------------------------------|----------------|---------------|--|----------|----------------------|------------------------------|------------------|---------------------------|----------------------------|
| Facility Address: 137 Mulberry Street, Macon, GA   |               |   |                                    |                |               | Technician: Vitovic  |          |                      | Date: 9/23/13                |                  |                           |                            |
| Extraction Well(s)   | Time<br>hh:mm | Extraction Well-head Vacuum<br>(in. Hg) |                                    |                |               |  |          | Vacuum Truck Exhaust |                              |                  |                           |                            |
|  |               | Inlet                                   | MW-111D                            |                |               |  |          | Concentration<br>PPM | Offgas<br>Velocity<br>FT/MIN | Flow Rate<br>CFM | Removal<br>Rate<br>LBS/HR | Interval<br>Removal<br>LBS |
| Start Time:  | 10:30         |   |                                    |                |               |  |          |                      |                              |                  |                           |                            |
| MW-111D  | 10:45         | 27                                      | 1                                  |                |               |  |          | 300                  | 600                          | 29               | 0.3                       | 0.1                        |
| "  | 11:00         | 27                                      | 1                                  |                |               |  |          | 260                  | 600                          | 29               | 0.2                       | 0.1                        |
| "  | 11:15         | 27                                      | 1                                  |                |               |  |          | 260                  | 600                          | 29               | 0.2                       | 0.1                        |
| "  | 11:30         | 27                                      | 1                                  |                |               |  |          | 240                  | 600                          | 29               | 0.2                       | 0.1                        |
| "  | 12:00         | 27                                      | 2                                  |                |               |  |          | 300                  | 700                          | 34               | 0.3                       | 0.1                        |
| "  | 12:30         | 27                                      | 2                                  |                |               |  |          | 380                  | 700                          | 34               | 0.4                       | 0.2                        |
| "  | 13:00         | 27                                      | 2                                  |                |               |  |          | 400                  | 700                          | 34               | 0.4                       | 0.2                        |
| "  | 13:30         | 27                                      | 2                                  |                |               |  |          | 360                  | 700                          | 34               | 0.4                       | 0.2                        |
| "  | 14:30         | 27                                      | 2                                  |                |               |  |          | 320                  | 700                          | 34               | 0.3                       | 0.3                        |
| "  | 15:30         | 27                                      | 2                                  |                |               |  |          | 240                  | 700                          | 34               | 0.2                       | 0.2                        |
| "  | 16:00         | 27                                      | 2                                  |                |               |  |          | 200                  | 700                          | 34               | 0.2                       | 0.1                        |
| Well Gauging Data:   |               |   | Before EFR <sup>®</sup> Event      |                |               | After EFR <sup>®</sup> Event   |          |                      | Corr. DTW<br>Change (ft)     |                  |                           |                            |
| Well No.   | Diam.         | TD (ft)                                 | DTN (ft)                           | DTW (ft)       | NAPL (ft)     | DTN (ft)   | DTW (ft) | NAPL (ft)            |                              |                  |                           |                            |
| MW-14  | 2"            |   | -                                  | 4.62           | -             | -  | -        | 0.00                 | -                            |                  |                           |                            |
| MW-14I   | 2"            |   | -                                  | 6.74           | -             | -  | -        | 0.00                 | -                            |                  |                           |                            |
| MW-205D  | 4"            |   | -                                  | 6.84           | -             | -  | -        | 0.00                 | -                            |                  |                           |                            |
| MW-111D  | 6"            | 46.3                                    | 45.34                              | 7.04           | 0.96          | -  | 27.15    | 0.00                 | -20.11                       |                  |                           |                            |
| MW-206D  | 4"            |   | -                                  | 6.86           | -             | -  | -        | 0.00                 | -                            |                  |                           |                            |
| MW-200DE   | 2"            |   | -                                  | 5.90           | -             | -  | -        | 0.00                 | -                            |                  |                           |                            |
| Vacuum Truck Information   |               |   | Well ID                            | Breather Port  | Stinger Depth | Recovery/Disposal Information  |          |                      |                              |                  |                           |                            |
| Subcontractor:   | AllVac        |   | MW-111D                            | 0 (closed)     | 47 feet       | Hydrocarbons Removed (vapor):  | 1.6      | pounds               |                              |                  |                           |                            |
| Truck Operator:  | Vitovic       |   |                                    |                |               | Hydrocarbons Removed (liquid):                                       | 0        | gallons              |                              |                  |                           |                            |
| Truck No.:   | 152           |   |                                    |                |               | Total Hydrocarbons Removed:  | 0.2      | equiv. gal.          |                              |                  |                           |                            |
| Vacuum Pumps:  | Becker        |   |                                    |                |               | Molecular Weight Utilized:   | 180      | g/mole               |                              |                  |                           |                            |
| Pump Type:   | Twin LC-44s   |   |                                    |                |               | Disposal Facility:   | ERL      |                      |                              |                  |                           |                            |
| Tank Capacity (gal.):  | 2,894         |   |                                    |                |               | Manifest Number:   | 156525   |                      |                              |                  |                           |                            |
| Stack I.D. (inches)  | 3.0           |   |                                    |                |               | Total Liquids Removed:   | 899      | gallons              |                              |                  |                           |                            |
| <br><a href="http://www.ecovacservices.com">www.ecovacservices.com</a><br>888-4ECOVAC |               |   | Time:                              | 10:30 to 16:00 |               |  |          |                      |                              |                  |                           |                            |
|  |               |   | # Pumps:                           | 2              |               |  |          |                      |                              |                  |                           |                            |
|  |               |   | RPMs:                              | 900            |               | Client took groundwater drawdown readings throughout the event.      |          |                      |                              |                  |                           |                            |
|  |               |   | Time:                              |                |               |  |          |                      |                              |                  |                           |                            |
|  |               |   | # Pumps:                           |                |               |  |          |                      |                              |                  |                           |                            |
|  |               |   | RPMs:                              |                |               | Terminated event after 5.5 hours in order to arrive at ERL by 17:30. |          |                      |                              |                  |                           |                            |
| Time:  |               |   |                                    |                |               |  |          |                      |                              |                  |                           |                            |
| # Pumps:   |               |   |                                    |                |               |  |          |                      |                              |                  |                           |                            |
| RPMs:  |               |   |                                    |                |               |  |          |                      |                              |                  |                           |                            |

# EFR<sup>®</sup> FIELD DATA SHEET

| Client: ERM   |             |                                      | Facility Name: Former AGL MGP Site  |                      |   |                                      | Event #: 4    |           |                  |                      |                        |               |                     |                      |
|---|-------------|--------------------------------------|-------------------------------------|----------------------|---|--------------------------------------|---------------|-----------|------------------|----------------------|------------------------|---------------|---------------------|----------------------|
| Facility Address: 137 Mulberry Street, Macon, GA  |             |                                      | Technician: Vitovic                 |                      |   |                                      | Date: 9/24/13 |           |                  |                      |                        |               |                     |                      |
| Extraction Well(s)  | Time hh:mm  | Extraction Well-head Vacuum (in. Hg) |                                     |                      |   |                                      |               |           |                  | Vacuum Truck Exhaust |                        |               |                     |                      |
|   |             | Inlet                                | MW-302D                             |                      |   |                                      |               |           |                  | Concentration PPM    | Offgas Velocity FT/MIN | Flow Rate CFM | Removal Rate LBS/HR | Interval Removal LBS |
| Start Time:   | 8:00        |                                      |                                     |                      |   |                                      |               |           |                  |                      |                        |               |                     |                      |
| MW-302D   | 8:15        | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 100                  | 1,200                  | 59            | 0.2                 | 0.04                 |
| "   | 8:30        | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 100                  | 1,200                  | 59            | 0.2                 | 0.04                 |
| "   | 8:45        | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 80                   | 1,200                  | 59            | 0.1                 | 0.03                 |
| "   | 9:00        | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 80                   | 1,200                  | 59            | 0.1                 | 0.03                 |
| "   | 9:30        | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 80                   | 1,200                  | 59            | 0.1                 | 0.1                  |
| "   | 10:00       | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 60                   | 1,200                  | 59            | 0.1                 | 0.1                  |
| "   | 10:30       | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 60                   | 1,200                  | 59            | 0.1                 | 0.1                  |
| "   | 11:00       | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 60                   | 1,200                  | 59            | 0.1                 | 0.1                  |
| "   | 12:00       | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 60                   | 1,200                  | 59            | 0.1                 | 0.1                  |
| "   | 13:00       | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 40                   | 1,200                  | 59            | 0.1                 | 0.1                  |
| "   | 14:00       | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 40                   | 1,200                  | 59            | 0.1                 | 0.1                  |
| "   | 15:00       | 26                                   | 18                                  |                      |   |                                      |               |           |                  | 60                   | 1,200                  | 59            | 0.1                 | 0.1                  |
| <b>Well Gauging Data:</b>   |             |                                      | <b>Before EFR<sup>®</sup> Event</b> |                      |   | <b>After EFR<sup>®</sup> Event</b>   |               |           | <b>Corr. DTW</b> |                      |                        |               |                     |                      |
| Well No.  | Diam.       | TD (ft)                              | DTN (ft)                            | DTW (ft)             | NAPL (ft)   | DTN (ft)                             | DTW (ft)      | NAPL (ft) | Change (ft)      |                      |                        |               |                     |                      |
| MW-302D   | 6"          | 47.35                                | -                                   | 13.39                | 0.00  | -                                    | 46.50         | 0.00      | -33.11           |                      |                        |               |                     |                      |
| <b>Vacuum Truck Information</b>   |             |                                      | <b>Well ID</b>                      | <b>Breather Port</b> | <b>Stinger Depth</b>  | <b>Recovery/Disposal Information</b> |               |           |                  |                      |                        |               |                     |                      |
| Subcontractor:  | AllVac      |                                      | MW-302D                             | 0 (closed)           | 47 feet   | Hydrocarbons Removed (vapor):        |               | 0.7       | pounds           |                      |                        |               |                     |                      |
| Truck Operator:   | Vitovic     |                                      |                                     |                      |   | Hydrocarbons Removed (liquid):       |               | 0         | gallons          |                      |                        |               |                     |                      |
| Truck No.:  | 152         |                                      |                                     |                      |   | Total Hydrocarbons Removed:          |               | 0.1       | equiv. gal.      |                      |                        |               |                     |                      |
| Vacuum Pumps:   | Becker      |                                      |                                     |                      |   | Molecular Weight Utilized:           |               | 180       | g/mole           |                      |                        |               |                     |                      |
| Pump Type:  | Twin LC-44s |                                      |                                     |                      |   | Disposal Facility:                   |               | ERL       |                  |                      |                        |               |                     |                      |
| Tank Capacity (gal.):   | 2,894       |                                      |                                     |                      |   | Manifest Number:                     |               | 156526    |                  |                      |                        |               |                     |                      |
| Stack I.D. (inches)   | 3.0         |                                      |                                     |                      |   | Total Liquids Removed:               |               | 55        | gallons          |                      |                        |               |                     |                      |
|  <p style="text-align: center; color: green;">www.ecovacservices.com<br/>888-4ECOVAC</p> |             |                                      | Time:                               | 8:00 to 15:00        | Notes:  |                                      |               |           |                  |                      |                        |               |                     |                      |
|   |             |                                      | # Pumps:                            | 2                    |   |                                      |               |           |                  |                      |                        |               |                     |                      |
|   |             |                                      | RPMs:                               | 900                  | Client took groundwater drawdown readings throughout the event. |                                      |               |           |                  |                      |                        |               |                     |                      |
|   |             |                                      | Time:                               |                      | Terminated event after 7 hours in order to assist client.       |                                      |               |           |                  |                      |                        |               |                     |                      |
|   |             |                                      | # Pumps:                            |                      |   |                                      |               |           |                  |                      |                        |               |                     |                      |
|   |             |                                      | RPMs:                               |                      |   |                                      |               |           |                  |                      |                        |               |                     |                      |
| Time:   |             |                                      |                                     |                      |   |                                      |               |           |                  |                      |                        |               |                     |                      |
| # Pumps:  |             |                                      |                                     |                      |   |                                      |               |           |                  |                      |                        |               |                     |                      |
| RPMs:   |             |                                      |                                     |                      |   |                                      |               |           |                  |                      |                        |               |                     |                      |



NON-HAZARDOUS WASTE MANIFEST / CERTIFICATE OF DISPOSAL

156526

Work Order # ww176489

GENERATOR INFORMATION:

Name Former AGL MGP Contact \_\_\_\_\_  
Address 137 Mulberry ST. Contact Phone \_\_\_\_\_  
City, State Macon, GA. Zip \_\_\_\_\_ County \_\_\_\_\_

TRANSPORTER INFORMATION:

Transporter EcoVoc Services  
Address 105 Weatherstone Drive  
City, State Woodstock, GA 30180  
Contact Name Nick Athens  
Contact Phone 770-592-1001

DESIGNATED FACILITY:

Facility Name Environmental Remedies, LLC  
Address 460 Sawtell Avenue, SE  
City, State Atlanta, GA Zip 30315  
Emergency Contact Paul Powers  
Emergency Phone 800-399-2783 x 304

1st Trip Departure \_\_\_\_\_ 2nd Trip Departure \_\_\_\_\_  
Arrival \_\_\_\_\_ Arrival \_\_\_\_\_  
Start \_\_\_\_\_ Start \_\_\_\_\_  
Departure \_\_\_\_\_ Departure \_\_\_\_\_  
Arrival \_\_\_\_\_ Arrival \_\_\_\_\_

| DO NOT WRITE IN THIS SECTION |                |    |
|------------------------------|----------------|----|
| Date :                       | 09/24/13 17:08 |    |
| Ticket :                     | 53462          |    |
| Gross                        | 33900          | lb |
| Tare                         | 33440          | lb |
| Net                          | 460            | lb |

Comments (Driver / Customer):

| Waste Description / DOT Shipping Name /       | Profile Number      | Quantity  | Units           |
|---|---------------------|-----------|-----------------|
| <u>NON-HAZ Petroleum Impacted Groundwater</u> |                     | <u>55</u> | <u>Gallons*</u> |
|   | <u>S. J. # 5301</u> |           |                 |
| <u>8.34 #/gal</u>                             |                     |           |                 |

Discrepancy Section:

\* 1000 Gallon 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)

Charlie Brooks

Signature

[Signature]

Date

9-24-13

Transporter Certification: I hereby acknowledge the receipt of the above listed waste(s) and agree to transport to the designated facility unless directed to do so by the generator.

TRANSPORTER (Print or Type)

EcoVoc Services

Signature

[Signature]

Date

24 Sep 13

Receiving Facility Certification: The above waste (s) were received by this facility, and will be processed, disposed of, or recycled in accordance with applicable regulations.

FACILITY (Print or Type)

Environmental Remedies, LLC

Signature

[Signature]

Date

9-24-13



# NON-HAZARDOUS WASTE MANIFEST / CERTIFICATE OF DISPOSAL

156525

Work Order #

WW176466

### GENERATOR INFORMATION:

Name Fosney AGC MGP Contact \_\_\_\_\_  
 Address 137 Mulberry ST. Contact Phone \_\_\_\_\_  
 City, State MACON, GA. Zip \_\_\_\_\_ County \_\_\_\_\_

### TRANSPORTER INFORMATION:

Transporter Ecovac Services  
 Address 105 Weatherstone Drive  
 City, State Woodstock, GA 30180  
 Contact Name Nick Athens  
 Contact Phone 770-592-1001

### DESIGNATED FACILITY:

Facility Name Environmental Remedies, LLC  
 Address 460 Sawtell Avenue, SE  
 City, State Atlanta, GA Zip 30315  
 Emergency Contact Paul Powers  
 Emergency Phone 800-399-2783 x 304

1st Trip Departure \_\_\_\_\_ 2nd Trip Departure \_\_\_\_\_  
 Arrival \_\_\_\_\_ Arrival \_\_\_\_\_  
 Start \_\_\_\_\_ Start \_\_\_\_\_  
 Departure \_\_\_\_\_ Departure \_\_\_\_\_  
 Arrival \_\_\_\_\_ Arrival \_\_\_\_\_

**DO NOT WRITE IN THIS SECTION**

Date : 09/23/13 16:37  
 Ticket : 53444

|          |       |    |
|----------|-------|----|
| Gross wt | 40740 | lb |
| Tare     | 33240 | lb |
| Net      | 7500  | lb |

Comments (Driver / Customer):

| Waste Description / DOT Shipping Name / Profile Number | Quantity | Units   |
|--|----------|---------|
| NON-HAZ Petroleum Impacted Groundwater<br>S.O.# 5301   | 899      | Gals. * |
| \$38 #/gal   |          |         |

**Discrepancy Section:**  
 \* GALLONS BY WEIGHT 895 \* \* 1000 GALLON 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) Charlie Brooks Signature \_\_\_\_\_ Date 23-9-13

Transporter Certification: I hereby acknowledge the receipt of the above listed waste(s) and agree to transport to the designated facility unless directed to do so by the generator.

TRANSPORTER (Print or Type) Ecovac Services Signature \_\_\_\_\_ Date 23 Sept 13

Receiving Facility Certification: The above waste (s) were received by this facility, and will be processed, disposed of, or recycled in accordance with applicable regulations.

FACILITY (Print or Type) Environmental Remedies, LLC Signature \_\_\_\_\_ Date 9/23/13

**Laboratory Analytical Reports**  
*Appendix F*  
*(CD ONLY)*

*Project No. 0176740*  
*Atlanta Gas Light Company*

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



February 25, 2014

Jim Morrison  
ERM-Southeast  
3200 Windy Hill Rd  
Atlanta GA 30339

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

RE: AGLC Macon

Dear Jim Morrison:

Order No: 1402C76

Analytical Environmental Services, Inc. received 5 samples on 2/18/2014 12:00:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

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

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

Mirzeta Kararic  
Project Manager



# 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: 1702670

Date: 2-18-14 Page 1 of 1

| #  | SAMPLE ID              | DATE    | TIME | Grab | Composite | Matrix (See codes) | ANALYSIS REQUESTED |             |              |               |                       |          | REMARKS | No # of Containers |         |
|----|------------------------|---------|------|------|-----------|--------------------|--------------------|-------------|--------------|---------------|-----------------------|----------|---------|--------------------|---------|
|    |                        |         |      |      |           |                    | 82608-TLVCs        | 82700-TLVCs | 6900-Tor# Hg | TOTAL Cyanide | 6 Cyanides of Arsenic | ION SCOR |         |                    | Sulfate |
| 1  | T0-01-20140217-01      | 2-17-14 |      | X    |           | W                  | X                  | X           | X            | X             | X                     |          |         |                    |         |
| 2  | MW-113D-20140217-01    | 2-17-14 | 1330 | X    |           | GW                 | X                  | X           | X            | X             | X                     |          |         |                    |         |
| 3  | MW-113DMS-20140217-01  | 2-17-14 | 1330 | X    |           | GW                 | X                  | X           | X            | X             | X                     |          |         |                    |         |
| 4  | MW-113DMSD-20140217-01 | 2-17-14 | 1330 | X    |           | GW                 | X                  | X           | X            | X             | X                     |          |         |                    |         |
| 5  | MW-112D-20140217-01    | 2-17-14 | 1440 | X    |           | GW                 | X                  | X           | X            | X             | X                     |          |         |                    |         |
| 6  | MW-25D-20140217-01     | 2-17-14 | 1525 | X    |           | GW                 | X                  | X           | X            | X             | X                     |          |         |                    |         |
| 7  | MW-25DMS-20140217-01   | 2-17-14 | 1525 | X    |           | GW                 | X                  | X           | X            | X             | X                     |          |         |                    |         |
| 8  | MW-25MSD-20140217-01   | 2-17-14 | 1525 | X    |           | GW                 | X                  | X           | X            | X             | X                     |          |         |                    |         |
| 9  | MW-108D-20140217-01    | 2-17-14 | 1630 | X    |           | GW                 | X                  | X           | X            | X             | X                     |          |         |                    |         |
| 10 |                        |         |      |      |           |                    |                    |             |              |               |                       |          |         |                    |         |
| 11 |                        |         |      |      |           |                    |                    |             |              |               |                       |          |         |                    |         |
| 12 |                        |         |      |      |           |                    |                    |             |              |               |                       |          |         |                    |         |
| 13 |                        |         |      |      |           |                    |                    |             |              |               |                       |          |         |                    |         |
| 14 |                        |         |      |      |           |                    |                    |             |              |               |                       |          |         |                    |         |

COMPANY: **ERM**

ADDRESS: 3200 Winway Hill Rd SE 5th Floor Atlanta GA 30339

PHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

SAMPLED BY: *Don Downing / Ryan McMillan*

SIGNATURE: *Don Downing*

PROJECT NAME: **AGLL Macon**

PROJECT #: **0230719**

SITE ADDRESS: **137 Malberg Street, Macon, GA**

SEND REPORT TO: **Jim Morrison**

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: \_\_\_\_\_ PO#: \_\_\_\_\_

STATE PROGRAM (if any): \_\_\_\_\_

E-mail? Y/N: \_\_\_\_\_ Fax? Y/N: \_\_\_\_\_

DATA PACKAGE: I II III IV

Visit our website [www.aesatlanta.com](http://www.aesatlanta.com) to check on the status of your results, place bottle orders, etc.

RECEIPT

Total # of Containers: **90**

Turnaround Time Request: **000000**

Standard 5 Business Days

2 Business Day Rush

Next Business Day Rush

Same Day Rush (auth req.)

Other: \_\_\_\_\_

SPECIAL INSTRUCTIONS/COMMENTS: *17 Microsclps from 250C amber from primary samples. All same primary concentration.*

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.

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

SHIPMENT METHOD: OUT / / VIA: \_\_\_\_\_ IN / / VIA: \_\_\_\_\_ CLIENT FedEx UPS MAIL OTHER: **OURER** GREYHOUND OTHER: \_\_\_\_\_

White Copy - Original, Yellow Copy - Client

**Client:** ERM-Southeast  
**Project:** AGLC Macon  
**Lab ID:** 1402C76

**Case Narrative**

Sample Receiving Nonconformance:

Hexavalent Chromium was listed on the COC. Samples were analyzed for Ferrous Iron per project history and Nic Vrey was notified via phone on 2/18/14.

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> TB-01-20140217-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/17/2014          |
| <b>Lab ID:</b> 1402C76-001      | <b>Matrix:</b> Aqueous                     |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b> |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 16:33 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 16:33 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 16:33 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 16:33 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 16:33 | NP      |
| Surr: 4-Bromofluorobenzene                                   | 81.3   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 16:33 | NP      |
| Surr: Dibromofluoromethane                                   | 84.6   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 16:33 | NP      |
| Surr: Toluene-d8   | 78.4   | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 16:33 | NP      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402C76-002

Client Sample ID: MW-113D-20140217-01  
 Collection Date: 2/17/2014 1:30:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 12:45 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 12:45 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 12:45 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 12:45 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 12:45 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 97.6   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 12:45 | NP      |
| Surr: Dibromofluoromethane                                     | 88.2   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 12:45 | NP      |
| Surr: Toluene-d8   | 79     | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 12:45 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 18:22 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/19/2014 18:22 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 18:22 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 18:22 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/19/2014 18:22 | YH      |
| Surr: 4-Terphenyl-d14  | 111    | 53.2-145        |      | %REC  | 187215  | 1               | 02/19/2014 18:22 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 164    | 51.5-124        | S    | %REC  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Surr: 2-Fluorobiphenyl   | 151    | 51.7-118        | S    | %REC  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Surr: 2-Fluorophenol   | 97.8   | 26-120          |      | %REC  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Surr: 4-Terphenyl-d14  | 163    | 45.2-137        | S    | %REC  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| Surr: Nitrobenzene-d5  | 145    | 42-120          | S    | %REC  | 187164  | 1               | 02/19/2014 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: 26-Feb-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-113D-20140217-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/17/2014 1:30:00 PM |
| <b>Lab ID:</b> 1402C76-002      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 75.9   | 12.3-120        |                  | %REC  | 187164  | 1               | 02/19/2014 15:34 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187225  | 1               | 02/19/2014 13:28 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261580 | 1               | 02/18/2014 13:30 | GR      |
| Sulfate   | 46     | 5.0             |                  | mg/L  | R261580 | 5               | 02/18/2014 13:52 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 25     | 4               |                  | ug/L  | 187283  | 1               | 02/20/2014 12:35 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261802 | 1               | 02/18/2014 13:20 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187216  | 1               | 02/18/2014 11:35 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Barium  | 0.0727 | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Iron  | BRL    | 0.100           |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 18:53 | 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402C76-003

Client Sample ID: 112D-20140217-01  
 Collection Date: 2/17/2014 2:40:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:01 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:01 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:01 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:01 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:01 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 81.3   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 17:01 | NP      |
| Surr: Dibromofluoromethane                                     | 86.3   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 17:01 | NP      |
| Surr: Toluene-d8   | 78.6   | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 17:01 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 18:49 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/19/2014 18:49 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 18:49 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 18:49 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/19/2014 18:49 | YH      |
| Surr: 4-Terphenyl-d14  | 112    | 53.2-145        |      | %REC  | 187215  | 1               | 02/19/2014 18:49 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 87.9   | 51.5-124        |      | %REC  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Surr: 2-Fluorobiphenyl   | 79.8   | 51.7-118        |      | %REC  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Surr: 2-Fluorophenol   | 57.2   | 26-120          |      | %REC  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Surr: 4-Terphenyl-d14  | 89.4   | 45.2-137        |      | %REC  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| Surr: Nitrobenzene-d5  | 71.1   | 42-120          |      | %REC  | 187164  | 1               | 02/19/2014 16:00 | 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: 26-Feb-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> 112D-20140217-01    |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/17/2014 2:40:00 PM |
| <b>Lab ID:</b> 1402C76-003      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 49.9   | 12.3-120        |                  | %REC  | 187164  | 1               | 02/19/2014 16:00 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187225  | 1               | 02/19/2014 13:42 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261580 | 1               | 02/18/2014 14:37 | GR      |
| Sulfate   | 3.1    | 1.0             |                  | mg/L  | R261580 | 1               | 02/18/2014 14:37 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 5      | 4               |                  | ug/L  | 187283  | 1               | 02/20/2014 12:52 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261802 | 1               | 02/18/2014 13:20 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187216  | 1               | 02/18/2014 11:35 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Barium  | 0.152  | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Iron  | BRL    | 0.100           |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:30 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
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- N Analyte not NELAC certified
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- > 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

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-25D-20140217-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/17/2014 3:25:00 PM |
| <b>Lab ID:</b> 1402C76-004      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 13:13 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 13:13 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 13:13 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 13:13 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 13:13 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 94.4   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 13:13 | NP      |
| Surr: Dibromofluoromethane                                     | 87.4   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 13:13 | NP      |
| Surr: Toluene-d8   | 78.3   | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 13:13 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 19:17 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/19/2014 19:17 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 19:17 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 19:17 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/19/2014 19:17 | YH      |
| Surr: 4-Terphenyl-d14  | 108    | 53.2-145        |      | %REC  | 187215  | 1               | 02/19/2014 19:17 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 90.6   | 51.5-124        |      | %REC  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Surr: 2-Fluorobiphenyl   | 87.8   | 51.7-118        |      | %REC  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Surr: 2-Fluorophenol   | 54.7   | 26-120          |      | %REC  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Surr: 4-Terphenyl-d14  | 92.2   | 45.2-137        |      | %REC  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| Surr: Nitrobenzene-d5  | 81.8   | 42-120          |      | %REC  | 187164  | 1               | 02/19/2014 16:25 | 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: 26-Feb-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-25D-20140217-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/17/2014 3:25:00 PM |
| <b>Lab ID:</b> 1402C76-004      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 37.1   | 12.3-120        |                  | %REC  | 187164  | 1               | 02/19/2014 16:25 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187225  | 1               | 02/19/2014 13:44 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | 3.9    | 0.25            |                  | mg/L  | R261580 | 1               | 02/18/2014 14:52 | GR      |
| Sulfate   | BRL    | 1.0             |                  | mg/L  | R261580 | 1               | 02/18/2014 14:52 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | BRL    | 4               |                  | ug/L  | 187286  | 1               | 02/20/2014 15:49 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261802 | 1               | 02/18/2014 13:20 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187216  | 1               | 02/18/2014 11:35 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Barium  | 3.70   | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Iron  | BRL    | 0.100           |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |
| Zinc  | 0.0293 | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:18 | JL      |

**Qualifiers:**

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- BRL Below reporting limit
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- 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402C76-005

Client Sample ID: MW-108D-20140217-01  
 Collection Date: 2/17/2014 4:30:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:30 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:30 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:30 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:30 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:30 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 78.7   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 17:30 | NP      |
| Surr: Dibromofluoromethane                                     | 86.8   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 17:30 | NP      |
| Surr: Toluene-d8   | 79.9   | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 17:30 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 19:45 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/19/2014 19:45 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 19:45 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/19/2014 19:45 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/19/2014 19:45 | YH      |
| Surr: 4-Terphenyl-d14  | 110    | 53.2-145        |      | %REC  | 187215  | 1               | 02/19/2014 19:45 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 92.4   | 51.5-124        |      | %REC  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Surr: 2-Fluorobiphenyl   | 86.3   | 51.7-118        |      | %REC  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Surr: 2-Fluorophenol   | 67.4   | 26-120          |      | %REC  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Surr: 4-Terphenyl-d14  | 98.2   | 45.2-137        |      | %REC  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| Surr: Nitrobenzene-d5  | 80.6   | 42-120          |      | %REC  | 187164  | 1               | 02/19/2014 16:51 | 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: 26-Feb-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-108D-20140217-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/17/2014 4:30:00 PM |
| <b>Lab ID:</b> 1402C76-005      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>  |        |                 |      |       |         |                 |                  |         |
| Surr: Phenol-d5  | 57.8   | 12.3-120        |      | %REC  | 187164  | 1               | 02/19/2014 16:51 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                    |        |                 |      |       |         |                 |                  |         |
| Mercury  | BRL    | 0.00020         |      | mg/L  | 187225  | 1               | 02/19/2014 13:51 | CG      |
| <b>ION SCAN SW9056A</b>                                    |        |                 |      |       |         |                 |                  |         |
| Nitrate  | 0.43   | 0.25            |      | mg/L  | R261580 | 1               | 02/18/2014 15:07 | GR      |
| Sulfate  | 2.6    | 1.0             |      | mg/L  | R261580 | 1               | 02/18/2014 15:07 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175 (RSK175)</b> |        |                 |      |       |         |                 |                  |         |
| Methane  | BRL    | 4               |      | ug/L  | 187283  | 1               | 02/20/2014 13:01 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                            |        |                 |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                                    | BRL    | 0.100           |      | mg/L  | R261802 | 1               | 02/18/2014 13:20 | AB      |
| <b>Cyanide SW9014 (SW9010C)</b>                            |        |                 |      |       |         |                 |                  |         |
| Cyanide, Total   | BRL    | 0.010           |      | mg/L  | 187216  | 1               | 02/18/2014 11:35 | EH      |
| <b>METALS, TOTAL SW6010C (SW3010A)</b>                     |        |                 |      |       |         |                 |                  |         |
| Antimony   | BRL    | 0.0200          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Arsenic  | BRL    | 0.0500          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Barium   | 0.465  | 0.0200          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Beryllium  | BRL    | 0.0100          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Cadmium  | 0.0093 | 0.0050          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Chromium   | BRL    | 0.0100          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Copper   | BRL    | 0.0100          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Iron   | 0.139  | 0.100           |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Lead   | BRL    | 0.0100          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Nickel   | BRL    | 0.0200          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |
| Zinc   | 0.113  | 0.0200          |      | mg/L  | 187273  | 1               | 02/20/2014 19:34 | JL      |

**Qualifiers:**

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- 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



Microseeps/Pace Analytical Energy Services, LLC  
220 William Pitt Way  
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March 3, 2014

Mirzeta Kararic  
Analytical Environmental Services, Inc.  
3785 Presidential Parkway  
Suite 111  
Atlanta, GA 30340

RE: **1402C76**

*Microseeps Workorder: 11452*

Dear Mirzeta Kararic:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, February 21, 2014. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl      03/03/2014  
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 17

Report ID: 11452 - 493228

Page 1 of 15



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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

|                          |  |   |
|--------------------------|--|---|
| <b>Accreditor:</b>       | Pennsylvania Department of Environmental Protection, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | 02-00538   |   |
| <b>Scope:</b>            | NELAP Non-Potable Water and Solid & Hazardous Waste  |   |
| <b>Accreditor:</b>       | NELAP: State of Florida, Department of Health, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | E87832   |   |
| <b>Scope:</b>            | Clean Water Act (CWA)  | Resource Conservation and Recovery Act (RCRA) |
| <b>Accreditor:</b>       | South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification  |   |
| <b>Accreditation ID:</b> | 89009003   |   |
| <b>Scope:</b>            | Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)   |   |
| <b>Accreditor:</b>       | NELAP: State of Louisiana, Department of Environmental Quality   |   |
| <b>Accreditation ID:</b> | 04104  |   |
| <b>Scope:</b>            | Solid and Chemical Materials; Non-Potable Water  |   |
| <b>Accreditor:</b>       | NELAP: New Jersey, Department of Environmental Protection  |   |
| <b>Accreditation ID:</b> | PA026  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Chemical Materials  |   |
| <b>Accreditor:</b>       | NELAP: New York, Department of Health Wadsworth Center   |   |
| <b>Accreditation ID:</b> | 11815  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Hazardous Waste   |   |
| <b>Accreditor:</b>       | State of Connecticut, Department of Public Health, Division of Environmental Health  |   |
| <b>Accreditation ID:</b> | PH-0263  |   |
| <b>Scope:</b>            | Clean Water Act (CWA)  | Resource Conservation and Recovery Act (RCRA) |
| <b>Accreditor:</b>       | NELAP: Texas, Commission on Environmental Quality  |   |
| <b>Accreditation ID:</b> | T104704453-09-TX   |   |
| <b>Scope:</b>            | Non-Potable Water  |   |
| <b>Accreditor:</b>       | State of New Hampshire   |   |
| <b>Accreditation ID:</b> | 299409   |   |
| <b>Scope:</b>            | Non-potable water  |   |
| <b>Accreditor:</b>       | State of Georgia   |   |
| <b>Accreditation ID:</b> | Chapter 391-3-26   |   |
| <b>Scope:</b>            | As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC). |   |



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### SAMPLE SUMMARY

Workorder: 11452 1402C76

| Lab ID    | Sample ID               | Matrix | Date Collected  | Date Received   |
|-----------|-------------------------|--------|-----------------|-----------------|
| 114520001 | MW-113D-20140217-01     | Water  | 2/17/2014 13:30 | 2/21/2014 15:47 |
| 114520002 | MW-113D-20140217-01 MS  | Water  | 2/17/2014 13:30 | 2/21/2014 15:47 |
| 114520003 | MW-113D-20140217-01 MSD | Water  | 2/17/2014 13:30 | 2/21/2014 15:47 |
| 114520004 | MW-112D-20140217-01     | Water  | 2/17/2014 14:40 | 2/21/2014 15:47 |
| 114520005 | MW-25D-20140217-01      | Water  | 2/17/2014 15:25 | 2/21/2014 15:47 |
| 114520006 | MW-25D-20140217-01 MS   | Water  | 2/17/2014 15:25 | 2/21/2014 15:47 |
| 114520007 | MW-25D-20140217-01 MSD  | Water  | 2/17/2014 15:25 | 2/21/2014 15:47 |
| 114520008 | MW-108D-20140217-01     | Water  | 2/17/2014 16:30 | 2/21/2014 15:47 |



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### ANALYTICAL RESULTS

Workorder: 11452 1402C76

Lab ID: 114520001 Date Received: 2/21/2014 15:47 Matrix: Water  
 Sample ID: MW-113D-20140217-01 Date Collected: 2/17/2014 13:30

| Parameters  | Results | Units | PQL  | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|---|---------|-------|------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>                                |         |       |      |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX Analytical Method: AM20GAX |         |       |      |       |    |          |    |                 |    |      |
| Carbon Dioxide                                    | 110     | mg/l  | 5.0  | 0.23  | 1  |          |    | 2/26/2014 12:00 | GT |      |
| Oxygen  | 10      | mg/l  | 0.50 | 0.082 | 1  |          |    | 2/26/2014 12:00 | GT |      |
| Nitrogen  | 19      | mg/l  | 2.0  | 1.8   | 1  |          |    | 2/26/2014 12:00 | GT |      |
| Carbon Monoxide                                   | <1.0    | mg/l  | 1.0  | 0.14  | 1  |          |    | 2/26/2014 12:00 | GT |      |



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**ANALYTICAL RESULTS**

Workorder: 11452 1402C76

Lab ID: **114520002** Date Received: 2/21/2014 15:47 Matrix: Water  
 Sample ID: **MW-113D-20140217-01 MS** Date Collected: 2/17/2014 13:30

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | 260     | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/26/2014 12:12 | GT |      |
| Oxygen                 | 20      | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/26/2014 12:12 | GT |      |
| Nitrogen               | 140     | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/26/2014 12:12 | GT |      |
| Carbon Monoxide        | 2.1     | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/26/2014 12:12 | GT |      |



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**ANALYTICAL RESULTS**

Workorder: 11452 1402C76

Lab ID: 114520003 Date Received: 2/21/2014 15:47 Matrix: Water  
 Sample ID: MW-113D-20140217-01 MSD Date Collected: 2/17/2014 13:30

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | 250     | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/26/2014 12:24 | GT |      |
| Oxygen                 | 20      | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/26/2014 12:24 | GT |      |
| Nitrogen               | 140     | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/26/2014 12:24 | GT |      |
| Carbon Monoxide        | 2.2     | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/26/2014 12:24 | GT |      |



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**ANALYTICAL RESULTS**

Workorder: 11452 1402C76

Lab ID: 114520004 Date Received: 2/21/2014 15:47 Matrix: Water  
 Sample ID: MW-112D-20140217-01 Date Collected: 2/17/2014 14:40

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | <5.0    | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/26/2014 12:36 | GT |      |
| Oxygen                 | 9.6     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/26/2014 12:36 | GT |      |
| Nitrogen               | 18      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/26/2014 12:36 | GT |      |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/26/2014 12:36 | GT |      |



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### ANALYTICAL RESULTS

Workorder: 11452 1402C76

Lab ID: **114520005** Date Received: 2/21/2014 15:47 Matrix: Water  
 Sample ID: **MW-25D-20140217-01** Date Collected: 2/17/2014 15:25

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | 91      | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/26/2014 12:48 | GT |      |
| Oxygen                 | 6.6     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/26/2014 12:48 | GT |      |
| Nitrogen               | 20      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/26/2014 12:48 | GT |      |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/26/2014 12:48 | GT |      |



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**ANALYTICAL RESULTS**

Workorder: 11452 1402C76

Lab ID: 114520006 Date Received: 2/21/2014 15:47 Matrix: Water  
 Sample ID: MW-25D-20140217-01 MS Date Collected: 2/17/2014 15:25

| Parameters | Results | Units | PQL | MDL | DF | Prepared | By | Analyzed | By | Qual |
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|

**RISK - MICR**

| Analysis Desc: AM20GAX | Analytical Method: AM20GAX |      |      |       |   |  |  |                 |    |  |
|------------------------|----------------------------|------|------|-------|---|--|--|-----------------|----|--|
| Carbon Dioxide         | 240                        | mg/l | 5.0  | 0.23  | 1 |  |  | 2/26/2014 13:01 | GT |  |
| Oxygen                 | 16                         | mg/l | 0.50 | 0.082 | 1 |  |  | 2/26/2014 13:01 | GT |  |
| Nitrogen               | 150                        | mg/l | 2.0  | 1.8   | 1 |  |  | 2/26/2014 13:01 | GT |  |
| Carbon Monoxide        | 2.2                        | mg/l | 1.0  | 0.14  | 1 |  |  | 2/26/2014 13:01 | GT |  |



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**ANALYTICAL RESULTS**

Workorder: 11452 1402C76

Lab ID: 114520007 Date Received: 2/21/2014 15:47 Matrix: Water  
 Sample ID: MW-25D-20140217-01 MSD Date Collected: 2/17/2014 15:25

| Parameters  | Results | Units | PQL  | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|---|---------|-------|------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>                                |         |       |      |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX Analytical Method: AM20GAX |         |       |      |       |    |          |    |                 |    |      |
| Carbon Dioxide                                    | 230     | mg/l  | 5.0  | 0.23  | 1  |          |    | 2/26/2014 13:13 | GT |      |
| Oxygen  | 17      | mg/l  | 0.50 | 0.082 | 1  |          |    | 2/26/2014 13:13 | GT |      |
| Nitrogen  | 150     | mg/l  | 2.0  | 1.8   | 1  |          |    | 2/26/2014 13:13 | GT |      |
| Carbon Monoxide                                   | 2.1     | mg/l  | 1.0  | 0.14  | 1  |          |    | 2/26/2014 13:13 | GT |      |



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### ANALYTICAL RESULTS

Workorder: 11452 1402C76

Lab ID: 114520008 Date Received: 2/21/2014 15:47 Matrix: Water  
 Sample ID: MW-108D-20140217-01 Date Collected: 2/17/2014 16:30

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | <5.0    | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/26/2014 13:26 | GT |      |
| Oxygen                 | 12      | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/26/2014 13:26 | GT |      |
| Nitrogen               | 22      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/26/2014 13:26 | GT |      |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/26/2014 13:26 | GT |      |



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 11452 1402C76

### DEFINITIONS/QUALIFIERS

**Disclaimer :** The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAX, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

- MDL** Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL** Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND** Not detected at or above reporting limit.
- DF** Dilution Factor.
- S** Surrogate.
- RPD** Relative Percent Difference.
- % Rec** Percent Recovery.
- U** Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J** Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).



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**QUALITY CONTROL DATA**

Workorder: 11452 1402C76

QC Batch: DISG/3602 Analysis Method: AM20GAX  
 QC Batch Method: AM20GAX  
 Associated Lab Samples: 114520001, 114520002, 114520003, 114520004, 114520005, 114520006, 114520007, 114520008

METHOD BLANK: 26058

| Parameter       | Units | Blank Result | Reporting Limit | Qualifiers |
|-----------------|-------|--------------|-----------------|------------|
| RISK            |       |              |                 |            |
| Carbon Dioxide  | mg/l  | <5.0         | 5.0             |            |
| Oxygen          | mg/l  | <0.50        | 0.50            |            |
| Nitrogen        | mg/l  | <2.0         | 2.0             |            |
| Carbon Monoxide | mg/l  | <1.0         | 1.0             |            |

LABORATORY CONTROL SAMPLE & LCSD: 26060 26062

| Parameter       | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|-----------------|-------|-------------|------------|-------------|-----------|------------|-------------|-----|---------|------------|
| RISK            |       |             |            |             |           |            |             |     |         |            |
| Carbon Dioxide  | mg/l  | 120         | 140        | 130         | 116       | 114        | 80-120      | 1.7 | 20      |            |
| Oxygen          | mg/l  | 11          | 11         | 11          | 98        | 99         | 80-120      | 1   | 20      |            |
| Nitrogen        | mg/l  | 140         | 140        | 140         | 97        | 99         | 80-120      | 2   | 20      |            |
| Carbon Monoxide | mg/l  | 2           | 2.2        | 2.2         | 114       | 112        | 80-120      | 1.8 | 20      |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 26080 26081 Original: 114520001

| Parameter       | Units | Original Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|-----------------|-------|-----------------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|------------|
| RISK            |       |                 |             |           |            |          |           |             |     |         |            |
| Carbon Dioxide  | mg/l  | 110             | 120         | 260       | 250        | 121      | 118       | 70-130      | 2.5 | 20      |            |
| Oxygen          | mg/l  | 10              | 11          | 20        | 20         | 87       | 89        | 70-130      | 2.3 | 20      |            |
| Nitrogen        | mg/l  | 19              | 140         | 140       | 140        | 89       | 90        | 70-130      | 1.1 | 20      |            |
| Carbon Monoxide | mg/l  | 0               | 2           | 2.1       | 2.2        | 107      | 111       | 70-130      | 3.7 | 20      |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 26145 26146 Original: 114530005

| Parameter      | Units | Original Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|----------------|-------|-----------------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|------------|
| RISK           |       |                 |             |           |            |          |           |             |     |         |            |
| Carbon Dioxide | mg/l  | 85              | 120         | 240       | 230        | 130      | 126       | 70-130      | 3.1 | 20      |            |
| Oxygen         | mg/l  | 2.6             | 11          | 16        | 17         | 122      | 128       | 70-130      | 4.8 | 20      |            |
| Nitrogen       | mg/l  | 20              | 140         | 150       | 150        | 91       | 91        | 70-130      | 0   | 20      |            |



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**QUALITY CONTROL DATA**

Workorder: 11452 1402C76

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 26145                      26146                      Original: 114530005

| Parameter       | Units | Original Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|-----------------|-------|-----------------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|------------|
| Carbon Monoxide | mg/l  | 0               | 2           | 2.2       | 2.1        | 110      | 106       | 70-130      | 3.7 | 20      |            |



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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Workorder: 11452 1402C76

| Lab ID    | Sample ID               | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|-----------|-------------------------|-------------|------------|-----------------|----------------|
| 114520001 | MW-113D-20140217-01     |             |            | AM20GAX         | DISG/3602      |
| 114520002 | MW-113D-20140217-01 MS  |             |            | AM20GAX         | DISG/3602      |
| 114520003 | MW-113D-20140217-01 MSD |             |            | AM20GAX         | DISG/3602      |
| 114520004 | MW-112D-20140217-01     |             |            | AM20GAX         | DISG/3602      |
| 114520005 | MW-25D-20140217-01      |             |            | AM20GAX         | DISG/3602      |
| 114520006 | MW-25D-20140217-01 MS   |             |            | AM20GAX         | DISG/3602      |
| 114520007 | MW-25D-20140217-01 MSD  |             |            | AM20GAX         | DISG/3602      |
| 114520008 | MW-108D-20140217-01     |             |            | AM20GAX         | DISG/3602      |



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# Cooler Receipt Form

Client Name: AES Project: 1402C76 Lab Work Order: 11452

**A. Shipping/Container Information (circle appropriate response)**

Courier:  FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present:  Yes No

Tracking Number: 5613 2701 4187

Custody Seal on Cooler/Box Present: Yes  No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice:  Wet Blue None Ice Intact:  Yes Melted

Cooler Temperature: 1°C Radiation Screened: Yes  No Chain of Custody Present:  Yes No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in (check appropriate response)**

|  | YES | NO | N/A | Comment<br>Reference non-Conformance |
|--|-----|----|-----|--------------------------------------|
| Chain of Custody properly filled out   | ✓   |    |     |                                      |
| Chain of Custody relinquished  | ✓   |    |     |                                      |
| Sampler Name & Signature on COC  |     | ✓  |     |                                      |
| Containers intact  | ✓   |    |     |                                      |
| Were samples in separate bags  |     | ✓  |     |                                      |
| Sample container labels match COC<br>Sample name/date and time collected   | ✓   |    |     |                                      |
| Sufficient volume provided   | ✓   |    |     |                                      |
| Microseeps containers used   | ✓   |    |     |                                      |
| Are containers properly preserved for the requested testing?<br>(as labeled)   | ✓   |    |     |                                      |
| If an unknown preservation state, were containers checked?<br>Exception: VOA's coliform                                |     |    | ✓   | If yes, see pH form.                 |
| Was volume for dissolved testing field filtered, as noted on<br>the COC? Was volume received in a preserved container? |     |    | ✓   |                                      |

Comments: \_\_\_\_\_

Cooler contents examined/received by: LY Date: 2.21.14

Project Manager Review: RR Date: 2/21/14

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM

Work Order Number 1402076

Checklist completed by JMB Signature Date 2/18/14

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? (4°C±2)\* Yes  No

Cooler #1 3.0 Cooler #2 3.1 Cooler #3 2.9 Cooler #4 \_\_\_\_\_ Cooler#5 \_\_\_\_\_ Cooler #6 \_\_\_\_\_

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Was TAT marked on the COC? Yes  No

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

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

Water - pH acceptable upon receipt? Yes  No  Not Applicable

Adjusted? \_\_\_\_\_ Checked by JMB

Sample Condition: Good  Other(Explain) \_\_\_\_\_

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

See Case Narrative for resolution of the Non-Conformance.

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

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402C76

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402C76-001A  | TB-01-20140217-01   | 2/17/2014 12:00:00AM | Aqueous     | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402C76-002A  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402C76-002B  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402C76-002C  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402C76-002C  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402C76-002D  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | ION SCAN                            |           |            | 02/18/2014    |
| 1402C76-002E  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/18/2014    |
| 1402C76-002F  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | Cyanide                             |           | 02/18/2014 | 02/18/2014    |
| 1402C76-002G  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | Sulfide                             |           |            | 02/20/2014    |
| 1402C76-002H  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/19/2014 | 02/19/2014    |
| 1402C76-002H  | MW-113D-20140217-01 | 2/17/2014 1:30:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/19/2014 | 02/19/2014    |
| 1402C76-003A  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402C76-003B  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402C76-003C  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402C76-003C  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402C76-003D  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | ION SCAN                            |           |            | 02/18/2014    |
| 1402C76-003E  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/18/2014    |
| 1402C76-003F  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | Cyanide                             |           | 02/18/2014 | 02/18/2014    |
| 1402C76-003G  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | Sulfide                             |           |            | 02/20/2014    |
| 1402C76-003H  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/19/2014 | 02/19/2014    |
| 1402C76-003H  | 112D-20140217-01    | 2/17/2014 2:40:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/19/2014 | 02/19/2014    |
| 1402C76-004A  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402C76-004B  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402C76-004C  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402C76-004C  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402C76-004D  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM  | Groundwater | ION SCAN                            |           |            | 02/18/2014    |
| 1402C76-004E  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/18/2014    |
| 1402C76-004F  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM  | Groundwater | Cyanide                             |           | 02/18/2014 | 02/18/2014    |
| 1402C76-004G  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM  | Groundwater | Sulfide                             |           |            | 02/20/2014    |

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402C76

**Dates Report**

| Lab Sample ID | Client Sample ID    | Collection Date     | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|---------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402C76-004H  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/19/2014 | 02/19/2014    |
| 1402C76-004H  | MW-25D-20140217-01  | 2/17/2014 3:25:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/19/2014 | 02/19/2014    |
| 1402C76-005A  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402C76-005B  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402C76-005C  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402C76-005C  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402C76-005D  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | ION SCAN                            |           |            | 02/18/2014    |
| 1402C76-005E  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | Ferrous Iron                        |           |            | 02/18/2014    |
| 1402C76-005F  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | Cyanide                             |           | 02/18/2014 | 02/18/2014    |
| 1402C76-005G  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | Sulfide                             |           |            | 02/20/2014    |
| 1402C76-005H  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/19/2014 | 02/19/2014    |
| 1402C76-005H  | MW-108D-20140217-01 | 2/17/2014 4:30:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/19/2014 | 02/19/2014    |

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187164

| Sample ID: <b>MB-187164</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/18/2014</b>     | Run No: <b>261598</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187164</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499538</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 77.13 | 0  | 100.0 |  | 77.1 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 38.19 | 0  | 50.00 |  | 76.4 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 52.20 | 0  | 100.0 |  | 52.2 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 41.00 | 0  | 50.00 |  | 82.0 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 35.25 | 0  | 50.00 |  | 70.5 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 37.44 | 0  | 100.0 |  | 37.4 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-187164</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/18/2014</b>     | Run No: <b>261598</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187164</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499540</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 87.64 | 10 | 100.0 |  | 87.6 | 67.7 | 122 |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|

**Qualifiers:**

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187164**

| Sample ID: <b>LCS-187164</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/18/2014</b>     | Run No: <b>261598</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187164</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499540</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Phenol                     | 43.37 | 10 | 100.0 |  | 43.4 | 24.6 | 120 |  |  |  |  |
| Pyrene                     | 93.64 | 10 | 100.0 |  | 93.6 | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 107.5 | 0  | 100.0 |  | 107  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 48.38 | 0  | 50.00 |  | 96.8 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 63.79 | 0  | 100.0 |  | 63.8 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 53.51 | 0  | 50.00 |  | 107  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 43.06 | 0  | 50.00 |  | 86.1 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 49.56 | 0  | 100.0 |  | 49.6 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402C76-002HMS</b> | Client ID: <b>MW-113D-20140217-01</b>                     | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261598</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187164</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500508</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 70.47 | 10 | 100.0 |  | 70.5 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 48.39 | 10 | 100.0 |  | 48.4 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 75.88 | 10 | 100.0 |  | 75.9 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 86.40 | 0  | 100.0 |  | 86.4 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 38.89 | 0  | 50.00 |  | 77.8 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 61.68 | 0  | 100.0 |  | 61.7 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 44.53 | 0  | 50.00 |  | 89.1 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 35.89 | 0  | 50.00 |  | 71.8 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 56.86 | 0  | 100.0 |  | 56.9 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402C76-004HMS</b> | Client ID: <b>MW-25D-20140217-01</b>                      | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261598</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187164</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500511</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 84.67 | 10 | 100.0 |  | 84.7 | 51.9 | 120 |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187164

| Sample ID: <b>1402C76-004HMS</b> | Client ID: <b>MW-25D-20140217-01</b>                       | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261598</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatiles Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187164</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500511</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Phenol                     | 55.18 | 10 | 100.0 |  | 55.2 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 88.36 | 10 | 100.0 |  | 88.4 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 99.37 | 0  | 100.0 |  | 99.4 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 46.98 | 0  | 50.00 |  | 94.0 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 70.65 | 0  | 100.0 |  | 70.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 50.61 | 0  | 50.00 |  | 101  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 43.54 | 0  | 50.00 |  | 87.1 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 62.22 | 0  | 100.0 |  | 62.2 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402C76-002HMSD</b> | Client ID: <b>MW-113D-20140217-01</b>                      | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261598</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatiles Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187164</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500510</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |       |      |      |  |
|----------------------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene               | 78.19 | 10 | 100.0 |  | 78.2 | 51.9 | 120 | 70.47 | 10.4 | 24.9 |  |
| Phenol                     | 49.19 | 10 | 100.0 |  | 49.2 | 30.5 | 120 | 48.39 | 1.64 | 34.4 |  |
| Pyrene                     | 84.46 | 10 | 100.0 |  | 84.5 | 50.6 | 120 | 75.88 | 10.7 | 26.7 |  |
| Surr: 2,4,6-Tribromophenol | 87.89 | 0  | 100.0 |  | 87.9 | 51.5 | 124 | 86.40 | 0    | 0    |  |
| Surr: 2-Fluorobiphenyl     | 40.10 | 0  | 50.00 |  | 80.2 | 51.7 | 118 | 38.89 | 0    | 0    |  |
| Surr: 2-Fluorophenol       | 57.48 | 0  | 100.0 |  | 57.5 | 26   | 120 | 61.68 | 0    | 0    |  |
| Surr: 4-Terphenyl-d14      | 45.19 | 0  | 50.00 |  | 90.4 | 45.2 | 137 | 44.53 | 0    | 0    |  |
| Surr: Nitrobenzene-d5      | 36.27 | 0  | 50.00 |  | 72.5 | 42   | 120 | 35.89 | 0    | 0    |  |
| Surr: Phenol-d5            | 50.81 | 0  | 100.0 |  | 50.8 | 12.3 | 120 | 56.86 | 0    | 0    |  |

| Sample ID: <b>1402C76-004HMSD</b> | Client ID: <b>MW-25D-20140217-01</b>                       | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261598</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatiles Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187164</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500513</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |      |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene | 79.69 | 10 | 100.0 |  | 79.7 | 51.9 | 120 | 84.67 | 6.06 | 24.9 |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187164

|                                   |   |                        |                                  |                        |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|
| Sample ID: <b>1402C76-004HMSD</b> | Client ID: <b>MW-25D-20140217-01</b>                      | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261598</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187164</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500513</b> |

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Phenol                     | 52.31  | 10        | 100.0     |             | 52.3 | 30.5      | 120        | 55.18       | 5.34 | 34.4      |      |
| Pyrene                     | 82.69  | 10        | 100.0     |             | 82.7 | 50.6      | 120        | 88.36       | 6.63 | 26.7      |      |
| Surr: 2,4,6-Tribromophenol | 92.46  | 0         | 100.0     |             | 92.5 | 51.5      | 124        | 99.37       | 0    | 0         |      |
| Surr: 2-Fluorobiphenyl     | 43.67  | 0         | 50.00     |             | 87.3 | 51.7      | 118        | 46.98       | 0    | 0         |      |
| Surr: 2-Fluorophenol       | 67.01  | 0         | 100.0     |             | 67.0 | 26        | 120        | 70.65       | 0    | 0         |      |
| Surr: 4-Terphenyl-d14      | 47.15  | 0         | 50.00     |             | 94.3 | 45.2      | 137        | 50.61       | 0    | 0         |      |
| Surr: Nitrobenzene-d5      | 41.03  | 0         | 50.00     |             | 82.1 | 42        | 120        | 43.54       | 0    | 0         |      |
| Surr: Phenol-d5            | 58.82  | 0         | 100.0     |             | 58.8 | 12.3      | 120        | 62.22       | 0    | 0         |      |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187215

| Sample ID: <b>MB-187215</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261629</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500373</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |     |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|-----|------|-----|--|--|--|--|
| Benz(a)anthracene      | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Benzo(a)pyrene         | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Benzo(b)fluoranthene   | BRL   | 0.10  |       |  |     |      |     |  |  |  |  |
| Dibenz(a,h)anthracene  | BRL   | 0.10  |       |  |     |      |     |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.152 | 0     | 2.000 |  | 108 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCS-187215</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261629</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500375</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 1.916 | 0.050 | 2.000 |  | 95.8 | 62.8 | 132 |  |  |  |  |
| Benzo(a)pyrene         | 1.958 | 0.050 | 2.000 |  | 97.9 | 56.4 | 123 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.680 | 0.10  | 2.000 |  | 84.0 | 69.2 | 132 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.730 | 0.10  | 2.000 |  | 86.5 | 49.3 | 134 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.807 | 0.050 | 2.000 |  | 90.3 | 48.3 | 137 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.043 | 0     | 2.000 |  | 102  | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>1402C76-002HMS</b> | Client ID: <b>MW-113D-20140217-01</b>                          | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261730</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502360</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |         |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|---------|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.165 | 0.050 | 2.000 | 0.04159 | 106  | 51.4 | 142 |  |  |  |  |
| Benzo(a)pyrene         | 2.034 | 0.050 | 2.000 | 0.04673 | 99.4 | 48.3 | 126 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.673 | 0.10  | 2.000 | 0.04651 | 81.3 | 49.9 | 134 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.747 | 0.10  | 2.000 | 0.04684 | 85.0 | 41.8 | 121 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.834 | 0.050 | 2.000 | 0.03488 | 90.0 | 42   | 129 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.309 | 0     | 2.000 |         | 115  | 53.2 | 145 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187215

| Sample ID: <b>1402C76-004HMS</b> | Client ID: <b>MW-25D-20140217-01</b>                           | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261730</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502367</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.200 | 0.050 | 2.000 |  | 110  | 51.4 | 142 |  |  |  |  |
| Benzo(a)pyrene         | 2.131 | 0.050 | 2.000 |  | 107  | 48.3 | 126 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.753 | 0.10  | 2.000 |  | 87.7 | 49.9 | 134 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.783 | 0.10  | 2.000 |  | 89.2 | 41.8 | 121 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.862 | 0.050 | 2.000 |  | 93.1 | 42   | 129 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.335 | 0     | 2.000 |  | 117  | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>1402C76-002HMSD</b> | Client ID: <b>MW-113D-20140217-01</b>                          | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261730</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502363</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |         |      |      |     |       |       |      |  |
|------------------------|-------|-------|-------|---------|------|------|-----|-------|-------|------|--|
| Benz(a)anthracene      | 2.165 | 0.050 | 2.000 | 0.04159 | 106  | 51.4 | 142 | 2.165 | 0.006 | 48.1 |  |
| Benzo(a)pyrene         | 2.079 | 0.050 | 2.000 | 0.04673 | 102  | 48.3 | 126 | 2.034 | 2.18  | 53.5 |  |
| Benzo(b)fluoranthene   | 1.707 | 0.10  | 2.000 | 0.04651 | 83.0 | 49.9 | 134 | 1.673 | 2.01  | 51.1 |  |
| Dibenz(a,h)anthracene  | 1.753 | 0.10  | 2.000 | 0.04684 | 85.3 | 41.8 | 121 | 1.747 | 0.366 | 54.2 |  |
| Indeno(1,2,3-cd)pyrene | 1.838 | 0.050 | 2.000 | 0.03488 | 90.1 | 42   | 129 | 1.834 | 0.186 | 44.6 |  |
| Surr: 4-Terphenyl-d14  | 2.123 | 0     | 2.000 |         | 106  | 53.2 | 145 | 2.309 | 0     | 0    |  |

| Sample ID: <b>1402C76-004HMSD</b> | Client ID: <b>MW-25D-20140217-01</b>                           | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261730</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502369</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |       |      |      |   |
|------------------------|-------|-------|-------|--|------|------|-----|-------|------|------|---|
| Benz(a)anthracene      | 1.996 | 0.050 | 2.000 |  | 99.8 | 51.4 | 142 | 2.200 | 9.75 | 48.1 |   |
| Benzo(a)pyrene         | 1.134 | 0.050 | 2.000 |  | 56.7 | 48.3 | 126 | 2.131 | 61.0 | 53.5 | R |
| Benzo(b)fluoranthene   | 1.640 | 0.10  | 2.000 |  | 82.0 | 49.9 | 134 | 1.753 | 6.65 | 51.1 |   |
| Dibenz(a,h)anthracene  | 1.702 | 0.10  | 2.000 |  | 85.1 | 41.8 | 121 | 1.783 | 4.68 | 54.2 |   |
| Indeno(1,2,3-cd)pyrene | 1.775 | 0.050 | 2.000 |  | 88.8 | 42   | 129 | 1.862 | 4.78 | 44.6 |   |
| Surr: 4-Terphenyl-d14  | 2.224 | 0     | 2.000 |  | 111  | 53.2 | 145 | 2.335 | 0    | 0    |   |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187216**

|                             |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187216</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/18/2014</b>     | Run No: <b>261605</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187216</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499743</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187216</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/18/2014</b>     | Run No: <b>261605</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187216</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499744</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2469                      0.010                      0.2500                      98.8                      85                      115

|                                  |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002FMS</b> | Client ID: <b>MW-113D-20140217-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>02/18/2014</b>     | Run No: <b>261605</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>187216</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499758</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2417                      0.010                      0.2500                      0.002900                      95.5                      70                      130

|                                  |                                      |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|--------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004FMS</b> | Client ID: <b>MW-25D-20140217-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>02/18/2014</b>     | Run No: <b>261605</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b>      | BatchID: <b>187216</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499776</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                               | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2499                      0.010                      0.2500                      100.0                      70                      130

|                                   |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002FMSD</b> | Client ID: <b>MW-113D-20140217-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>02/18/2014</b>     | Run No: <b>261605</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>187216</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499763</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2374                      0.010                      0.2500                      0.002900                      93.8                      70                      130                      0.2417                      1.80                      20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187216

|                            |                               |                 |                           |                 |
|----------------------------|-------------------------------|-----------------|---------------------------|-----------------|
| Sample ID: 1402C76-004FMSD | Client ID: MW-25D-20140217-01 | Units: mg/L     | Prep Date: 02/18/2014     | Run No: 261605  |
| SampleType: MSD            | TestCode: Cyanide SW9014      | BatchID: 187216 | Analysis Date: 02/18/2014 | Seq No: 5499780 |

| Analyte        | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Cyanide, Total | 0.2423 | 0.010     | 0.2500    |             | 96.9 | 70        | 130        | 0.2499      | 3.09 | 20        |      |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187225**

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187225</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499297</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187225</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499301</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.004800 0.00020 0.0050 96.0 85 115

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002CMS</b> | Client ID: <b>MW-113D-20140217-01</b>   | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499307</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.003618 0.00020 0.0050 72.4 70 130

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004CMS</b> | Client ID: <b>MW-25D-20140217-01</b>    | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499323</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005170 0.00020 0.0050 103 70 130

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002CMSD</b> | Client ID: <b>MW-113D-20140217-01</b>   | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499310</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.003631 0.00020 0.0050 72.6 70 130 0.003618 0.374 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187225**

|                                   |   |                        |                                  |                        |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|
| Sample ID: <b>1402C76-004CMSD</b> | Client ID: <b>MW-25D-20140217-01</b>    | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499324</b> |

| Analyte | Result   | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD  | RPD Limit | Qual |
|---------|----------|-----------|-----------|-------------|------|-----------|------------|-------------|-------|-----------|------|
| Mercury | 0.005168 | 0.00020   | 0.0050    |             | 103  | 70        | 130        | 0.005170    | 0.046 | 20        |      |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187242**

| Sample ID: <b>MB-187242</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5498782</b> |      |           |            |             |      |           |      |
| 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 | 40.42 | 0   | 50.00 |  | 80.8 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 42.62 | 0   | 50.00 |  | 85.2 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 39.37 | 0   | 50.00 |  | 78.7 | 77   | 117 |  |  |  |  |

| Sample ID: <b>LCS-187242</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5498861</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 43.82 | 5.0 | 50.00 |  | 87.6 | 74.2 | 129 |  |  |  |  |
| Toluene                    | 43.77 | 5.0 | 50.00 |  | 87.5 | 74.2 | 129 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 43.23 | 0   | 50.00 |  | 86.5 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 43.84 | 0   | 50.00 |  | 87.7 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 43.29 | 0   | 50.00 |  | 86.6 | 77   | 117 |  |  |  |  |

| Sample ID: <b>1402C76-002AMS</b> | Client ID: <b>MW-113D-20140217-01</b>                        | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499401</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 48.42 | 5.0 | 50.00 |  | 96.8 | 70.2 | 138 |  |  |  |  |
| Toluene                    | 48.17 | 5.0 | 50.00 |  | 96.3 | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 45.97 | 0   | 50.00 |  | 91.9 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 44.63 | 0   | 50.00 |  | 89.3 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 44.14 | 0   | 50.00 |  | 88.3 | 77   | 117 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187242

| Sample ID: <b>1402C76-004AMS</b> | Client ID: <b>MW-25D-20140217-01</b>                         | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499912</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 44.21 | 5.0 | 50.00 |  | 88.4 | 70.2 | 138 |  |  |  |  |
| Toluene                    | 43.86 | 5.0 | 50.00 |  | 87.7 | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 44.03 | 0   | 50.00 |  | 88.1 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 43.96 | 0   | 50.00 |  | 87.9 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 43.32 | 0   | 50.00 |  | 86.6 | 77   | 117 |  |  |  |  |

| Sample ID: <b>1402C76-002AMSD</b> | Client ID: <b>MW-113D-20140217-01</b>                        | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499408</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |       |       |    |  |
|----------------------------|-------|-----|-------|--|------|------|-----|-------|-------|----|--|
| Benzene                    | 48.84 | 5.0 | 50.00 |  | 97.7 | 70.2 | 138 | 48.42 | 0.864 | 20 |  |
| Toluene                    | 48.93 | 5.0 | 50.00 |  | 97.9 | 70   | 139 | 48.17 | 1.57  | 20 |  |
| Surr: 4-Bromofluorobenzene | 45.46 | 0   | 50.00 |  | 90.9 | 66.2 | 120 | 45.97 | 0     | 0  |  |
| Surr: Dibromofluoromethane | 44.00 | 0   | 50.00 |  | 88.0 | 79.5 | 121 | 44.63 | 0     | 0  |  |
| Surr: Toluene-d8           | 43.73 | 0   | 50.00 |  | 87.5 | 77   | 117 | 44.14 | 0     | 0  |  |

| Sample ID: <b>1402C76-004AMSD</b> | Client ID: <b>MW-25D-20140217-01</b>                         | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499913</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |       |      |    |  |
|----------------------------|-------|-----|-------|--|------|------|-----|-------|------|----|--|
| Benzene                    | 46.45 | 5.0 | 50.00 |  | 92.9 | 70.2 | 138 | 44.21 | 4.94 | 20 |  |
| Toluene                    | 45.73 | 5.0 | 50.00 |  | 91.5 | 70   | 139 | 43.86 | 4.17 | 20 |  |
| Surr: 4-Bromofluorobenzene | 42.97 | 0   | 50.00 |  | 85.9 | 66.2 | 120 | 44.03 | 0    | 0  |  |
| Surr: Dibromofluoromethane | 43.63 | 0   | 50.00 |  | 87.3 | 79.5 | 121 | 43.96 | 0    | 0  |  |
| Surr: Toluene-d8           | 42.28 | 0   | 50.00 |  | 84.6 | 77   | 117 | 43.32 | 0    | 0  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187273

| Sample ID: <b>MB-187273</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261723</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187273</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502224</b> |      |           |            |             |      |           |      |
| Analyte                     | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |     |        |  |  |  |  |  |  |  |  |  |
|-----------|-----|--------|--|--|--|--|--|--|--|--|--|
| Antimony  | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Arsenic   | BRL | 0.0500 |  |  |  |  |  |  |  |  |  |
| Barium    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Beryllium | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Cadmium   | BRL | 0.0050 |  |  |  |  |  |  |  |  |  |
| Chromium  | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Copper    | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Iron      | BRL | 0.100  |  |  |  |  |  |  |  |  |  |
| Lead      | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Nickel    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Zinc      | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |

| Sample ID: <b>LCS-187273</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261723</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187273</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502223</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|----------|------|----|-----|--|--|--|--|
| Antimony  | 1.022  | 0.0200 | 1.000 |          | 102  | 80 | 120 |  |  |  |  |
| Arsenic   | 1.008  | 0.0500 | 1.000 |          | 101  | 80 | 120 |  |  |  |  |
| Barium    | 1.013  | 0.0200 | 1.000 |          | 101  | 80 | 120 |  |  |  |  |
| Beryllium | 1.004  | 0.0100 | 1.000 |          | 100  | 80 | 120 |  |  |  |  |
| Cadmium   | 1.007  | 0.0050 | 1.000 |          | 101  | 80 | 120 |  |  |  |  |
| Chromium  | 1.002  | 0.0100 | 1.000 |          | 100  | 80 | 120 |  |  |  |  |
| Copper    | 0.9953 | 0.0100 | 1.000 |          | 99.5 | 80 | 120 |  |  |  |  |
| Iron      | 9.937  | 0.100  | 10.00 |          | 99.4 | 80 | 120 |  |  |  |  |
| Lead      | 1.002  | 0.0100 | 1.000 |          | 100  | 80 | 120 |  |  |  |  |
| Nickel    | 1.006  | 0.0200 | 1.000 |          | 101  | 80 | 120 |  |  |  |  |
| Zinc      | 1.002  | 0.0200 | 1.000 | 0.004498 | 99.8 | 80 | 120 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187273

| Sample ID: 1402C76-002CMS | Client ID: MW-113D-20140217-01  | Units: mg/L     | Prep Date: 02/20/2014     | Run No: 261723  |      |           |            |             |      |           |      |
|---------------------------|---------------------------------|-----------------|---------------------------|-----------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: MS            | TestCode: METALS, TOTAL SW6010C | BatchID: 187273 | Analysis Date: 02/20/2014 | Seq No: 5502226 |      |           |            |             |      |           |      |
| Analyte                   | Result                          | RPT Limit       | SPK value                 | SPK Ref Val     | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|----------|------|----|-----|--|--|--|--|
| Antimony  | 0.9824 | 0.0200 | 1.000 |          | 98.2 | 75 | 125 |  |  |  |  |
| Arsenic   | 0.9761 | 0.0500 | 1.000 |          | 97.6 | 75 | 125 |  |  |  |  |
| Barium    | 1.038  | 0.0200 | 1.000 | 0.07274  | 96.5 | 75 | 125 |  |  |  |  |
| Beryllium | 0.9698 | 0.0100 | 1.000 |          | 97.0 | 75 | 125 |  |  |  |  |
| Cadmium   | 0.9722 | 0.0050 | 1.000 |          | 97.2 | 75 | 125 |  |  |  |  |
| Chromium  | 0.9614 | 0.0100 | 1.000 |          | 96.1 | 75 | 125 |  |  |  |  |
| Copper    | 0.9597 | 0.0100 | 1.000 | 0.006366 | 95.3 | 75 | 125 |  |  |  |  |
| Iron      | 9.560  | 0.100  | 10.00 | 0.06224  | 95.0 | 75 | 125 |  |  |  |  |
| Lead      | 0.9515 | 0.0100 | 1.000 | 0.001317 | 95.0 | 75 | 125 |  |  |  |  |
| Nickel    | 0.9709 | 0.0200 | 1.000 | 0.01975  | 95.1 | 75 | 125 |  |  |  |  |
| Zinc      | 0.9699 | 0.0200 | 1.000 | 0.01789  | 95.2 | 75 | 125 |  |  |  |  |

| Sample ID: 1402C76-004CMS | Client ID: MW-25D-20140217-01   | Units: mg/L     | Prep Date: 02/20/2014     | Run No: 261723  |      |           |            |             |      |           |      |
|---------------------------|---------------------------------|-----------------|---------------------------|-----------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: MS            | TestCode: METALS, TOTAL SW6010C | BatchID: 187273 | Analysis Date: 02/21/2014 | Seq No: 5504309 |      |           |            |             |      |           |      |
| Analyte                   | Result                          | RPT Limit       | SPK value                 | SPK Ref Val     | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|----------|------|----|-----|--|--|--|--|
| Antimony  | 0.9878 | 0.0200 | 1.000 |          | 98.8 | 75 | 125 |  |  |  |  |
| Arsenic   | 0.9825 | 0.0500 | 1.000 |          | 98.3 | 75 | 125 |  |  |  |  |
| Barium    | 4.588  | 0.0200 | 1.000 | 3.699    | 88.9 | 75 | 125 |  |  |  |  |
| Beryllium | 0.9555 | 0.0100 | 1.000 | 0.003300 | 95.2 | 75 | 125 |  |  |  |  |
| Cadmium   | 0.9756 | 0.0050 | 1.000 |          | 97.6 | 75 | 125 |  |  |  |  |
| Chromium  | 0.9828 | 0.0100 | 1.000 |          | 98.3 | 75 | 125 |  |  |  |  |
| Copper    | 0.9477 | 0.0100 | 1.000 | 0.003805 | 94.4 | 75 | 125 |  |  |  |  |
| Iron      | 9.331  | 0.100  | 10.00 | 0.03462  | 93.0 | 75 | 125 |  |  |  |  |
| Lead      | 0.9526 | 0.0100 | 1.000 |          | 95.3 | 75 | 125 |  |  |  |  |
| Nickel    | 0.9240 | 0.0200 | 1.000 | 0.007993 | 91.6 | 75 | 125 |  |  |  |  |
| Zinc      | 0.9762 | 0.0200 | 1.000 | 0.02926  | 94.7 | 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: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187273

| Sample ID: 1402C76-002CMSD | Client ID: MW-113D-20140217-01  | Units: mg/L     | Prep Date: 02/20/2014     | Run No: 261723  |      |           |            |             |      |           |      |
|----------------------------|---------------------------------|-----------------|---------------------------|-----------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: MSD            | TestCode: METALS, TOTAL SW6010C | BatchID: 187273 | Analysis Date: 02/20/2014 | Seq No: 5502229 |      |           |            |             |      |           |      |
| Analyte                    | Result                          | RPT Limit       | SPK value                 | SPK Ref Val     | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |        |      |    |  |
|-----------|--------|--------|-------|----------|------|----|-----|--------|------|----|--|
| Antimony  | 1.028  | 0.0200 | 1.000 |          | 103  | 75 | 125 | 0.9824 | 4.54 | 20 |  |
| Arsenic   | 1.012  | 0.0500 | 1.000 |          | 101  | 75 | 125 | 0.9761 | 3.66 | 20 |  |
| Barium    | 1.072  | 0.0200 | 1.000 | 0.07274  | 99.9 | 75 | 125 | 1.038  | 3.23 | 20 |  |
| Beryllium | 0.9851 | 0.0100 | 1.000 |          | 98.5 | 75 | 125 | 0.9698 | 1.57 | 20 |  |
| Cadmium   | 1.002  | 0.0050 | 1.000 |          | 100  | 75 | 125 | 0.9722 | 2.97 | 20 |  |
| Chromium  | 0.9944 | 0.0100 | 1.000 |          | 99.4 | 75 | 125 | 0.9614 | 3.37 | 20 |  |
| Copper    | 1.002  | 0.0100 | 1.000 | 0.006366 | 99.6 | 75 | 125 | 0.9597 | 4.31 | 20 |  |
| Iron      | 9.843  | 0.100  | 10.00 | 0.06224  | 97.8 | 75 | 125 | 9.560  | 2.92 | 20 |  |
| Lead      | 0.9832 | 0.0100 | 1.000 | 0.001317 | 98.2 | 75 | 125 | 0.9515 | 3.27 | 20 |  |
| Nickel    | 1.004  | 0.0200 | 1.000 | 0.01975  | 98.4 | 75 | 125 | 0.9709 | 3.31 | 20 |  |
| Zinc      | 1.001  | 0.0200 | 1.000 | 0.01789  | 98.3 | 75 | 125 | 0.9699 | 3.15 | 20 |  |

| Sample ID: 1402C76-004CMSD | Client ID: MW-25D-20140217-01   | Units: mg/L     | Prep Date: 02/20/2014     | Run No: 261723  |      |           |            |             |      |           |      |
|----------------------------|---------------------------------|-----------------|---------------------------|-----------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: MSD            | TestCode: METALS, TOTAL SW6010C | BatchID: 187273 | Analysis Date: 02/21/2014 | Seq No: 5504310 |      |           |            |             |      |           |      |
| Analyte                    | Result                          | RPT Limit       | SPK value                 | SPK Ref Val     | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |        |       |    |  |
|-----------|--------|--------|-------|----------|------|----|-----|--------|-------|----|--|
| Antimony  | 0.9930 | 0.0200 | 1.000 |          | 99.3 | 75 | 125 | 0.9878 | 0.526 | 20 |  |
| Arsenic   | 0.9860 | 0.0500 | 1.000 |          | 98.6 | 75 | 125 | 0.9825 | 0.350 | 20 |  |
| Barium    | 4.635  | 0.0200 | 1.000 | 3.699    | 93.6 | 75 | 125 | 4.588  | 1.02  | 20 |  |
| Beryllium | 0.9604 | 0.0100 | 1.000 | 0.003300 | 95.7 | 75 | 125 | 0.9555 | 0.513 | 20 |  |
| Cadmium   | 0.9764 | 0.0050 | 1.000 |          | 97.6 | 75 | 125 | 0.9756 | 0.083 | 20 |  |
| Chromium  | 0.9878 | 0.0100 | 1.000 |          | 98.8 | 75 | 125 | 0.9828 | 0.505 | 20 |  |
| Copper    | 0.9550 | 0.0100 | 1.000 | 0.003805 | 95.1 | 75 | 125 | 0.9477 | 0.767 | 20 |  |
| Iron      | 9.401  | 0.100  | 10.00 | 0.03462  | 93.7 | 75 | 125 | 9.331  | 0.755 | 20 |  |
| Lead      | 0.9532 | 0.0100 | 1.000 |          | 95.3 | 75 | 125 | 0.9526 | 0.067 | 20 |  |
| Nickel    | 0.9245 | 0.0200 | 1.000 | 0.007993 | 91.7 | 75 | 125 | 0.9240 | 0.053 | 20 |  |
| Zinc      | 0.9777 | 0.0200 | 1.000 | 0.02926  | 94.8 | 75 | 125 | 0.9762 | 0.154 | 20 |  |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187283**

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187283</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500697</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

BRL 4

|                              |   |                        |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-187283</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500753</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

129.0 4 200.0 64.5 45.2 115

|                               |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCSD-187283</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCSD</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500755</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

126.8 4 200.0 63.4 45.2 115 129.0 1.77 20

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002BMS</b> | Client ID: <b>MW-113D-20140217-01</b>                       | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500902</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

122.2 4 200.0 5.730 58.2 41.1 115

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002BMSD</b> | Client ID: <b>MW-113D-20140217-01</b>                       | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500906</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

122.8 4 200.0 5.730 58.5 41.1 115 122.2 0.524 20

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187286**

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187286</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502016</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane BRL 4

|                              |   |                        |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-187286</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502018</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 131.2 4 200.0 65.6 45.2 115

|                               |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCSD-187286</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCSD</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502020</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 132.6 4 200.0 66.3 45.2 115 131.2 1.08 20

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004BMS</b> | Client ID: <b>MW-25D-20140217-01</b>                        | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502030</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 134.9 4 200.0 67.5 41.1 115

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004BMSD</b> | Client ID: <b>MW-25D-20140217-01</b>                        | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502035</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 141.2 4 200.0 70.6 41.1 115 134.9 4.54 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261580

|                              |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261580</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261580</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261580</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499050</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate BRL 0.25  
 Sulfate BRL 1.0

|                               |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261580</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261580</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261580</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499045</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 5.027 0.25 5.000 101 90 110  
 Sulfate 23.85 1.0 25.00 95.4 90 110

|                                  |                                       |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002DMS</b> | Client ID: <b>MW-113D-20140217-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261580</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b>     | BatchID: <b>R261580</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499060</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 25.56 1.2 25.00 102 90 110  
 Sulfate 173.3 5.0 125.0 45.52 102 90 110

|                                  |                                      |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|--------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004DMS</b> | Client ID: <b>MW-25D-20140217-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261580</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b>    | BatchID: <b>R261580</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499072</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                               | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 54.65 2.5 50.00 3.854 102 90 110  
 Sulfate 238.4 10 250.0 0.6882 95.1 90 110

|                                   |                                       |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002DMSD</b> | Client ID: <b>MW-113D-20140217-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261580</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b>     | BatchID: <b>R261580</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499063</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 25.61 1.2 25.00 102 90 110 25.56 0.182 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261580

|                                   |                                       |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002DMSD</b> | Client ID: <b>MW-113D-20140217-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261580</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b>     | BatchID: <b>R261580</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499063</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|         |       |     |       |       |     |    |     |       |       |    |  |
|---------|-------|-----|-------|-------|-----|----|-----|-------|-------|----|--|
| Sulfate | 173.5 | 5.0 | 125.0 | 45.52 | 102 | 90 | 110 | 173.3 | 0.115 | 20 |  |
|---------|-------|-----|-------|-------|-----|----|-----|-------|-------|----|--|

|                                   |                                      |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|--------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004DMSD</b> | Client ID: <b>MW-25D-20140217-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261580</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b>    | BatchID: <b>R261580</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5499075</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                               | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|         |       |     |       |        |      |    |     |       |       |    |  |
|---------|-------|-----|-------|--------|------|----|-----|-------|-------|----|--|
| Nitrate | 54.68 | 2.5 | 50.00 | 3.854  | 102  | 90 | 110 | 54.65 | 0.047 | 20 |  |
| Sulfate | 238.3 | 10  | 250.0 | 0.6882 | 95.0 | 90 | 110 | 238.4 | 0.046 | 20 |  |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261632**

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261632</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500450</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide BRL 1.0

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261632</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500451</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 291.2 1.0 291.2 100 90 110

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002GMS</b> | Client ID: <b>MW-113D-20140217-01</b>         | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500453</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 12.96 1.0 14.56 89.0 80 120

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004GMS</b> | Client ID: <b>MW-25D-20140217-01</b>          | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500459</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 14.56 1.0 14.56 100 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002GMSD</b> | Client ID: <b>MW-113D-20140217-01</b>         | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500455</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 13.36 1.0 14.56 91.8 80 120 12.96 3.04 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: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261632**

|                                   |   |                         |                                  |                        |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|
| Sample ID: <b>1402C76-004GMSD</b> | Client ID: <b>MW-25D-20140217-01</b>          | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500460</b> |

| Analyte | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|---------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Sulfide | 14.96  | 1.0       | 14.56     |             | 103  | 80        | 120        | 14.56       | 2.71 | 20        |      |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261802**

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261802</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261802</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261802</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5503665</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

BRL 0.100

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261802</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261802</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261802</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5503666</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.4745 0.100 0.5000 94.9 85 115

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002EMS</b> | Client ID: <b>MW-113D-20140217-01</b>     | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261802</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261802</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5503671</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.4860 0.100 0.5000 97.2 80 120

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004EMS</b> | Client ID: <b>MW-25D-20140217-01</b>      | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261802</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261802</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5503673</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.4860 0.100 0.5000 97.2 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002EMSD</b> | Client ID: <b>MW-113D-20140217-01</b>     | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261802</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261802</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5503672</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.4918 0.100 0.5000 98.4 80 120 0.4860 1.19 30

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402C76

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261802**

|                                   |   |                         |                                  |                        |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|
| Sample ID: <b>1402C76-004EMSD</b> | Client ID: <b>MW-25D-20140217-01</b>      | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261802</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261802</b> | Analysis Date: <b>02/18/2014</b> | Seq No: <b>5503676</b> |

| Analyte                 | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|-------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Iron, as Ferrous (Fe+2) | 0.4947 | 0.100     | 0.5000    |             | 98.9 | 80        | 120        | 0.4860      | 1.77 | 30        |      |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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 |   |  |



February 25, 2014

Jim Morrison  
ERM-Southeast  
3200 Windy Hill Rd  
Atlanta GA 30339

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

RE: AGLC Macon

Dear Jim Morrison:

Order No: 1402D63

Analytical Environmental Services, Inc. received 7 samples on 2/18/2014 6:15:00 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' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

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

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

Mirzeta Kararic  
Project Manager



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: 1402063

Page 1 of 1

Date: 2-18-14

COMPANY: **ERM**

ADDRESS: **3200 Windy Hill Rd SE, Atlanta, GA 30339**

SAMPLED BY: **D. Dowling / R. McTigue**

SIGNATURE: *[Signature]*

| #  | SAMPLE ID            | SAMPLED |      | Grab | Composite | Matrix (See codes) | ANALYSIS REQUESTED |           |                                 |                             |                           |         |       |             |   |    | REMARKS | No # of Containers |
|----|----------------------|---------|------|------|-----------|--------------------|--------------------|-----------|---------------------------------|-----------------------------|---------------------------|---------|-------|-------------|---|----|---------|--------------------|
|    |                      | DATE    | TIME |      |           |                    | 8260 VOLS          | 8270 SVCS | 6010 to the m...<br>to the m... | Grandly 30 g...<br>granules | Reparent or<br>Fertilizer | IONSCAN | Slide | Microscopes |   |    |         |                    |
| 1  | TB-02-20140218-01    | 2-18-14 | -    | X    |           | W                  | X                  | X         | X                               | X                           | X                         | X       | X     | X           | X | 2  |         |                    |
| 2  | DAP-01-20140218-01   | 2-18-14 | -    | X    |           | W                  | X                  | X         | X                               | X                           | X                         | X       | X     | X           | X | 13 |         |                    |
| 3  | MW-24D-20140218-01   |         | 1030 | X    |           | W                  | X                  | X         | X                               | X                           | X                         | X       | X     | X           | X | 13 |         |                    |
| 4  | MW-300D-20140218-01  |         | 1140 | X    |           | W                  | X                  | X         | X                               | X                           | X                         | X       | X     | X           | X | 13 |         |                    |
| 5  | MW-33D-20140218-01   |         | 1215 | X    |           | W                  | X                  | X         | X                               | X                           | X                         | X       | X     | X           | X | 13 |         |                    |
| 6  | MW-12DRR-20140218-01 |         | 1250 | X    |           | W                  | X                  | X         | X                               | X                           | X                         | X       | X     | X           | X | 13 |         |                    |
| 7  | MW-206D-20140218-01  |         | 1420 | X    |           | W                  | X                  | X         | X                               | X                           | X                         | X       | X     | X           | X | 13 |         |                    |
| 8  |                      |         |      |      |           |                    |                    |           |                                 |                             |                           |         |       |             |   |    |         |                    |
| 9  |                      |         |      |      |           |                    |                    |           |                                 |                             |                           |         |       |             |   |    |         |                    |
| 10 |                      |         |      |      |           |                    |                    |           |                                 |                             |                           |         |       |             |   |    |         |                    |
| 11 |                      |         |      |      |           |                    |                    |           |                                 |                             |                           |         |       |             |   |    |         |                    |
| 12 |                      |         |      |      |           |                    |                    |           |                                 |                             |                           |         |       |             |   |    |         |                    |
| 13 |                      |         |      |      |           |                    |                    |           |                                 |                             |                           |         |       |             |   |    |         |                    |
| 14 |                      |         |      |      |           |                    |                    |           |                                 |                             |                           |         |       |             |   |    |         |                    |

RELINQUISHED BY: **Donald Bonding** 2/18/14 1815  
RECEIVED BY: **[Signature]** 2/18/14 1815

PROJECT NAME: **AGLC Macan**  
PROJECT #: **0230719 phos2**  
SITE ADDRESS: **137 Mulberry Street, Macon, GA**  
SEND REPORT TO: **JIM MORRISON**  
INVOICE TO: **(IF DIFFERENT FROM ABOVE)**  
QUOTE #:

TURNAROUND TIME REQUEST:  
 Standard 5 Business Days  
 2 Business Day Rush  
 Next Business Day Rush  
 Same Day Rush (auth req.)  
 Other

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

SPECIAL INSTRUCTIONS/COMMENTS:  
**Fe 2+; hexavalent Cr short hold**

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

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED RECEIVED THE NEXT BUSINESS DAY. IF TURNAROUND TIME IS NOT INDICATED, AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.

SAMPLES ARE DISPOSED 30 DAYS AFTER REPORT COMPLETION UNLESS OTHER ARRANGEMENTS ARE MADE.

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

White Copy - Original; Yellow Copy - Client

**Client:** ERM-Southeast  
**Project:** AGLC Macon  
**Lab ID:** 1402D63

**Case Narrative**

Sample Receiving Nonconformance:

Hexavalent Chromium was listed on the COC. Samples were analyzed for Ferrous Iron per project history and Nic Vrey was notified via phone on 2/18/14.

Ferrous Iron by Method SM3500-Fe-B:

Sample ID "DUP-01-20140218-01" is reporting with an H-Flag since there is no collection time on the COC.

PAH Analysis by Method 8270D SIM:

Percent recovery for the internal standard compound Acenaphthene-d10, Phenanthrene-d10, Chrysene-d12, Perylene-d12 on sample 1402D63-002H was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

Percent recovery for the internal standard compound Naphthalene-d8, Acenaphthene-d10, Phenanthrene-d10, Chrysene-d12, Perylene-d12 on sample 1402D63-002H was outside control limits biased low due to suspected matrix interference. All other internal standard recoveries were within control limits.

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> TB-02-20140218-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/18/2014          |
| <b>Lab ID:</b> 1402D63-001      | <b>Matrix:</b> Aqueous                     |

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L             | 187242  | 1               | 02/19/2014 17:32 | GK      |
| Carbon disulfide                                   | BRL    | 5.0             |      | ug/L             | 187242  | 1               | 02/19/2014 17:32 | GK      |
| Ethylbenzene                                       | BRL    | 5.0             |      | ug/L             | 187242  | 1               | 02/19/2014 17:32 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 187242  | 1               | 02/19/2014 17:32 | GK      |
| Xylenes, Total                                     | BRL    | 5.0             |      | ug/L             | 187242  | 1               | 02/19/2014 17:32 | GK      |
| Surr: 4-Bromofluorobenzene                         | 92.3   | 66.2-120        |      | %REC             | 187242  | 1               | 02/19/2014 17:32 | GK      |
| Surr: Dibromofluoromethane                         | 98.1   | 79.5-121        |      | %REC             | 187242  | 1               | 02/19/2014 17:32 | GK      |
| Surr: Toluene-d8                                   | 101    | 77-117          |      | %REC             | 187242  | 1               | 02/19/2014 17:32 | GK      |

**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

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> DUP-01-20140218-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/18/2014           |
| <b>Lab ID:</b> 1402D63-002      | <b>Matrix:</b> Groundwater                  |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 290    | 50              |      | ug/L  | 187242  | 10              | 02/20/2014 12:53 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 19:48 | GK      |
| Ethylbenzene   | 130    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 19:48 | GK      |
| Toluene  | 7.0    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 19:48 | GK      |
| Xylenes, Total   | 98     | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 19:48 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 96.1   | 66.2-120        |      | %REC  | 187242  | 10              | 02/20/2014 12:53 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 99.4   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 19:48 | GK      |
| Surr: Dibromofluoromethane                                     | 97.3   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 19:48 | GK      |
| Surr: Dibromofluoromethane                                     | 99.3   | 79.5-121        |      | %REC  | 187242  | 10              | 02/20/2014 12:53 | GK      |
| Surr: Toluene-d8   | 99.5   | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 19:48 | GK      |
| Surr: Toluene-d8   | 100    | 77-117          |      | %REC  | 187242  | 10              | 02/20/2014 12:53 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.27   | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 15:12 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 15:12 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 15:12 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 15:12 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 15:12 | YH      |
| Surr: 4-Terphenyl-d14  | 97.7   | 53.2-145        |      | %REC  | 187215  | 1               | 02/20/2014 15:12 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Acenaphthene   | 35     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Acenaphthylene   | 12     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Fluorene   | 41     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Naphthalene  | 570    | 100             |      | ug/L  | 187279  | 10              | 02/21/2014 23:15 | YH      |
| Phenanthrene   | 17     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 87.9   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Surr: 2-Fluorobiphenyl   | 82.8   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 15:54 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
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- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

**Date:** 26-Feb-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> DUP-01-20140218-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/18/2014           |
| <b>Lab ID:</b> 1402D63-002      | <b>Matrix:</b> Groundwater                  |

| Analyses  | Result | Reporting Limit  | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|------------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        | <b>(SW3510C)</b> |      |       |         |                 |                  |         |
| Surr: 2-Fluorophenol                              | 57.4   | 26-120           |      | %REC  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Surr: 4-Terphenyl-d14                             | 90.5   | 45.2-137         |      | %REC  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Surr: Nitrobenzene-d5                             | 72     | 42-120           |      | %REC  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| Surr: Phenol-d5                                   | 49.5   | 12.3-120         |      | %REC  | 187279  | 1               | 02/21/2014 15:54 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        | <b>(SW7470A)</b> |      |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020          |      | mg/L  | 187225  | 1               | 02/19/2014 13:57 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                  |      |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25             |      | mg/L  | R261670 | 1               | 02/19/2014 12:38 | GR      |
| Sulfate   | BRL    | 1.0              |      | mg/L  | R261670 | 1               | 02/19/2014 12:38 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        | <b>(RSK175)</b>  |      |       |         |                 |                  |         |
| Methane   | 780    | 40               |      | ug/L  | 187283  | 10              | 02/20/2014 13:27 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                  |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 1.92   | 1.00             | H    | mg/L  | R261803 | 10              | 02/19/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        | <b>(SW9010C)</b> |      |       |         |                 |                  |         |
| Cyanide, Total                                    | 0.020  | 0.010            |      | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        | <b>(SW3010A)</b> |      |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Arsenic   | BRL    | 0.0500           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Barium  | 1.43   | 0.0200           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Beryllium   | BRL    | 0.0100           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Cadmium   | BRL    | 0.0050           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Chromium  | BRL    | 0.0100           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Copper  | BRL    | 0.0100           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Iron  | 5.61   | 0.100            |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Lead  | BRL    | 0.0100           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Nickel  | BRL    | 0.0200           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | JL      |
| Zinc  | BRL    | 0.0200           |      | mg/L  | 187273  | 1               | 02/20/2014 19:38 | 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402D63-003

Client Sample ID: MW-24D-20140218-01  
 Collection Date: 2/18/2014 10:30:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:16 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:16 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:16 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:16 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:16 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 94.1   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 20:16 | GK      |
| Surr: Dibromofluoromethane                                     | 99.2   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 20:16 | GK      |
| Surr: Toluene-d8   | 99     | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 20:16 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 15:40 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 15:40 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 15:40 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 15:40 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 15:40 | YH      |
| Surr: 4-Terphenyl-d14  | 98.8   | 53.2-145        |      | %REC  | 187215  | 1               | 02/20/2014 15:40 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 89.4   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Surr: 2-Fluorobiphenyl   | 87.1   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Surr: 2-Fluorophenol   | 65.7   | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Surr: 4-Terphenyl-d14  | 95.2   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| Surr: Nitrobenzene-d5  | 79.9   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 16:20 | 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: 26-Feb-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-24D-20140218-01   |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/18/2014 10:30:00 AM |
| <b>Lab ID:</b> 1402D63-003      | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 54.1   | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 16:20 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187225  | 1               | 02/19/2014 14:03 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261670 | 1               | 02/19/2014 13:08 | GR      |
| Sulfate   | BRL    | 1.0             |                  | mg/L  | R261670 | 1               | 02/19/2014 13:08 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | BRL    | 4               |                  | ug/L  | 187283  | 1               | 02/20/2014 13:15 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261803 | 1               | 02/19/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Barium  | 0.149  | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Iron  | 0.791  | 0.100           |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |
| Zinc  | 0.0272 | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:42 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
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- N Analyte not NELAC certified
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- 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

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-300D-20140218-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/18/2014 11:40:00 AM |
| <b>Lab ID:</b> 1402D63-004      | <b>Matrix:</b> Groundwater                    |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:43 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:43 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:43 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:43 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 20:43 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 93.7   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 20:43 | GK      |
| Surr: Dibromofluoromethane                                     | 98.6   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 20:43 | GK      |
| Surr: Toluene-d8   | 101    | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 20:43 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 16:07 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 16:07 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 16:07 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 16:07 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 16:07 | YH      |
| Surr: 4-Terphenyl-d14  | 57.4   | 53.2-145        |      | %REC  | 187215  | 1               | 02/20/2014 16:07 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 87.4   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Surr: 2-Fluorobiphenyl   | 83.2   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Surr: 2-Fluorophenol   | 58.1   | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Surr: 4-Terphenyl-d14  | 87.2   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| Surr: Nitrobenzene-d5  | 74     | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 16:46 | YH      |

**Qualifiers:**

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- BRL Below reporting limit
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- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 26-Feb-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-300D-20140218-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/18/2014 11:40:00 AM |
| <b>Lab ID:</b> 1402D63-004      | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 45.8   | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 16:46 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187225  | 1               | 02/19/2014 14:05 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261670 | 1               | 02/19/2014 11:52 | GR      |
| Sulfate   | 2.0    | 1.0             |                  | mg/L  | R261670 | 1               | 02/19/2014 11:52 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 5      | 4               |                  | ug/L  | 187283  | 1               | 02/20/2014 13:21 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261803 | 1               | 02/19/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Barium  | 0.619  | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Cadmium   | 0.0203 | 0.0050          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Iron  | 0.425  | 0.100           |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |
| Zinc  | 0.391  | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 19:52 | JL      |

**Qualifiers:**

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- BRL Below reporting limit
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- 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402D63-005

Client Sample ID: MW-23D-20140218-01  
 Collection Date: 2/18/2014 12:15:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:59 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:59 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:59 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:59 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 17:59 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 92.7   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 17:59 | GK      |
| Surr: Dibromofluoromethane                                     | 96.7   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 17:59 | GK      |
| Surr: Toluene-d8   | 99.8   | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 17:59 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 16:34 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 16:34 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 16:34 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 16:34 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 16:34 | YH      |
| Surr: 4-Terphenyl-d14  | 112    | 53.2-145        |      | %REC  | 187215  | 1               | 02/20/2014 16:34 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 83.5   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Surr: 2-Fluorobiphenyl   | 74.7   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Surr: 2-Fluorophenol   | 53.6   | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Surr: 4-Terphenyl-d14  | 89.2   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| Surr: Nitrobenzene-d5  | 63.8   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 17:12 | YH      |

**Qualifiers:**

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- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 26-Feb-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-23D-20140218-01   |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/18/2014 12:15:00 PM |
| <b>Lab ID:</b> 1402D63-005      | <b>Matrix:</b> Groundwater                    |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>  |        |                 |      |       |         |                 |                  |         |
| Surr: Phenol-d5  | 45.8   | 12.3-120        |      | %REC  | 187279  | 1               | 02/21/2014 17:12 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                    |        |                 |      |       |         |                 |                  |         |
| Mercury  | BRL    | 0.00020         |      | mg/L  | 187225  | 1               | 02/19/2014 14:07 | CG      |
| <b>ION SCAN SW9056A</b>                                    |        |                 |      |       |         |                 |                  |         |
| Nitrate  | BRL    | 0.25            |      | mg/L  | R261670 | 1               | 02/19/2014 12:07 | GR      |
| Sulfate  | 49     | 5.0             |      | mg/L  | R261670 | 5               | 02/19/2014 13:23 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175 (RSK175)</b> |        |                 |      |       |         |                 |                  |         |
| Methane  | 17     | 4               |      | ug/L  | 187283  | 1               | 02/20/2014 13:33 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                            |        |                 |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                                    | BRL    | 0.100           |      | mg/L  | R261803 | 1               | 02/19/2014 08:30 | AB      |
| <b>Cyanide SW9014 (SW9010C)</b>                            |        |                 |      |       |         |                 |                  |         |
| Cyanide, Total   | BRL    | 0.010           |      | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C (SW3010A)</b>                     |        |                 |      |       |         |                 |                  |         |
| Antimony   | BRL    | 0.0200          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Arsenic  | BRL    | 0.0500          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Barium   | 0.0522 | 0.0200          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Beryllium  | BRL    | 0.0100          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Cadmium  | BRL    | 0.0050          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Chromium   | BRL    | 0.0100          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Copper   | BRL    | 0.0100          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Iron   | BRL    | 0.100           |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Lead   | BRL    | 0.0100          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Nickel   | BRL    | 0.0200          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | JL      |
| Zinc   | BRL    | 0.0200          |      | mg/L  | 187273  | 1               | 02/20/2014 19:56 | 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402D63-006

Client Sample ID: MW-12DRR-20140218-01  
 Collection Date: 2/18/2014 12:50:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 280    | 50              |      | ug/L  | 187242  | 10              | 02/19/2014 18:54 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 18:26 | GK      |
| Ethylbenzene   | 120    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 18:26 | GK      |
| Toluene  | 6.9    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 18:26 | GK      |
| Xylenes, Total   | 94     | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 18:26 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 94.2   | 66.2-120        |      | %REC  | 187242  | 10              | 02/19/2014 18:54 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 97     | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 18:26 | GK      |
| Surr: Dibromofluoromethane                                     | 96.4   | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 18:26 | GK      |
| Surr: Dibromofluoromethane                                     | 98.5   | 79.5-121        |      | %REC  | 187242  | 10              | 02/19/2014 18:54 | GK      |
| Surr: Toluene-d8   | 97.8   | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 18:26 | GK      |
| Surr: Toluene-d8   | 99.2   | 77-117          |      | %REC  | 187242  | 10              | 02/19/2014 18:54 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.29   | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 17:01 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 17:01 | YH      |
| Benzo(a)pyrene   | 0.087  | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 17:01 | YH      |
| Indeno(1,2,3-cd)pyrene   | 0.087  | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 17:01 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 17:01 | YH      |
| Surr: 4-Terphenyl-d14  | 88.4   | 53.2-145        |      | %REC  | 187215  | 1               | 02/20/2014 17:01 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Acenaphthene   | 35     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Acenaphthylene   | 12     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Fluorene   | 40     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Naphthalene  | 530    | 100             |      | ug/L  | 187279  | 10              | 02/21/2014 23:42 | YH      |
| Phenanthrene   | 14     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 95.9   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Surr: 2-Fluorobiphenyl   | 87.6   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 17:38 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

**Date:** 26-Feb-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-12DRR-20140218-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/18/2014 12:50:00 PM |
| <b>Lab ID:</b> 1402D63-006      | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit  | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|------------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        | <b>(SW3510C)</b> |      |       |         |                 |                  |         |
| Surr: 2-Fluorophenol                              | 62.5   | 26-120           |      | %REC  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Surr: 4-Terphenyl-d14                             | 97.6   | 45.2-137         |      | %REC  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Surr: Nitrobenzene-d5                             | 75.8   | 42-120           |      | %REC  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| Surr: Phenol-d5                                   | 55.8   | 12.3-120         |      | %REC  | 187279  | 1               | 02/21/2014 17:38 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        | <b>(SW7470A)</b> |      |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020          |      | mg/L  | 187225  | 1               | 02/19/2014 14:09 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                  |      |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25             |      | mg/L  | R261670 | 1               | 02/19/2014 12:22 | GR      |
| Sulfate   | 1.1    | 1.0              |      | mg/L  | R261670 | 1               | 02/19/2014 12:22 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        | <b>(RSK175)</b>  |      |       |         |                 |                  |         |
| Methane   | 840    | 40               |      | ug/L  | 187283  | 10              | 02/20/2014 13:49 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                  |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 2.10   | 1.00             |      | mg/L  | R261803 | 10              | 02/19/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        | <b>(SW9010C)</b> |      |       |         |                 |                  |         |
| Cyanide, Total                                    | 0.026  | 0.010            |      | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        | <b>(SW3010A)</b> |      |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Arsenic   | BRL    | 0.0500           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Barium  | 1.42   | 0.0200           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Beryllium   | BRL    | 0.0100           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Cadmium   | BRL    | 0.0050           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Chromium  | BRL    | 0.0100           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Copper  | BRL    | 0.0100           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Iron  | 5.53   | 0.100            |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Lead  | BRL    | 0.0100           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Nickel  | BRL    | 0.0200           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |
| Zinc  | BRL    | 0.0200           |      | mg/L  | 187273  | 1               | 02/20/2014 20:00 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402D63-007

Client Sample ID: MW-206D-20140218-01  
 Collection Date: 2/18/2014 2:20:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 19:21 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 19:21 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 19:21 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 19:21 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187242  | 1               | 02/19/2014 19:21 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 94.1   | 66.2-120        |      | %REC  | 187242  | 1               | 02/19/2014 19:21 | GK      |
| Surr: Dibromofluoromethane                                     | 101    | 79.5-121        |      | %REC  | 187242  | 1               | 02/19/2014 19:21 | GK      |
| Surr: Toluene-d8   | 101    | 77-117          |      | %REC  | 187242  | 1               | 02/19/2014 19:21 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261632 | 1               | 02/20/2014 08:40 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.13   | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 17:27 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 17:27 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 17:27 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187215  | 1               | 02/20/2014 17:27 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187215  | 1               | 02/20/2014 17:27 | YH      |
| Surr: 4-Terphenyl-d14  | 91.9   | 53.2-145        |      | %REC  | 187215  | 1               | 02/20/2014 17:27 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 90.2   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Surr: 2-Fluorobiphenyl   | 80.8   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Surr: 2-Fluorophenol   | 59.3   | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Surr: 4-Terphenyl-d14  | 93.8   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| Surr: Nitrobenzene-d5  | 69.9   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 18:03 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 26-Feb-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-206D-20140218-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/18/2014 2:20:00 PM |
| <b>Lab ID:</b> 1402D63-007      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 52.7   | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 18:03 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187225  | 1               | 02/19/2014 14:11 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261670 | 1               | 02/19/2014 12:53 | GR      |
| Sulfate   | 110    | 5.0             |                  | mg/L  | R261670 | 5               | 02/19/2014 13:38 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 54     | 4               |                  | ug/L  | 187283  | 1               | 02/20/2014 13:43 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 4.00   | 1.00            |                  | mg/L  | R261803 | 10              | 02/19/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Barium  | 0.0618 | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Iron  | 12.8   | 0.100           |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187273  | 1               | 02/20/2014 20:04 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit



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March 3, 2014

Mirzeta Kararic  
Analytical Environmental Services, Inc.  
3785 Presidential Parkway  
Suite 111  
Atlanta, GA 30340

RE: **1402D63**

*Microseeps Workorder: 11453*

Dear Mirzeta Kararic:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, February 21, 2014. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl 03/03/2014  
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 15

Report ID: 11453 - 493247

Page 1 of 13



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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

|                          |  |   |
|--------------------------|--|---|
| <b>Accreditor:</b>       | Pennsylvania Department of Environmental Protection, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | 02-00538   |   |
| <b>Scope:</b>            | NELAP Non-Potable Water and Solid & Hazardous Waste  |   |
| <b>Accreditor:</b>       | NELAP: State of Florida, Department of Health, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | E87832   |   |
| <b>Scope:</b>            | Clean Water Act (CWA)  | Resource Conservation and Recovery Act (RCRA) |
| <b>Accreditor:</b>       | South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification  |   |
| <b>Accreditation ID:</b> | 89009003   |   |
| <b>Scope:</b>            | Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)   |   |
| <b>Accreditor:</b>       | NELAP: State of Louisiana, Department of Environmental Quality   |   |
| <b>Accreditation ID:</b> | 04104  |   |
| <b>Scope:</b>            | Solid and Chemical Materials; Non-Potable Water  |   |
| <b>Accreditor:</b>       | NELAP: New Jersey, Department of Environmental Protection  |   |
| <b>Accreditation ID:</b> | PA026  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Chemical Materials  |   |
| <b>Accreditor:</b>       | NELAP: New York, Department of Health Wadsworth Center   |   |
| <b>Accreditation ID:</b> | 11815  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Hazardous Waste   |   |
| <b>Accreditor:</b>       | State of Connecticut, Department of Public Health, Division of Environmental Health  |   |
| <b>Accreditation ID:</b> | PH-0263  |   |
| <b>Scope:</b>            | Clean Water Act (CWA)  | Resource Conservation and Recovery Act (RCRA) |
| <b>Accreditor:</b>       | NELAP: Texas, Commission on Environmental Quality  |   |
| <b>Accreditation ID:</b> | T104704453-09-TX   |   |
| <b>Scope:</b>            | Non-Potable Water  |   |
| <b>Accreditor:</b>       | State of New Hampshire   |   |
| <b>Accreditation ID:</b> | 299409   |   |
| <b>Scope:</b>            | Non-potable water  |   |
| <b>Accreditor:</b>       | State of Georgia   |   |
| <b>Accreditation ID:</b> | Chapter 391-3-26   |   |
| <b>Scope:</b>            | As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC). |   |



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## SAMPLE SUMMARY

Workorder: 11453 1402D63

| Lab ID    | Sample ID            | Matrix | Date Collected  | Date Received   |
|-----------|----------------------|--------|-----------------|-----------------|
| 114530001 | DUP-01-20140218-01   | Water  | 2/18/2014 00:00 | 2/21/2014 12:30 |
| 114530002 | MW-24D-20140218-01   | Water  | 2/18/2014 10:30 | 2/21/2014 12:30 |
| 114530003 | MW-300D-20140218-01  | Water  | 2/18/2014 11:40 | 2/21/2014 12:30 |
| 114530004 | MW-23D-20140218-01   | Water  | 2/18/2014 12:15 | 2/21/2014 12:30 |
| 114530005 | MW-12DRR-20140218-01 | Water  | 2/18/2014 12:50 | 2/21/2014 12:30 |
| 114530006 | MW-206D-20140218-01  | Water  | 2/18/2014 14:20 | 2/21/2014 12:30 |



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### ANALYTICAL RESULTS

Workorder: 11453 1402D63

Lab ID: 114530001 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: DUP-01-20140218-01 Date Collected: 2/18/2014 00:00

| Parameters  | Results | Units | PQL  | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|---|---------|-------|------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>                                |         |       |      |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX Analytical Method: AM20GAX |         |       |      |       |    |          |    |                 |    |      |
| Carbon Dioxide                                    | 84      | mg/l  | 5.0  | 0.23  | 1  |          |    | 2/26/2014 10:08 | GT |      |
| Oxygen  | 2.0     | mg/l  | 0.50 | 0.082 | 1  |          |    | 2/26/2014 10:08 | GT |      |
| Nitrogen  | 19      | mg/l  | 2.0  | 1.8   | 1  |          |    | 2/26/2014 10:08 | GT |      |
| Carbon Monoxide                                   | <1.0    | mg/l  | 1.0  | 0.14  | 1  |          |    | 2/26/2014 10:08 | GT |      |



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### ANALYTICAL RESULTS

Workorder: 11453 1402D63

Lab ID: 114530002 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: MW-24D-20140218-01 Date Collected: 2/18/2014 10:30

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | 5.2     | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/26/2014 10:20 | GT |      |
| Oxygen                 | 9.0     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/26/2014 10:20 | GT |      |
| Nitrogen               | 17      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/26/2014 10:20 | GT |      |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/26/2014 10:20 | GT |      |



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### ANALYTICAL RESULTS

Workorder: 11453 1402D63

Lab ID: 114530003 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: MW-300D-20140218-01 Date Collected: 2/18/2014 11:40

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | <5.0    | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/26/2014 10:32 |    | GT   |
| Oxygen                 | 9.5     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/26/2014 10:32 |    | GT   |
| Nitrogen               | 19      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/26/2014 10:32 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/26/2014 10:32 |    | GT   |



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### ANALYTICAL RESULTS

Workorder: 11453 1402D63

Lab ID: 114530004 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: MW-23D-20140218-01 Date Collected: 2/18/2014 12:15

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | 78      | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/26/2014 10:45 | GT |      |
| Oxygen                 | 5.3     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/26/2014 10:45 | GT |      |
| Nitrogen               | 16      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/26/2014 10:45 | GT |      |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/26/2014 10:45 | GT |      |



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**ANALYTICAL RESULTS**

Workorder: 11453 1402D63

Lab ID: **114530005** Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: **MW-12DRR-20140218-01** Date Collected: 2/18/2014 12:50

| Parameters | Results | Units | PQL | MDL | DF | Prepared | By | Analyzed | By | Qual |
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|

**RISK - MICR**

Analysis Desc: AM20GAX Analytical Method: AM20GAX

|                 |      |      |      |       |   |  |  |                 |    |  |
|-----------------|------|------|------|-------|---|--|--|-----------------|----|--|
| Carbon Dioxide  | 85   | mg/l | 5.0  | 0.23  | 1 |  |  | 2/26/2014 10:57 | GT |  |
| Oxygen          | 2.6  | mg/l | 0.50 | 0.082 | 1 |  |  | 2/26/2014 10:57 | GT |  |
| Nitrogen        | 20   | mg/l | 2.0  | 1.8   | 1 |  |  | 2/26/2014 10:57 | GT |  |
| Carbon Monoxide | <1.0 | mg/l | 1.0  | 0.14  | 1 |  |  | 2/26/2014 10:57 | GT |  |



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**ANALYTICAL RESULTS**

Workorder: 11453 1402D63

Lab ID: 114530006 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: MW-206D-20140218-01 Date Collected: 2/18/2014 14:20

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | 110     | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/26/2014 11:47 | GT |      |
| Oxygen                 | 4.4     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/26/2014 11:47 | GT |      |
| Nitrogen               | 20      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/26/2014 11:47 | GT |      |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/26/2014 11:47 | GT |      |



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 11453 1402D63

### DEFINITIONS/QUALIFIERS

Disclaimer : The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAx, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).



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**QUALITY CONTROL DATA**

Workorder: 11453 1402D63

QC Batch: DISG/3602 Analysis Method: AM20GAX  
 QC Batch Method: AM20GAX  
 Associated Lab Samples: 114530001, 114530002, 114530003, 114530004, 114530005, 114530006

METHOD BLANK: 26058

| Parameter       | Units | Blank Result | Reporting Limit | Qualifiers |
|-----------------|-------|--------------|-----------------|------------|
| <b>RISK</b>     |       |              |                 |            |
| Carbon Dioxide  | mg/l  | <5.0         | 5.0             |            |
| Oxygen          | mg/l  | <0.50        | 0.50            |            |
| Nitrogen        | mg/l  | <2.0         | 2.0             |            |
| Carbon Monoxide | mg/l  | <1.0         | 1.0             |            |

LABORATORY CONTROL SAMPLE & LCSD: 26060 26062

| Parameter       | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|-----------------|-------|-------------|------------|-------------|-----------|------------|-------------|-----|---------|------------|
| <b>RISK</b>     |       |             |            |             |           |            |             |     |         |            |
| Carbon Dioxide  | mg/l  | 120         | 140        | 130         | 116       | 114        | 80-120      | 1.7 | 20      |            |
| Oxygen          | mg/l  | 11          | 11         | 11          | 98        | 99         | 80-120      | 1   | 20      |            |
| Nitrogen        | mg/l  | 140         | 140        | 140         | 97        | 99         | 80-120      | 2   | 20      |            |
| Carbon Monoxide | mg/l  | 2           | 2.2        | 2.2         | 114       | 112        | 80-120      | 1.8 | 20      |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 26080 26081 Original: 114520001

| Parameter       | Units | Original Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|-----------------|-------|-----------------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|------------|
| <b>RISK</b>     |       |                 |             |           |            |          |           |             |     |         |            |
| Carbon Dioxide  | mg/l  | 110             | 120         | 260       | 250        | 121      | 118       | 70-130      | 2.5 | 20      |            |
| Oxygen          | mg/l  | 10              | 11          | 20        | 20         | 87       | 89        | 70-130      | 2.3 | 20      |            |
| Nitrogen        | mg/l  | 19              | 140         | 140       | 140        | 89       | 90        | 70-130      | 1.1 | 20      |            |
| Carbon Monoxide | mg/l  | 0               | 2           | 2.1       | 2.2        | 107      | 111       | 70-130      | 3.7 | 20      |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 26145 26146 Original: 114530005

| Parameter      | Units | Original Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|----------------|-------|-----------------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|------------|
| <b>RISK</b>    |       |                 |             |           |            |          |           |             |     |         |            |
| Carbon Dioxide | mg/l  | 85              | 120         | 240       | 230        | 130      | 126       | 70-130      | 3.1 | 20      |            |
| Oxygen         | mg/l  | 2.6             | 11          | 16        | 17         | 122      | 128       | 70-130      | 4.8 | 20      |            |
| Nitrogen       | mg/l  | 20              | 140         | 150       | 150        | 91       | 91        | 70-130      | 0   | 20      |            |



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### QUALITY CONTROL DATA

Workorder: 11453 1402D63

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 26145                      26146                      Original: 114530005

| Parameter       | Units | Original Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|-----------------|-------|-----------------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|------------|
| Carbon Monoxide | mg/l  | 0               | 2           | 2.2       | 2.1        | 110      | 106       | 70-130      | 3.7 | 20      |            |



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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Workorder: 11453 1402D63

| Lab ID    | Sample ID            | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|-----------|----------------------|-------------|------------|-----------------|----------------|
| 114530001 | DUP-01-20140218-01   |             |            | AM20GAX         | DISG/3602      |
| 114530002 | MW-24D-20140218-01   |             |            | AM20GAX         | DISG/3602      |
| 114530003 | MW-300D-20140218-01  |             |            | AM20GAX         | DISG/3602      |
| 114530004 | MW-23D-20140218-01   |             |            | AM20GAX         | DISG/3602      |
| 114530005 | MW-12DRR-20140218-01 |             |            | AM20GAX         | DISG/3602      |
| 114530006 | MW-206D-20140218-01  |             |            | AM20GAX         | DISG/3602      |



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# Cooler Receipt Form

Client Name: AES Project: 1402 D63 Lab Work Order: 11453

**A. Shipping/Container Information** (circle appropriate response)

Courier: (FedEx) UPS USPS Client Other: \_\_\_\_\_ Air bill Present: (Yes) No

Tracking Number: 5613 2701 4187

Custody Seal on Cooler/Box Present: Yes (No) Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice: (Wet) Blue None Ice Intact: (Yes) Melted

Cooler Temperature: 10C Radiation Screened: Yes (No) Chain of Custody Present: (Yes) No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in** (check appropriate response)

|  | YES | NO | N/A | Comment<br>Reference non-Conformance |
|--|-----|----|-----|--------------------------------------|
| Chain of Custody properly filled out   | ✓   |    |     |                                      |
| Chain of Custody relinquished  | ✓   |    |     |                                      |
| Sampler Name & Signature on COC  |     | ✓  |     |                                      |
| Containers intact  | ✓   |    |     |                                      |
| Were samples in separate bags  |     | ✓  |     |                                      |
| Sample container labels match COC  | ✓   |    |     |                                      |
| Sample name/date and time collected  | ✓   |    |     |                                      |
| Sufficient volume provided   | ✓   |    |     |                                      |
| Microseeps containers used   | ✓   |    |     |                                      |
| Are containers properly preserved for the requested testing?<br>(as labeled)   | ✓   |    |     |                                      |
| If an unknown preservation state, were containers checked?<br>Exception: VOA's coliform                                |     |    | ✓   | If yes, see pH form.                 |
| Was volume for dissolved testing field filtered, as noted on<br>the COC? Was volume received in a preserved container? |     |    | ✓   |                                      |

Comments: \_\_\_\_\_

Cooler contents examined/received by: LY Date: 2-21-14

Project Manager Review: PR Date: 2/21/14

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EAM

Work Order Number 1402003

Checklist completed by [Signature] 2/19/14  
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? (4°C±2)\* Yes  No

Cooler #1 3.1 Cooler #2 3.3 Cooler #3 3.9 Cooler #4  Cooler#5  Cooler #6

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Was TAT marked on the COC? Yes  No

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

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

Water - pH acceptable upon receipt? Yes  No  Not Applicable

Adjusted?  Checked by [Signature]

Sample Condition: Good  Other(Explain)

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

See Case Narrative for resolution of the Non-Conformance.

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

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402D63

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402D63-001A  | TB-02-20140218-01   | 2/18/2014 12:00:00AM | Aqueous     | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402D63-002A  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402D63-002A  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/20/2014    |
| 1402D63-002B  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402D63-002C  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402D63-002C  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402D63-002D  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | ION SCAN                            |           |            | 02/19/2014    |
| 1402D63-002E  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | Ferrous Iron                        |           |            | 02/19/2014    |
| 1402D63-002F  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402D63-002G  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | Sulfide                             |           |            | 02/20/2014    |
| 1402D63-002H  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/20/2014 | 02/20/2014    |
| 1402D63-002H  | DUP-01-20140218-01  | 2/18/2014 12:00:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402D63-003A  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402D63-003B  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402D63-003C  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402D63-003C  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402D63-003D  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | ION SCAN                            |           |            | 02/19/2014    |
| 1402D63-003E  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | Ferrous Iron                        |           |            | 02/19/2014    |
| 1402D63-003F  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402D63-003G  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | Sulfide                             |           |            | 02/20/2014    |
| 1402D63-003H  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/20/2014 | 02/20/2014    |
| 1402D63-003H  | MW-24D-20140218-01  | 2/18/2014 10:30:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402D63-004A  | MW-300D-20140218-01 | 2/18/2014 11:40:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402D63-004B  | MW-300D-20140218-01 | 2/18/2014 11:40:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402D63-004C  | MW-300D-20140218-01 | 2/18/2014 11:40:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402D63-004C  | MW-300D-20140218-01 | 2/18/2014 11:40:00AM | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402D63-004D  | MW-300D-20140218-01 | 2/18/2014 11:40:00AM | Groundwater | ION SCAN                            |           |            | 02/19/2014    |
| 1402D63-004E  | MW-300D-20140218-01 | 2/18/2014 11:40:00AM | Groundwater | Ferrous Iron                        |           |            | 02/19/2014    |
| 1402D63-004F  | MW-300D-20140218-01 | 2/18/2014 11:40:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402D63

## Dates Report

| Lab Sample ID | Client Sample ID     | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|----------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402D63-004G  | MW-300D-20140218-01  | 2/18/2014 11:40:00AM | Groundwater | Sulfide                             |           |            | 02/20/2014    |
| 1402D63-004H  | MW-300D-20140218-01  | 2/18/2014 11:40:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/20/2014 | 02/20/2014    |
| 1402D63-004H  | MW-300D-20140218-01  | 2/18/2014 11:40:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402D63-005A  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402D63-005B  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402D63-005C  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402D63-005C  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402D63-005D  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | ION SCAN                            |           |            | 02/19/2014    |
| 1402D63-005E  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | Ferrous Iron                        |           |            | 02/19/2014    |
| 1402D63-005F  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402D63-005G  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | Sulfide                             |           |            | 02/20/2014    |
| 1402D63-005H  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/20/2014 | 02/20/2014    |
| 1402D63-005H  | MW-23D-20140218-01   | 2/18/2014 12:15:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402D63-006A  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402D63-006B  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402D63-006C  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402D63-006C  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402D63-006D  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | ION SCAN                            |           |            | 02/19/2014    |
| 1402D63-006E  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | Ferrous Iron                        |           |            | 02/19/2014    |
| 1402D63-006F  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402D63-006G  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | Sulfide                             |           |            | 02/20/2014    |
| 1402D63-006H  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/20/2014 | 02/20/2014    |
| 1402D63-006H  | MW-12DRR-20140218-01 | 2/18/2014 12:50:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402D63-007A  | MW-206D-20140218-01  | 2/18/2014 2:20:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/19/2014 | 02/19/2014    |
| 1402D63-007B  | MW-206D-20140218-01  | 2/18/2014 2:20:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402D63-007C  | MW-206D-20140218-01  | 2/18/2014 2:20:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/20/2014 | 02/20/2014    |
| 1402D63-007C  | MW-206D-20140218-01  | 2/18/2014 2:20:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/19/2014 | 02/19/2014    |
| 1402D63-007D  | MW-206D-20140218-01  | 2/18/2014 2:20:00PM  | Groundwater | ION SCAN                            |           |            | 02/19/2014    |
| 1402D63-007E  | MW-206D-20140218-01  | 2/18/2014 2:20:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/19/2014    |

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402D63

**Dates Report**

| Lab Sample ID | Client Sample ID    | Collection Date     | Matrix      | Test Name                         | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|---------------------|-------------|-----------------------------------|-----------|------------|---------------|
| 1402D63-007F  | MW-206D-20140218-01 | 2/18/2014 2:20:00PM | Groundwater | Cyanide                           |           | 02/24/2014 | 02/24/2014    |
| 1402D63-007G  | MW-206D-20140218-01 | 2/18/2014 2:20:00PM | Groundwater | Sulfide                           |           |            | 02/20/2014    |
| 1402D63-007H  | MW-206D-20140218-01 | 2/18/2014 2:20:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons |           | 02/20/2014 | 02/20/2014    |
| 1402D63-007H  | MW-206D-20140218-01 | 2/18/2014 2:20:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS  |           | 02/21/2014 | 02/21/2014    |

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187215

| Sample ID: <b>MB-187215</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261629</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500373</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |     |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|-----|------|-----|--|--|--|--|
| Benz(a)anthracene      | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Benzo(a)pyrene         | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Benzo(b)fluoranthene   | BRL   | 0.10  |       |  |     |      |     |  |  |  |  |
| Dibenz(a,h)anthracene  | BRL   | 0.10  |       |  |     |      |     |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.152 | 0     | 2.000 |  | 108 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCS-187215</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261629</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5500375</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 1.916 | 0.050 | 2.000 |  | 95.8 | 62.8 | 132 |  |  |  |  |
| Benzo(a)pyrene         | 1.958 | 0.050 | 2.000 |  | 97.9 | 56.4 | 123 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.680 | 0.10  | 2.000 |  | 84.0 | 69.2 | 132 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.730 | 0.10  | 2.000 |  | 86.5 | 49.3 | 134 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.807 | 0.050 | 2.000 |  | 90.3 | 48.3 | 137 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.043 | 0     | 2.000 |  | 102  | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>1402C76-002HMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261730</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502360</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |         |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|---------|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.165 | 0.050 | 2.000 | 0.04159 | 106  | 51.4 | 142 |  |  |  |  |
| Benzo(a)pyrene         | 2.034 | 0.050 | 2.000 | 0.04673 | 99.4 | 48.3 | 126 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.673 | 0.10  | 2.000 | 0.04651 | 81.3 | 49.9 | 134 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.747 | 0.10  | 2.000 | 0.04684 | 85.0 | 41.8 | 121 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.834 | 0.050 | 2.000 | 0.03488 | 90.0 | 42   | 129 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.309 | 0     | 2.000 |         | 115  | 53.2 | 145 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187215

| Sample ID: <b>1402C76-004HMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261730</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502367</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.200 | 0.050 | 2.000 |  | 110  | 51.4 | 142 |  |  |  |  |
| Benzo(a)pyrene         | 2.131 | 0.050 | 2.000 |  | 107  | 48.3 | 126 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.753 | 0.10  | 2.000 |  | 87.7 | 49.9 | 134 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.783 | 0.10  | 2.000 |  | 89.2 | 41.8 | 121 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.862 | 0.050 | 2.000 |  | 93.1 | 42   | 129 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.335 | 0     | 2.000 |  | 117  | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>1402C76-002HMSD</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261730</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502363</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |         |      |      |     |       |       |      |  |
|------------------------|-------|-------|-------|---------|------|------|-----|-------|-------|------|--|
| Benz(a)anthracene      | 2.165 | 0.050 | 2.000 | 0.04159 | 106  | 51.4 | 142 | 2.165 | 0.006 | 48.1 |  |
| Benzo(a)pyrene         | 2.079 | 0.050 | 2.000 | 0.04673 | 102  | 48.3 | 126 | 2.034 | 2.18  | 53.5 |  |
| Benzo(b)fluoranthene   | 1.707 | 0.10  | 2.000 | 0.04651 | 83.0 | 49.9 | 134 | 1.673 | 2.01  | 51.1 |  |
| Dibenz(a,h)anthracene  | 1.753 | 0.10  | 2.000 | 0.04684 | 85.3 | 41.8 | 121 | 1.747 | 0.366 | 54.2 |  |
| Indeno(1,2,3-cd)pyrene | 1.838 | 0.050 | 2.000 | 0.03488 | 90.1 | 42   | 129 | 1.834 | 0.186 | 44.6 |  |
| Surr: 4-Terphenyl-d14  | 2.123 | 0     | 2.000 |         | 106  | 53.2 | 145 | 2.309 | 0     | 0    |  |

| Sample ID: <b>1402C76-004HMSD</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261730</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187215</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502369</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |       |      |      |   |
|------------------------|-------|-------|-------|--|------|------|-----|-------|------|------|---|
| Benz(a)anthracene      | 1.996 | 0.050 | 2.000 |  | 99.8 | 51.4 | 142 | 2.200 | 9.75 | 48.1 |   |
| Benzo(a)pyrene         | 1.134 | 0.050 | 2.000 |  | 56.7 | 48.3 | 126 | 2.131 | 61.0 | 53.5 | R |
| Benzo(b)fluoranthene   | 1.640 | 0.10  | 2.000 |  | 82.0 | 49.9 | 134 | 1.753 | 6.65 | 51.1 |   |
| Dibenz(a,h)anthracene  | 1.702 | 0.10  | 2.000 |  | 85.1 | 41.8 | 121 | 1.783 | 4.68 | 54.2 |   |
| Indeno(1,2,3-cd)pyrene | 1.775 | 0.050 | 2.000 |  | 88.8 | 42   | 129 | 1.862 | 4.78 | 44.6 |   |
| Surr: 4-Terphenyl-d14  | 2.224 | 0     | 2.000 |  | 111  | 53.2 | 145 | 2.335 | 0    | 0    |   |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402D63

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187225**

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187225</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499297</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187225</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499301</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.004800 0.00020 0.0050 96.0 85 115

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002CMS</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499307</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.003618 0.00020 0.0050 72.4 70 130

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004CMS</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499323</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005170 0.00020 0.0050 103 70 130

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002CMSD</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261550</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187225</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499310</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.003631 0.00020 0.0050 72.6 70 130 0.003618 0.374 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187225

|                            |                                  |                 |                           |                 |
|----------------------------|----------------------------------|-----------------|---------------------------|-----------------|
| Sample ID: 1402C76-004CMSD | Client ID:                       | Units: mg/L     | Prep Date: 02/19/2014     | Run No: 261550  |
| SampleType: MSD            | TestCode: Mercury, Total SW7470A | BatchID: 187225 | Analysis Date: 02/19/2014 | Seq No: 5499324 |

| Analyte | Result   | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD  | RPD Limit | Qual |
|---------|----------|-----------|-----------|-------------|------|-----------|------------|-------------|-------|-----------|------|
| Mercury | 0.005168 | 0.00020   | 0.0050    |             | 103  | 70        | 130        | 0.005170    | 0.046 | 20        |      |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402D63

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187242**

| Sample ID: <b>MB-187242</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5498782</b> |      |           |            |             |      |           |      |
| 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 | 40.42 | 0   | 50.00 |  | 80.8 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 42.62 | 0   | 50.00 |  | 85.2 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 39.37 | 0   | 50.00 |  | 78.7 | 77   | 117 |  |  |  |  |

| Sample ID: <b>LCS-187242</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5498861</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 43.82 | 5.0 | 50.00 |  | 87.6 | 74.2 | 129 |  |  |  |  |
| Toluene                    | 43.77 | 5.0 | 50.00 |  | 87.5 | 74.2 | 129 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 43.23 | 0   | 50.00 |  | 86.5 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 43.84 | 0   | 50.00 |  | 87.7 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 43.29 | 0   | 50.00 |  | 86.6 | 77   | 117 |  |  |  |  |

| Sample ID: <b>1402C76-002AMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499401</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 48.42 | 5.0 | 50.00 |  | 96.8 | 70.2 | 138 |  |  |  |  |
| Toluene                    | 48.17 | 5.0 | 50.00 |  | 96.3 | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 45.97 | 0   | 50.00 |  | 91.9 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 44.63 | 0   | 50.00 |  | 89.3 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 44.14 | 0   | 50.00 |  | 88.3 | 77   | 117 |  |  |  |  |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402D63

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187242**

| Sample ID: <b>1402C76-004AMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499912</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 44.21 | 5.0 | 50.00 |  | 88.4 | 70.2 | 138 |  |  |  |  |
| Toluene                    | 43.86 | 5.0 | 50.00 |  | 87.7 | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 44.03 | 0   | 50.00 |  | 88.1 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 43.96 | 0   | 50.00 |  | 87.9 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 43.32 | 0   | 50.00 |  | 86.6 | 77   | 117 |  |  |  |  |

| Sample ID: <b>1402C76-002AMSD</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499408</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |       |       |    |  |
|----------------------------|-------|-----|-------|--|------|------|-----|-------|-------|----|--|
| Benzene                    | 48.84 | 5.0 | 50.00 |  | 97.7 | 70.2 | 138 | 48.42 | 0.864 | 20 |  |
| Toluene                    | 48.93 | 5.0 | 50.00 |  | 97.9 | 70   | 139 | 48.17 | 1.57  | 20 |  |
| Surr: 4-Bromofluorobenzene | 45.46 | 0   | 50.00 |  | 90.9 | 66.2 | 120 | 45.97 | 0     | 0  |  |
| Surr: Dibromofluoromethane | 44.00 | 0   | 50.00 |  | 88.0 | 79.5 | 121 | 44.63 | 0     | 0  |  |
| Surr: Toluene-d8           | 43.73 | 0   | 50.00 |  | 87.5 | 77   | 117 | 44.14 | 0     | 0  |  |

| Sample ID: <b>1402C76-004AMSD</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/19/2014</b>     | Run No: <b>261559</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187242</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5499913</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |       |      |    |  |
|----------------------------|-------|-----|-------|--|------|------|-----|-------|------|----|--|
| Benzene                    | 46.45 | 5.0 | 50.00 |  | 92.9 | 70.2 | 138 | 44.21 | 4.94 | 20 |  |
| Toluene                    | 45.73 | 5.0 | 50.00 |  | 91.5 | 70   | 139 | 43.86 | 4.17 | 20 |  |
| Surr: 4-Bromofluorobenzene | 42.97 | 0   | 50.00 |  | 85.9 | 66.2 | 120 | 44.03 | 0    | 0  |  |
| Surr: Dibromofluoromethane | 43.63 | 0   | 50.00 |  | 87.3 | 79.5 | 121 | 43.96 | 0    | 0  |  |
| Surr: Toluene-d8           | 42.28 | 0   | 50.00 |  | 84.6 | 77   | 117 | 43.32 | 0    | 0  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187273

| Sample ID: <b>MB-187273</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261723</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187273</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502224</b> |      |           |            |             |      |           |      |
| Analyte                     | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |     |        |  |  |  |  |  |  |  |  |  |
|-----------|-----|--------|--|--|--|--|--|--|--|--|--|
| Antimony  | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Arsenic   | BRL | 0.0500 |  |  |  |  |  |  |  |  |  |
| Barium    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Beryllium | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Cadmium   | BRL | 0.0050 |  |  |  |  |  |  |  |  |  |
| Chromium  | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Copper    | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Iron      | BRL | 0.100  |  |  |  |  |  |  |  |  |  |
| Lead      | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Nickel    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Zinc      | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |

| Sample ID: <b>LCS-187273</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261723</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187273</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502223</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|----------|------|----|-----|--|--|--|--|
| Antimony  | 1.022  | 0.0200 | 1.000 |          | 102  | 80 | 120 |  |  |  |  |
| Arsenic   | 1.008  | 0.0500 | 1.000 |          | 101  | 80 | 120 |  |  |  |  |
| Barium    | 1.013  | 0.0200 | 1.000 |          | 101  | 80 | 120 |  |  |  |  |
| Beryllium | 1.004  | 0.0100 | 1.000 |          | 100  | 80 | 120 |  |  |  |  |
| Cadmium   | 1.007  | 0.0050 | 1.000 |          | 101  | 80 | 120 |  |  |  |  |
| Chromium  | 1.002  | 0.0100 | 1.000 |          | 100  | 80 | 120 |  |  |  |  |
| Copper    | 0.9953 | 0.0100 | 1.000 |          | 99.5 | 80 | 120 |  |  |  |  |
| Iron      | 9.937  | 0.100  | 10.00 |          | 99.4 | 80 | 120 |  |  |  |  |
| Lead      | 1.002  | 0.0100 | 1.000 |          | 100  | 80 | 120 |  |  |  |  |
| Nickel    | 1.006  | 0.0200 | 1.000 |          | 101  | 80 | 120 |  |  |  |  |
| Zinc      | 1.002  | 0.0200 | 1.000 | 0.004498 | 99.8 | 80 | 120 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187273

| Sample ID: 1402C76-002CMS | Client ID:                      | Units: mg/L     | Prep Date: 02/20/2014     | Run No: 261723  |      |           |            |             |      |           |      |
|---------------------------|---------------------------------|-----------------|---------------------------|-----------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: MS            | TestCode: METALS, TOTAL SW6010C | BatchID: 187273 | Analysis Date: 02/20/2014 | Seq No: 5502226 |      |           |            |             |      |           |      |
| Analyte                   | Result                          | RPT Limit       | SPK value                 | SPK Ref Val     | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|----------|------|----|-----|--|--|--|--|
| Antimony  | 0.9824 | 0.0200 | 1.000 |          | 98.2 | 75 | 125 |  |  |  |  |
| Arsenic   | 0.9761 | 0.0500 | 1.000 |          | 97.6 | 75 | 125 |  |  |  |  |
| Barium    | 1.038  | 0.0200 | 1.000 | 0.07274  | 96.5 | 75 | 125 |  |  |  |  |
| Beryllium | 0.9698 | 0.0100 | 1.000 |          | 97.0 | 75 | 125 |  |  |  |  |
| Cadmium   | 0.9722 | 0.0050 | 1.000 |          | 97.2 | 75 | 125 |  |  |  |  |
| Chromium  | 0.9614 | 0.0100 | 1.000 |          | 96.1 | 75 | 125 |  |  |  |  |
| Copper    | 0.9597 | 0.0100 | 1.000 | 0.006366 | 95.3 | 75 | 125 |  |  |  |  |
| Iron      | 9.560  | 0.100  | 10.00 | 0.06224  | 95.0 | 75 | 125 |  |  |  |  |
| Lead      | 0.9515 | 0.0100 | 1.000 | 0.001317 | 95.0 | 75 | 125 |  |  |  |  |
| Nickel    | 0.9709 | 0.0200 | 1.000 | 0.01975  | 95.1 | 75 | 125 |  |  |  |  |
| Zinc      | 0.9699 | 0.0200 | 1.000 | 0.01789  | 95.2 | 75 | 125 |  |  |  |  |

| Sample ID: 1402C76-004CMS | Client ID:                      | Units: mg/L     | Prep Date: 02/20/2014     | Run No: 261723  |      |           |            |             |      |           |      |
|---------------------------|---------------------------------|-----------------|---------------------------|-----------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: MS            | TestCode: METALS, TOTAL SW6010C | BatchID: 187273 | Analysis Date: 02/21/2014 | Seq No: 5504309 |      |           |            |             |      |           |      |
| Analyte                   | Result                          | RPT Limit       | SPK value                 | SPK Ref Val     | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|----------|------|----|-----|--|--|--|--|
| Antimony  | 0.9878 | 0.0200 | 1.000 |          | 98.8 | 75 | 125 |  |  |  |  |
| Arsenic   | 0.9825 | 0.0500 | 1.000 |          | 98.3 | 75 | 125 |  |  |  |  |
| Barium    | 4.588  | 0.0200 | 1.000 | 3.699    | 88.9 | 75 | 125 |  |  |  |  |
| Beryllium | 0.9555 | 0.0100 | 1.000 | 0.003300 | 95.2 | 75 | 125 |  |  |  |  |
| Cadmium   | 0.9756 | 0.0050 | 1.000 |          | 97.6 | 75 | 125 |  |  |  |  |
| Chromium  | 0.9828 | 0.0100 | 1.000 |          | 98.3 | 75 | 125 |  |  |  |  |
| Copper    | 0.9477 | 0.0100 | 1.000 | 0.003805 | 94.4 | 75 | 125 |  |  |  |  |
| Iron      | 9.331  | 0.100  | 10.00 | 0.03462  | 93.0 | 75 | 125 |  |  |  |  |
| Lead      | 0.9526 | 0.0100 | 1.000 |          | 95.3 | 75 | 125 |  |  |  |  |
| Nickel    | 0.9240 | 0.0200 | 1.000 | 0.007993 | 91.6 | 75 | 125 |  |  |  |  |
| Zinc      | 0.9762 | 0.0200 | 1.000 | 0.02926  | 94.7 | 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:** AGLC Macon  
**Workorder:** 1402D63

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187273**

| Sample ID: <b>1402C76-002CMSD</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261723</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187273</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502229</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |        |      |    |  |
|-----------|--------|--------|-------|----------|------|----|-----|--------|------|----|--|
| Antimony  | 1.028  | 0.0200 | 1.000 |          | 103  | 75 | 125 | 0.9824 | 4.54 | 20 |  |
| Arsenic   | 1.012  | 0.0500 | 1.000 |          | 101  | 75 | 125 | 0.9761 | 3.66 | 20 |  |
| Barium    | 1.072  | 0.0200 | 1.000 | 0.07274  | 99.9 | 75 | 125 | 1.038  | 3.23 | 20 |  |
| Beryllium | 0.9851 | 0.0100 | 1.000 |          | 98.5 | 75 | 125 | 0.9698 | 1.57 | 20 |  |
| Cadmium   | 1.002  | 0.0050 | 1.000 |          | 100  | 75 | 125 | 0.9722 | 2.97 | 20 |  |
| Chromium  | 0.9944 | 0.0100 | 1.000 |          | 99.4 | 75 | 125 | 0.9614 | 3.37 | 20 |  |
| Copper    | 1.002  | 0.0100 | 1.000 | 0.006366 | 99.6 | 75 | 125 | 0.9597 | 4.31 | 20 |  |
| Iron      | 9.843  | 0.100  | 10.00 | 0.06224  | 97.8 | 75 | 125 | 9.560  | 2.92 | 20 |  |
| Lead      | 0.9832 | 0.0100 | 1.000 | 0.001317 | 98.2 | 75 | 125 | 0.9515 | 3.27 | 20 |  |
| Nickel    | 1.004  | 0.0200 | 1.000 | 0.01975  | 98.4 | 75 | 125 | 0.9709 | 3.31 | 20 |  |
| Zinc      | 1.001  | 0.0200 | 1.000 | 0.01789  | 98.3 | 75 | 125 | 0.9699 | 3.15 | 20 |  |

| Sample ID: <b>1402C76-004CMSD</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261723</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187273</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5504310</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |        |       |    |  |
|-----------|--------|--------|-------|----------|------|----|-----|--------|-------|----|--|
| Antimony  | 0.9930 | 0.0200 | 1.000 |          | 99.3 | 75 | 125 | 0.9878 | 0.526 | 20 |  |
| Arsenic   | 0.9860 | 0.0500 | 1.000 |          | 98.6 | 75 | 125 | 0.9825 | 0.350 | 20 |  |
| Barium    | 4.635  | 0.0200 | 1.000 | 3.699    | 93.6 | 75 | 125 | 4.588  | 1.02  | 20 |  |
| Beryllium | 0.9604 | 0.0100 | 1.000 | 0.003300 | 95.7 | 75 | 125 | 0.9555 | 0.513 | 20 |  |
| Cadmium   | 0.9764 | 0.0050 | 1.000 |          | 97.6 | 75 | 125 | 0.9756 | 0.083 | 20 |  |
| Chromium  | 0.9878 | 0.0100 | 1.000 |          | 98.8 | 75 | 125 | 0.9828 | 0.505 | 20 |  |
| Copper    | 0.9550 | 0.0100 | 1.000 | 0.003805 | 95.1 | 75 | 125 | 0.9477 | 0.767 | 20 |  |
| Iron      | 9.401  | 0.100  | 10.00 | 0.03462  | 93.7 | 75 | 125 | 9.331  | 0.755 | 20 |  |
| Lead      | 0.9532 | 0.0100 | 1.000 |          | 95.3 | 75 | 125 | 0.9526 | 0.067 | 20 |  |
| Nickel    | 0.9245 | 0.0200 | 1.000 | 0.007993 | 91.7 | 75 | 125 | 0.9240 | 0.053 | 20 |  |
| Zinc      | 0.9777 | 0.0200 | 1.000 | 0.02926  | 94.8 | 75 | 125 | 0.9762 | 0.154 | 20 |  |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402D63

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187279**

| Sample ID: <b>MB-187279</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502069</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 93.12 | 0  | 100.0 |  | 93.1 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 47.25 | 0  | 50.00 |  | 94.5 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 62.02 | 0  | 100.0 |  | 62.0 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 50.92 | 0  | 50.00 |  | 102  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 43.38 | 0  | 50.00 |  | 86.8 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 43.96 | 0  | 100.0 |  | 44.0 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-187279</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502080</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 94.12 | 10 | 100.0 |  | 94.1 | 67.7 | 122 |  |  |  |  |
| Phenol       | 42.55 | 10 | 100.0 |  | 42.6 | 24.6 | 120 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187279

| Sample ID: <b>LCS-187279</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502080</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Pyrene                     | 97.89 | 10 | 100.0 |  | 97.9 | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 110.1 | 0  | 100.0 |  | 110  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 53.40 | 0  | 50.00 |  | 107  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 65.41 | 0  | 100.0 |  | 65.4 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 56.80 | 0  | 50.00 |  | 114  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 48.68 | 0  | 50.00 |  | 97.4 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 48.89 | 0  | 100.0 |  | 48.9 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402C64-002GMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502077</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 90.11 | 10 | 100.0 |  | 90.1 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 60.41 | 10 | 100.0 |  | 60.4 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 91.41 | 10 | 100.0 |  | 91.4 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 108.1 | 0  | 100.0 |  | 108  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 51.23 | 0  | 50.00 |  | 102  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 78.41 | 0  | 100.0 |  | 78.4 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 52.61 | 0  | 50.00 |  | 105  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 48.32 | 0  | 50.00 |  | 96.6 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 69.97 | 0  | 100.0 |  | 70.0 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402C64-002GMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502079</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |      |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene | 87.92 | 10 | 100.0 |  | 87.9 | 51.9 | 120 | 90.11 | 2.46 | 24.9 |  |
| Phenol       | 58.05 | 10 | 100.0 |  | 58.0 | 30.5 | 120 | 60.41 | 3.98 | 34.4 |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187279

| Sample ID: <b>1402C64-002GMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502079</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |       |      |      |  |
|----------------------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Pyrene                     | 90.06 | 10 | 100.0 |  | 90.1 | 50.6 | 120 | 91.41 | 1.49 | 26.7 |  |
| Surr: 2,4,6-Tribromophenol | 100.6 | 0  | 100.0 |  | 101  | 51.5 | 124 | 108.1 | 0    | 0    |  |
| Surr: 2-Fluorobiphenyl     | 48.25 | 0  | 50.00 |  | 96.5 | 51.7 | 118 | 51.23 | 0    | 0    |  |
| Surr: 2-Fluorophenol       | 71.62 | 0  | 100.0 |  | 71.6 | 26   | 120 | 78.41 | 0    | 0    |  |
| Surr: 4-Terphenyl-d14      | 49.30 | 0  | 50.00 |  | 98.6 | 45.2 | 137 | 52.61 | 0    | 0    |  |
| Surr: Nitrobenzene-d5      | 43.84 | 0  | 50.00 |  | 87.7 | 42   | 120 | 48.32 | 0    | 0    |  |
| Surr: Phenol-d5            | 64.47 | 0  | 100.0 |  | 64.5 | 12.3 | 120 | 69.97 | 0    | 0    |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187283

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187283</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500697</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane BRL 4

|                              |   |                        |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-187283</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500753</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 129.0 4 200.0 64.5 45.2 115

|                               |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCSD-187283</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCSD</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500755</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 126.8 4 200.0 63.4 45.2 115 129.0 1.77 20

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002BMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500902</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 122.2 4 200.0 5.730 58.2 41.1 115

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500906</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 122.8 4 200.0 5.730 58.5 41.1 115 122.2 0.524 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187411

|                             |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187411</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503753</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187411</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503754</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2337                      0.010                      0.2500                      93.5                      85                      115

|                                  |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-004FMS</b> | Client ID: <b>MW-300D-20140218-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503756</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2374                      0.010                      0.2500                      95.0                      70                      130

|                                   |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-004FMSD</b> | Client ID: <b>MW-300D-20140218-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503757</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2352                      0.010                      0.2500                      94.1                      70                      130                      0.2374                      0.931                      20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261632

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261632</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500450</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide BRL 1.0

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261632</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500451</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 291.2 1.0 291.2 100 90 110

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002GMS</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500453</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 12.96 1.0 14.56 89.0 80 120

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004GMS</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500459</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 14.56 1.0 14.56 100 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002GMSD</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500455</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 13.36 1.0 14.56 91.8 80 120 12.96 3.04 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261632**

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004GMSD</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261632</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261632</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500460</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|         |       |     |       |  |     |    |     |       |      |    |  |
|---------|-------|-----|-------|--|-----|----|-----|-------|------|----|--|
| Sulfide | 14.96 | 1.0 | 14.56 |  | 103 | 80 | 120 | 14.56 | 2.71 | 20 |  |
|---------|-------|-----|-------|--|-----|----|-----|-------|------|----|--|

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402D63

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261670**

|                              |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261670</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261670</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261670</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5501319</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate BRL 0.25  
 Sulfate BRL 1.0

|                               |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261670</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261670</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261670</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5501316</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 5.338 0.25 5.000 107 90 110  
 Sulfate 24.54 1.0 25.00 98.2 90 110

|                                  |                                      |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|--------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-005DMS</b> | Client ID: <b>MW-23D-20140218-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261670</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b>    | BatchID: <b>R261670</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5501336</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                               | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 25.72 1.2 25.00 103 90 110  
 Sulfate 176.2 5.0 125.0 48.76 102 90 110

|                                  |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D77-004AMS</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261670</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261670</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5501347</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 5.190 0.25 5.000 104 90 110  
 Sulfate 27.59 1.0 25.00 3.300 97.2 90 110

|                                   |                                      |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|--------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-005DMSD</b> | Client ID: <b>MW-23D-20140218-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261670</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b>    | BatchID: <b>R261670</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5501337</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                               | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 25.69 1.2 25.00 103 90 110 25.72 0.118 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261670

|                            |                               |                  |                           |                 |
|----------------------------|-------------------------------|------------------|---------------------------|-----------------|
| Sample ID: 1402D63-005DMSD | Client ID: MW-23D-20140218-01 | Units: mg/L      | Prep Date:                | Run No: 261670  |
| SampleType: MSD            | TestCode: ION SCAN SW9056A    | BatchID: R261670 | Analysis Date: 02/19/2014 | Seq No: 5501337 |

| Analyte | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD  | RPD Limit | Qual |
|---------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|-------|-----------|------|
| Sulfate | 175.5  | 5.0       | 125.0     | 48.76       | 101  | 90        | 110        | 176.2       | 0.369 | 20        |      |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402D63

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261803

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261803</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261803</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261803</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5503708</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

BRL 0.100

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261803</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261803</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261803</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5503709</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.4745 0.100 0.5000 94.9 85 115

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-005EMS</b> | Client ID: <b>MW-23D-20140218-01</b>      | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261803</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261803</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5503718</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.4832 0.100 0.5000 96.6 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-005EMSD</b> | Client ID: <b>MW-23D-20140218-01</b>      | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261803</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261803</b> | Analysis Date: <b>02/19/2014</b> | Seq No: <b>5503719</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.4717 0.100 0.5000 94.3 80 120 0.4832 2.41 30

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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 |  |



February 26, 2014

Jim Morrison  
ERM-Southeast  
3200 Windy Hill Rd  
Atlanta GA 30339

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

RE: AGLC Macon

Dear Jim Morrison:

Order No: 1402F04

Analytical Environmental Services, Inc. received 8 samples on 2/19/2014 5:05:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

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

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

Mirzeta Kararic  
Project Manager



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: 1402604

Date: 2-19-14 Page 1 of 1

| #  | SAMPLE ID            | DATE    | SAMPLED |      | Grab | Composite | Matrix (See codes) | ANALYSIS REQUESTED | REMARKS  | No # of Containers |
|----|----------------------|---------|---------|------|------|-----------|--------------------|--------------------|--|--------------------|
|    |                      |         | DATE    | TIME |      |           |                    |                    |  |                    |
| 1  | TB-03-20140219-01    | 2-19-14 |         |      | X    |           | W                  | Microseeps         | Visit our website<br>www.aesatlanta.com<br>to check on the status of<br>your results, place bottle<br>orders, etc. | 2                  |
| 2  | RINSE-1-20140219-01  | 1       | 1315    |      |      |           | GW                 | Sulfate            |  | 13                 |
| 3  | DUP-02-20140219-01   |         |         |      |      |           |                    | Ben Siam           |  | 13                 |
| 4  | DUP-03-20140219-01   |         |         |      |      |           |                    | Fe2+/Manganese     |  | 13                 |
| 5  | MW-302DD-20140219-01 |         | 1030    |      |      |           |                    | Fe2+/Manganese     |  | 13                 |
| 6  | MW-304D-20140219-01  |         | 0930    |      |      |           |                    | Fe2+/Manganese     |  | 13                 |
| 7  | MW-205DD-20140219-01 |         | 1110    |      |      |           |                    | Fe2+/Manganese     |  | 13                 |
| 8  | MW-205D-20140219-01  |         | 1325    |      |      |           |                    | Fe2+/Manganese     |  | 13                 |
| 9  |                      |         |         |      |      |           |                    |                    |  |                    |
| 10 |                      |         |         |      |      |           |                    |                    |  |                    |
| 11 |                      |         |         |      |      |           |                    |                    |  |                    |
| 12 |                      |         |         |      |      |           |                    |                    |  |                    |
| 13 |                      |         |         |      |      |           |                    |                    |  |                    |
| 14 |                      |         |         |      |      |           |                    |                    |  |                    |

|                                      |   |   |  |
|--------------------------------------|---|---|--|
| COMPANY:<br>ERM                      | ADDRESS:<br>3200 Winding Hill Rd SE<br>Atlanta GA 30337 | PROJECT NAME:<br>AGLC Macon                   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| PHONE:<br>82603                      | FAX:<br>82706   | PROJECT #:<br>0230715 ph052                   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| SAMPLED BY:<br>D. Dowling R. McIlton | SIGNATURE:  | SITE ADDRESS:<br>137 Mulberry Street Macon GA | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| #                                    | SAMPLE ID   | SEND REPORT TO:<br>JIM MORRISON               | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 1                                    | TB-03-20140219-01                                       | INVOICE TO:<br>(IF DIFFERENT FROM ABOVE)      | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 2                                    | RINSE-1-20140219-01                                     | QUOTE #:                                      | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 3                                    | DUP-02-20140219-01                                      |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 4                                    | DUP-03-20140219-01                                      |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 5                                    | MW-302DD-20140219-01                                    |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 6                                    | MW-304D-20140219-01                                     |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 7                                    | MW-205DD-20140219-01                                    |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 8                                    | MW-205D-20140219-01                                     |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 9                                    |   |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 10                                   |   |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 11                                   |   |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 12                                   |   |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 13                                   |   |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |
| 14                                   |   |   | DATE/TIME RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 |

|  |  |            |
|--|--|------------|
| RELINQUISHED BY:<br>Donnell Dowling 2/19/14 1425 | RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 | DATE/TIME: |
| RELINQUISHED BY:<br>U. Tuttle 2/19/14 5:05       | RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 | DATE/TIME: |
| RELINQUISHED BY:<br>U. Tuttle 2/19/14 5:05       | RECEIVED BY:<br>U. Tuttle 2/19/14 4:30 | DATE/TIME: |

|   |   |
|---|---|
| SPECIAL INSTRUCTIONS/COMMENTS:<br>Fe2+ Short hold | SHIPMENT METHOD:<br>OUT / / VIA:<br>IN / / VIA:<br>CLIENT FedEx UPS MAIL COURIER<br>GREYHOUND OTHER |
| STATE PROGRAM (if any):                           | STATE PROGRAM (if any):   |
| E-mail? Y/N; Fax? Y/N                             | E-mail? Y/N; Fax? Y/N   |
| DATA PACKAGE: I II III IV                         | DATA PACKAGE: I II III IV   |

|   |  |
|---|--|
| RECEIPT:<br>Total # of Containers<br>93 | TURNAROUND TIME REQUEST:<br>Standard 5 Business Days<br>2 Business Day Rush<br>Next Business Day Rush<br>Same Day Rush (auth req)<br>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+1 = Hydrochloric acid + ice I = Ice only N = Nitric acid S+1 = Sulfuric acid + ice S+M+1 = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

**Client:** ERM-Southeast  
**Project:** AGLC Macon  
**Lab ID:** 1402F04

**Case Narrative**

Sample Receiving Nonconformance:

Hexavalent Chromium was listed on the COC. Samples were analyzed for Ferrous Iron per project history and Nic Vrey was notified via phone on 2/18/14.

Ferrous Iron by Method SM3500-Fe-B:

Sample ID's "DUP-02-20140219-01 and DUP-03-20140219-01 " reporting with an H-Flag since there is no collection time on the COC.

Ion Chromatography Analysis by Method 9056A:

Due to sample matrix, sample 1402F04-006D required a dilution during preparation and/or analysis resulting in elevated reporting limits.

PAH Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batch 186622 due to insufficient sample volume.

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> TB-03-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014          |
| <b>Lab ID:</b> 1402F04-001      | <b>Matrix:</b> Aqueous                     |

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L             | 187299  | 1               | 02/21/2014 11:23 | NP      |
| Carbon disulfide                                   | BRL    | 5.0             |      | ug/L             | 187299  | 1               | 02/21/2014 11:23 | NP      |
| Ethylbenzene                                       | BRL    | 5.0             |      | ug/L             | 187299  | 1               | 02/21/2014 11:23 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 187299  | 1               | 02/21/2014 11:23 | NP      |
| Xylenes, Total                                     | BRL    | 5.0             |      | ug/L             | 187299  | 1               | 02/21/2014 11:23 | NP      |
| Surr: 4-Bromofluorobenzene                         | 74.2   | 66.2-120        |      | %REC             | 187299  | 1               | 02/21/2014 11:23 | NP      |
| Surr: Dibromofluoromethane                         | 89.7   | 79.5-121        |      | %REC             | 187299  | 1               | 02/21/2014 11:23 | NP      |
| Surr: Toluene-d8                                   | 80.8   | 77-117          |      | %REC             | 187299  | 1               | 02/21/2014 11:23 | NP      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> RINSE-1-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 1:15:00 PM |
| <b>Lab ID:</b> 1402F04-002      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:10 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:10 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:10 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:10 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:10 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 75.8   | 66.2-120        |      | %REC  | 187299  | 1               | 02/21/2014 15:10 | NP      |
| Surr: Dibromofluoromethane                                     | 86.9   | 79.5-121        |      | %REC  | 187299  | 1               | 02/21/2014 15:10 | NP      |
| Surr: Toluene-d8   | 80.5   | 77-117          |      | %REC  | 187299  | 1               | 02/21/2014 15:10 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261858 | 1               | 02/21/2014 16:50 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/24/2014 18:41 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/24/2014 18:41 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/24/2014 18:41 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/24/2014 18:41 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/24/2014 18:41 | YH      |
| Surr: 4-Terphenyl-d14  | 112    | 53.2-145        |      | %REC  | 186622  | 1               | 02/24/2014 18:41 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 82.2   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Surr: 2-Fluorobiphenyl   | 80.8   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Surr: 2-Fluorophenol   | 62.8   | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Surr: 4-Terphenyl-d14  | 86.6   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| Surr: Nitrobenzene-d5  | 72.5   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 20:09 | 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: 28-Feb-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> RINSE-1-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 1:15:00 PM |
| <b>Lab ID:</b> 1402F04-002      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 51.4   | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 20:09 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187318  | 1               | 02/21/2014 13:17 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261862 | 1               | 02/20/2014 09:15 | GR      |
| Sulfate   | BRL    | 1.0             |                  | mg/L  | R261862 | 1               | 02/20/2014 09:15 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | BRL    | 4               |                  | ug/L  | 187283  | 1               | 02/20/2014 15:07 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261911 | 1               | 02/20/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Barium  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Iron  | 0.415  | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:16 | 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

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> DUP-02-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014           |
| <b>Lab ID:</b> 1402F04-003      | <b>Matrix:</b> Groundwater                  |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 35     | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 18:28 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 18:28 | NP      |
| Ethylbenzene   | 14     | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 18:28 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 18:28 | NP      |
| Xylenes, Total   | 16     | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 18:28 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 81.9   | 66.2-120        |      | %REC  | 187299  | 1               | 02/21/2014 18:28 | NP      |
| Surr: Dibromofluoromethane                                     | 85.5   | 79.5-121        |      | %REC  | 187299  | 1               | 02/21/2014 18:28 | NP      |
| Surr: Toluene-d8   | 78.4   | 77-117          |      | %REC  | 187299  | 1               | 02/21/2014 18:28 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261858 | 1               | 02/21/2014 16:50 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 11:28 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 11:28 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 11:28 | YH      |
| Indeno(1,2,3-cd)pyrene   | 0.072  | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 11:28 | YH      |
| Dibenz(a,h)anthracene  | 0.13   | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 11:28 | YH      |
| Surr: 4-Terphenyl-d14  | 86.8   | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 11:28 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 99     | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Surr: 2-Fluorobiphenyl   | 92.4   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Surr: 2-Fluorophenol   | 43     | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Surr: 4-Terphenyl-d14  | 95.7   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| Surr: Nitrobenzene-d5  | 83.5   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 20:36 | 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: 28-Feb-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> DUP-02-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014           |
| <b>Lab ID:</b> 1402F04-003      | <b>Matrix:</b> Groundwater                  |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>  |        |                 |      |       |         |                 |                  |         |
| Surr: Phenol-d5  | 66.1   | 12.3-120        |      | %REC  | 187279  | 1               | 02/21/2014 20:36 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                    |        |                 |      |       |         |                 |                  |         |
| Mercury  | BRL    | 0.00020         |      | mg/L  | 187318  | 1               | 02/21/2014 13:18 | CG      |
| <b>ION SCAN SW9056A</b>                                    |        |                 |      |       |         |                 |                  |         |
| Nitrate  | BRL    | 0.25            |      | mg/L  | R261862 | 1               | 02/20/2014 09:30 | GR      |
| Sulfate  | 27     | 1.0             |      | mg/L  | R261862 | 1               | 02/20/2014 09:30 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175 (RSK175)</b> |        |                 |      |       |         |                 |                  |         |
| Methane  | 98     | 4               |      | ug/L  | 187283  | 1               | 02/20/2014 15:13 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                            |        |                 |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                                    | 0.112  | 0.100           | H    | mg/L  | R261911 | 1               | 02/20/2014 08:30 | AB      |
| <b>Cyanide SW9014 (SW9010C)</b>                            |        |                 |      |       |         |                 |                  |         |
| Cyanide, Total   | 0.039  | 0.010           |      | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C (SW3010A)</b>                     |        |                 |      |       |         |                 |                  |         |
| Antimony   | BRL    | 0.0200          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Arsenic  | BRL    | 0.0500          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Barium   | 0.554  | 0.0200          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Beryllium  | BRL    | 0.0100          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Cadmium  | BRL    | 0.0050          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Chromium   | BRL    | 0.0100          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Copper   | BRL    | 0.0100          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Iron   | 1.27   | 0.100           |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Lead   | BRL    | 0.0100          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Nickel   | BRL    | 0.0200          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | JL      |
| Zinc   | BRL    | 0.0200          |      | mg/L  | 187404  | 1               | 02/24/2014 19:40 | 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402F04-004

Client Sample ID: DUP-03-20140219-01  
 Collection Date: 2/19/2014  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b>   |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | 1600   | 50              |      | ug/L             | 187299  | 10              | 02/24/2014 18:51 | NP      |
| Carbon disulfide                                     | BRL    | 5.0             |      | ug/L             | 187299  | 1               | 02/24/2014 16:59 | NP      |
| Ethylbenzene   | 320    | 50              |      | ug/L             | 187299  | 10              | 02/24/2014 18:51 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 187299  | 1               | 02/24/2014 16:59 | NP      |
| Xylenes, Total                                       | 290    | 5.0             |      | ug/L             | 187299  | 1               | 02/24/2014 16:59 | NP      |
| Surr: 4-Bromofluorobenzene                           | 86.7   | 66.2-120        |      | %REC             | 187299  | 10              | 02/24/2014 18:51 | NP      |
| Surr: 4-Bromofluorobenzene                           | 89.1   | 66.2-120        |      | %REC             | 187299  | 1               | 02/24/2014 16:59 | NP      |
| Surr: Dibromofluoromethane                           | 80.1   | 79.5-121        |      | %REC             | 187299  | 1               | 02/24/2014 16:59 | NP      |
| Surr: Dibromofluoromethane                           | 82.4   | 79.5-121        |      | %REC             | 187299  | 10              | 02/24/2014 18:51 | NP      |
| Surr: Toluene-d8                                     | 77.5   | 77-117          |      | %REC             | 187299  | 10              | 02/24/2014 18:51 | NP      |
| Surr: Toluene-d8                                     | 78.3   | 77-117          |      | %REC             | 187299  | 1               | 02/24/2014 16:59 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                  |        |                 |      |                  |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L             | R261858 | 1               | 02/21/2014 16:50 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| Benz(a)anthracene                                    | BRL    | 0.050           |      | ug/L             | 186622  | 1               | 02/25/2014 11:02 | YH      |
| Benzo(b)fluoranthene                                 | BRL    | 0.10            |      | ug/L             | 186622  | 1               | 02/25/2014 11:02 | YH      |
| Benzo(a)pyrene                                       | BRL    | 0.050           |      | ug/L             | 186622  | 1               | 02/25/2014 11:02 | YH      |
| Indeno(1,2,3-cd)pyrene                               | BRL    | 0.050           |      | ug/L             | 186622  | 1               | 02/25/2014 11:02 | YH      |
| Dibenz(a,h)anthracene                                | BRL    | 0.10            |      | ug/L             | 186622  | 1               | 02/25/2014 11:02 | YH      |
| Surr: 4-Terphenyl-d14                                | 87.4   | 53.2-145        |      | %REC             | 186622  | 1               | 02/25/2014 11:02 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>      |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| 2,4-Dimethylphenol                                   | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| 2-Methylphenol                                       | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| 3,4-Methylphenol                                     | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Acenaphthene   | 57     | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Acenaphthylene                                       | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Benzo(g,h,i)perylene                                 | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Benzo(k)fluoranthene                                 | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Fluorene   | 13     | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Phenanthrene   | 11     | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Phenol   | 23     | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Surr: 2,4,6-Tribromophenol                           | 86     | 51.5-124        |      | %REC             | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Surr: 2-Fluorobiphenyl                               | 78.2   | 51.7-118        |      | %REC             | 187279  | 1               | 02/21/2014 21:02 | 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: 28-Feb-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> DUP-03-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014           |
| <b>Lab ID:</b> 1402F04-004      | <b>Matrix:</b> Groundwater                  |

| Analyses  | Result | Reporting Limit  | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|------------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        | <b>(SW3510C)</b> |      |       |         |                 |                  |         |
| Surr: 2-Fluorophenol                              | 52.8   | 26-120           |      | %REC  | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Surr: 4-Terphenyl-d14                             | 82.2   | 45.2-137         |      | %REC  | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Surr: Nitrobenzene-d5                             | 70.5   | 42-120           |      | %REC  | 187279  | 1               | 02/21/2014 21:02 | YH      |
| Surr: Phenol-d5                                   | 47.6   | 12.3-120         |      | %REC  | 187279  | 1               | 02/21/2014 21:02 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        | <b>(SW7470A)</b> |      |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020          |      | mg/L  | 187318  | 1               | 02/21/2014 13:20 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                  |      |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25             |      | mg/L  | R261862 | 1               | 02/20/2014 09:45 | GR      |
| Sulfate   | BRL    | 1.0              |      | mg/L  | R261862 | 1               | 02/20/2014 09:45 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        | <b>(RSK175)</b>  |      |       |         |                 |                  |         |
| Methane   | 2000   | 80               |      | ug/L  | 187283  | 20              | 02/20/2014 15:26 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                  |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100            | H    | mg/L  | R261911 | 1               | 02/20/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        | <b>(SW9010C)</b> |      |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010            |      | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        | <b>(SW3010A)</b> |      |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Arsenic   | BRL    | 0.0500           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Barium  | 2.15   | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Beryllium   | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Cadmium   | BRL    | 0.0050           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Chromium  | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Copper  | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Iron  | 3.25   | 0.100            |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Lead  | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Nickel  | BRL    | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | JL      |
| Zinc  | BRL    | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 19:43 | 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

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-302DD-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 10:30:00 AM |
| <b>Lab ID:</b> 1402F04-005      | <b>Matrix:</b> Groundwater                    |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 35     | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 14:42 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 14:42 | NP      |
| Ethylbenzene   | 15     | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 14:42 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 14:42 | NP      |
| Xylenes, Total   | 17     | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 14:42 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 82.6   | 66.2-120        |      | %REC  | 187299  | 1               | 02/21/2014 14:42 | NP      |
| Surr: Dibromofluoromethane                                     | 84.5   | 79.5-121        |      | %REC  | 187299  | 1               | 02/21/2014 14:42 | NP      |
| Surr: Toluene-d8   | 78.9   | 77-117          |      | %REC  | 187299  | 1               | 02/21/2014 14:42 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261858 | 1               | 02/21/2014 16:50 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 12:23 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 12:23 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 12:23 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 12:23 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 12:23 | YH      |
| Surr: 4-Terphenyl-d14  | 82.7   | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 12:23 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 107    | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Surr: 2-Fluorobiphenyl   | 101    | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Surr: 2-Fluorophenol   | 62.3   | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Surr: 4-Terphenyl-d14  | 101    | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| Surr: Nitrobenzene-d5  | 92.1   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 21:28 | 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: 28-Feb-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-302DD-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 10:30:00 AM |
| <b>Lab ID:</b> 1402F04-005      | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 67.9   | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 21:28 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187318  | 1               | 02/21/2014 13:22 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261862 | 1               | 02/20/2014 09:59 | GR      |
| Sulfate   | 28     | 1.0             |                  | mg/L  | R261862 | 1               | 02/24/2014 15:30 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 100    | 4               |                  | ug/L  | 187286  | 1               | 02/20/2014 16:20 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 0.112  | 0.100           |                  | mg/L  | R261911 | 1               | 02/20/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | 0.038  | 0.010           |                  | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Barium  | 0.546  | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Iron  | 1.25   | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:47 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402F04-006

Client Sample ID: MW-304D-20140219-01  
 Collection Date: 2/19/2014 9:30:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:38 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:38 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:38 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:38 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 15:38 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 72.9   | 66.2-120        |      | %REC  | 187299  | 1               | 02/21/2014 15:38 | NP      |
| Surr: Dibromofluoromethane                                     | 87.2   | 79.5-121        |      | %REC  | 187299  | 1               | 02/21/2014 15:38 | NP      |
| Surr: Toluene-d8   | 80.9   | 77-117          |      | %REC  | 187299  | 1               | 02/21/2014 15:38 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261858 | 1               | 02/21/2014 16:50 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 12:49 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 12:49 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 12:49 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 12:49 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 12:49 | YH      |
| Surr: 4-Terphenyl-d14  | 98.9   | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 12:49 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 92.1   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Surr: 2-Fluorobiphenyl   | 81.6   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Surr: 2-Fluorophenol   | 59     | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Surr: 4-Terphenyl-d14  | 89.2   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| Surr: Nitrobenzene-d5  | 70.4   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 21:55 | 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: 28-Feb-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-304D-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 9:30:00 AM |
| <b>Lab ID:</b> 1402F04-006      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>  |        |                 |      |       |         |                 |                  |         |
| Surr: Phenol-d5  | 50.8   | 12.3-120        |      | %REC  | 187279  | 1               | 02/21/2014 21:55 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                    |        |                 |      |       |         |                 |                  |         |
| Mercury  | BRL    | 0.00020         |      | mg/L  | 187318  | 1               | 02/21/2014 13:24 | CG      |
| <b>ION SCAN SW9056A</b>                                    |        |                 |      |       |         |                 |                  |         |
| Nitrate  | BRL    | 2.5             |      | mg/L  | R261862 | 10              | 02/20/2014 10:14 | GR      |
| Sulfate  | BRL    | 10              |      | mg/L  | R261862 | 10              | 02/20/2014 10:14 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175 (RSK175)</b> |        |                 |      |       |         |                 |                  |         |
| Methane  | 160    | 4               |      | ug/L  | 187286  | 1               | 02/20/2014 16:24 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                            |        |                 |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                                    | BRL    | 0.100           |      | mg/L  | R261911 | 1               | 02/20/2014 08:30 | AB      |
| <b>Cyanide SW9014 (SW9010C)</b>                            |        |                 |      |       |         |                 |                  |         |
| Cyanide, Total   | BRL    | 0.010           |      | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C (SW3010A)</b>                     |        |                 |      |       |         |                 |                  |         |
| Antimony   | BRL    | 0.0200          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Arsenic  | BRL    | 0.0500          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Barium   | 3.35   | 0.0200          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Beryllium  | BRL    | 0.0100          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Cadmium  | BRL    | 0.0050          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Chromium   | BRL    | 0.0100          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Copper   | BRL    | 0.0100          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Iron   | 0.256  | 0.100           |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Lead   | BRL    | 0.0100          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Nickel   | BRL    | 0.0200          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | JL      |
| Zinc   | BRL    | 0.0200          |      | mg/L  | 187404  | 1               | 02/24/2014 19:51 | 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

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-205DD-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 11:10:00 AM |
| <b>Lab ID:</b> 1402F04-007      | <b>Matrix:</b> Groundwater                    |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 16:07 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 16:07 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 16:07 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 16:07 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/21/2014 16:07 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 76     | 66.2-120        |      | %REC  | 187299  | 1               | 02/21/2014 16:07 | NP      |
| Surr: Dibromofluoromethane                                     | 92     | 79.5-121        |      | %REC  | 187299  | 1               | 02/21/2014 16:07 | NP      |
| Surr: Toluene-d8   | 82     | 77-117          |      | %REC  | 187299  | 1               | 02/21/2014 16:07 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261858 | 1               | 02/21/2014 16:50 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 13:14 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 13:14 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 13:14 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 13:14 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 13:14 | YH      |
| Surr: 4-Terphenyl-d14  | 83.5   | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 13:14 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 86.4   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Surr: 2-Fluorobiphenyl   | 79     | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Surr: 2-Fluorophenol   | 54.5   | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Surr: 4-Terphenyl-d14  | 89     | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| Surr: Nitrobenzene-d5  | 70.1   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 22:22 | 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: 28-Feb-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-205DD-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 11:10:00 AM |
| <b>Lab ID:</b> 1402F04-007      | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 50.1   | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 22:22 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187318  | 1               | 02/21/2014 13:30 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | 0.28   | 0.25            |                  | mg/L  | R261862 | 1               | 02/20/2014 10:29 | GR      |
| Sulfate   | 9.3    | 1.0             |                  | mg/L  | R261862 | 1               | 02/20/2014 10:29 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | BRL    | 4               |                  | ug/L  | 187286  | 1               | 02/20/2014 16:29 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261911 | 1               | 02/20/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Barium  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Copper  | 0.0124 | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Iron  | 0.289  | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:55 | JL      |
| Zinc  | 0.0781 | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 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:** 28-Feb-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-205D-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 1:25:00 PM |
| <b>Lab ID:</b> 1402F04-008      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 1700   | 50              |      | ug/L  | 187299  | 10              | 02/24/2014 19:20 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/24/2014 17:27 | NP      |
| Ethylbenzene   | 330    | 50              |      | ug/L  | 187299  | 10              | 02/24/2014 19:20 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187299  | 1               | 02/24/2014 17:27 | NP      |
| Xylenes, Total   | 300    | 5.0             |      | ug/L  | 187299  | 1               | 02/24/2014 17:27 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 83.4   | 66.2-120        |      | %REC  | 187299  | 10              | 02/24/2014 19:20 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 88.6   | 66.2-120        |      | %REC  | 187299  | 1               | 02/24/2014 17:27 | NP      |
| Surr: Dibromofluoromethane                                     | 80     | 79.5-121        |      | %REC  | 187299  | 1               | 02/24/2014 17:27 | NP      |
| Surr: Dibromofluoromethane                                     | 84.4   | 79.5-121        |      | %REC  | 187299  | 10              | 02/24/2014 19:20 | NP      |
| Surr: Toluene-d8   | 78.2   | 77-117          |      | %REC  | 187299  | 1               | 02/24/2014 17:27 | NP      |
| Surr: Toluene-d8   | 78.3   | 77-117          |      | %REC  | 187299  | 10              | 02/24/2014 19:20 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261858 | 1               | 02/21/2014 16:50 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 13:40 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 13:40 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 13:40 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 13:40 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 13:40 | YH      |
| Surr: 4-Terphenyl-d14  | 107    | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 13:40 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Acenaphthene   | 54     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Fluorene   | 13     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Phenanthrene   | 11     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Phenol   | 26     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 88.5   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Surr: 2-Fluorobiphenyl   | 80     | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 22:48 | YH      |

**Qualifiers:**

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- 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:** 28-Feb-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-205D-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 1:25:00 PM |
| <b>Lab ID:</b> 1402F04-008      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: 2-Fluorophenol                              | 58.5   | 26-120          |                  | %REC  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Surr: 4-Terphenyl-d14                             | 83.4   | 45.2-137        |                  | %REC  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Surr: Nitrobenzene-d5                             | 73.1   | 42-120          |                  | %REC  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| Surr: Phenol-d5                                   | 53.1   | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 22:48 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187318  | 1               | 02/21/2014 13:32 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261862 | 1               | 02/20/2014 10:43 | GR      |
| Sulfate   | BRL    | 1.0             |                  | mg/L  | R261862 | 1               | 02/20/2014 10:43 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 1700   | 80              |                  | ug/L  | 187286  | 20              | 02/20/2014 16:56 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261911 | 1               | 02/20/2014 08:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Barium  | 2.13   | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Iron  | 3.23   | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 19:59 | JL      |

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Microseeps/Pace Analytical Energy Services, LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

March 4, 2014

Mirzeta Kararic  
Analytical Environmental Services, Inc.  
3785 Presidential Parkway  
Suite 111  
Atlanta, GA 30340

RE: **1402F04**

*Microseeps Workorder: 11454*

Dear Mirzeta Kararic:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, February 21, 2014. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl 03/04/2014  
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 16

Report ID: 11454 - 493560

Page 1 of 14



**CERTIFICATE OF ANALYSIS**

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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

|                          |  |   |
|--------------------------|--|---|
| <b>Accreditor:</b>       | Pennsylvania Department of Environmental Protection, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | 02-00538   |   |
| <b>Scope:</b>            | NELAP Non-Potable Water and Solid & Hazardous Waste  |   |
| <b>Accreditor:</b>       | NELAP: State of Florida, Department of Health, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | E87832   |   |
| <b>Scope:</b>            | Clean Water Act (CWA)  | Resource Conservation and Recovery Act (RCRA) |
| <b>Accreditor:</b>       | South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification  |   |
| <b>Accreditation ID:</b> | 89009003   |   |
| <b>Scope:</b>            | Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)   |   |
| <b>Accreditor:</b>       | NELAP: State of Louisiana, Department of Environmental Quality   |   |
| <b>Accreditation ID:</b> | 04104  |   |
| <b>Scope:</b>            | Solid and Chemical Materials; Non-Potable Water  |   |
| <b>Accreditor:</b>       | NELAP: New Jersey, Department of Environmental Protection  |   |
| <b>Accreditation ID:</b> | PA026  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Chemical Materials  |   |
| <b>Accreditor:</b>       | NELAP: New York, Department of Health Wadsworth Center   |   |
| <b>Accreditation ID:</b> | 11815  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Hazardous Waste   |   |
| <b>Accreditor:</b>       | State of Connecticut, Department of Public Health, Division of Environmental Health  |   |
| <b>Accreditation ID:</b> | PH-0263  |   |
| <b>Scope:</b>            | Clean Water Act (CWA)  | Resource Conservation and Recovery Act (RCRA) |
| <b>Accreditor:</b>       | NELAP: Texas, Commission on Environmental Quality  |   |
| <b>Accreditation ID:</b> | T104704453-09-TX   |   |
| <b>Scope:</b>            | Non-Potable Water  |   |
| <b>Accreditor:</b>       | State of New Hampshire   |   |
| <b>Accreditation ID:</b> | 299409   |   |
| <b>Scope:</b>            | Non-potable water  |   |
| <b>Accreditor:</b>       | State of Georgia   |   |
| <b>Accreditation ID:</b> | Chapter 391-3-26   |   |
| <b>Scope:</b>            | As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC). |   |



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### SAMPLE SUMMARY

Workorder: 11454 1402F04

| Lab ID    | Sample ID            | Matrix | Date Collected  | Date Received   |
|-----------|----------------------|--------|-----------------|-----------------|
| 114540001 | RINSE-1-20140219-01  | Water  | 2/19/2014 13:15 | 2/21/2014 12:30 |
| 114540002 | DUP-02-20140219-01   | Water  | 2/19/2014 00:00 | 2/21/2014 12:30 |
| 114540003 | DUP-03-20140219-01   | Water  | 2/19/2014 00:00 | 2/21/2014 12:30 |
| 114540004 | MW-302DD-20140219-01 | Water  | 2/19/2014 10:30 | 2/21/2014 12:30 |
| 114540005 | MW-304D-20140219-01  | Water  | 2/19/2014 09:30 | 2/21/2014 12:30 |
| 114540006 | MW-205DD-20140219-01 | Water  | 2/19/2014 11:10 | 2/21/2014 12:30 |
| 114540007 | MW-205D-20140219-01  | Water  | 2/19/2014 13:25 | 2/21/2014 12:30 |



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## PROJECT SUMMARY

Workorder: 11454 1402F04

---

### Batch Comments

---

Batch: DISG/3605 - AM20GAX Water QC

The percent recovery for the opening calibration verification analysis was above laboratory control limits. Analytes Acetylene. Results associated to the analytes in samples may be bias high.



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### ANALYTICAL RESULTS

Workorder: 11454 1402F04

Lab ID: 114540001 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: RINSE-1-20140219-01 Date Collected: 2/19/2014 13:15

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | <5.0    | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/27/2014 12:53 | SL |      |
| Oxygen                 | 8.3     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/27/2014 12:53 | SL |      |
| Nitrogen               | 13      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/27/2014 12:53 | SL |      |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/27/2014 12:53 | SL |      |



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**ANALYTICAL RESULTS**

Workorder: 11454 1402F04

Lab ID: 114540002 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: DUP-02-20140219-01 Date Collected: 2/19/2014 00:00

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | 5.6     | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/27/2014 13:06 |    | SL   |
| Oxygen                 | 2.9     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/27/2014 13:06 |    | SL   |
| Nitrogen               | 17      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/27/2014 13:06 |    | SL   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/27/2014 13:06 |    | SL   |



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**ANALYTICAL RESULTS**

Workorder: 11454 1402F04

Lab ID: **114540004** Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: **MW-302DD-20140219-01** Date Collected: 2/19/2014 10:30

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | 6.4     | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/27/2014 14:16 |    | SL   |
| Oxygen                 | 2.2     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/27/2014 14:16 |    | SL   |
| Nitrogen               | 16      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/27/2014 14:16 |    | SL   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/27/2014 14:16 |    | SL   |



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### ANALYTICAL RESULTS

Workorder: 11454 1402F04

Lab ID: 114540005 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: MW-304D-20140219-01 Date Collected: 2/19/2014 09:30

| Parameters | Results | Units | PQL | MDL | DF | Prepared | By | Analyzed | By | Qual |
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|

**RISK - MICR**

| Analysis Desc: AM20GAX | Analytical Method: AM20GAX |      |      |       |   |  |  |                 |    |  |
|------------------------|----------------------------|------|------|-------|---|--|--|-----------------|----|--|
| Carbon Dioxide         | <5.0                       | mg/l | 5.0  | 0.23  | 1 |  |  | 2/27/2014 14:29 | SL |  |
| Oxygen                 | 5.4                        | mg/l | 0.50 | 0.082 | 1 |  |  | 2/27/2014 14:29 | SL |  |
| Nitrogen               | 17                         | mg/l | 2.0  | 1.8   | 1 |  |  | 2/27/2014 14:29 | SL |  |
| Carbon Monoxide        | <1.0                       | mg/l | 1.0  | 0.14  | 1 |  |  | 2/27/2014 14:29 | SL |  |



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### ANALYTICAL RESULTS

Workorder: 11454 1402F04

Lab ID: 114540006 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: MW-205DD-20140219-01 Date Collected: 2/19/2014 11:10

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                 |    |      |
| Carbon Dioxide         | <5.0    | mg/l  | 5.0                        | 0.23  | 1  |          |    | 2/27/2014 14:41 |    | SL   |
| Oxygen                 | 7.9     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 2/27/2014 14:41 |    | SL   |
| Nitrogen               | 17      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 2/27/2014 14:41 |    | SL   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 2/27/2014 14:41 |    | SL   |



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**ANALYTICAL RESULTS**

Workorder: 11454 1402F04

Lab ID: 114540007 Date Received: 2/21/2014 12:30 Matrix: Water  
 Sample ID: MW-205D-20140219-01 Date Collected: 2/19/2014 13:25

| Parameters  | Results | Units | PQL  | MDL   | DF | Prepared | By | Analyzed        | By | Qual |
|---|---------|-------|------|-------|----|----------|----|-----------------|----|------|
| <b>RISK - MICR</b>                                |         |       |      |       |    |          |    |                 |    |      |
| Analysis Desc: AM20GAX Analytical Method: AM20GAX |         |       |      |       |    |          |    |                 |    |      |
| Carbon Dioxide                                    | 49      | mg/l  | 5.0  | 0.23  | 1  |          |    | 2/27/2014 14:54 |    | SL   |
| Oxygen  | 3.9     | mg/l  | 0.50 | 0.082 | 1  |          |    | 2/27/2014 14:54 |    | SL   |
| Nitrogen  | 15      | mg/l  | 2.0  | 1.8   | 1  |          |    | 2/27/2014 14:54 |    | SL   |
| Carbon Monoxide                                   | <1.0    | mg/l  | 1.0  | 0.14  | 1  |          |    | 2/27/2014 14:54 |    | SL   |



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 11454 1402F04

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### DEFINITIONS/QUALIFIERS

**Disclaimer :** The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20Gax, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

**MDL** Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.

**PQL** Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.

**ND** Not detected at or above reporting limit.

**DF** Dilution Factor.

**S** Surrogate.

**RPD** Relative Percent Difference.

**% Rec** Percent Recovery.

**U** Indicates the compound was analyzed for, but not detected at or above the noted concentration.

**J** Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).



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**QUALITY CONTROL DATA**

Workorder: 11454 1402F04

QC Batch: DISG/3605 Analysis Method: AM20GAX  
 QC Batch Method: AM20GAX  
 Associated Lab Samples: 114540001, 114540002, 114540003, 114540004, 114540005, 114540006, 114540007

METHOD BLANK: 26099

| Parameter       | Units | Blank Result | Reporting Limit | Qualifiers |
|-----------------|-------|--------------|-----------------|------------|
| <b>RISK</b>     |       |              |                 |            |
| Carbon Dioxide  | mg/l  | <5.0         | 5.0             |            |
| Oxygen          | mg/l  | <0.50        | 0.50            |            |
| Nitrogen        | mg/l  | <2.0         | 2.0             |            |
| Carbon Monoxide | mg/l  | <1.0         | 1.0             |            |

LABORATORY CONTROL SAMPLE & LCSD: 26101 26103

| Parameter       | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|-----------------|-------|-------------|------------|-------------|-----------|------------|-------------|-----|---------|------------|
| <b>RISK</b>     |       |             |            |             |           |            |             |     |         |            |
| Carbon Dioxide  | mg/l  | 120         | 110        | 110         | 98        | 96         | 80-120      | 2.1 | 20      |            |
| Oxygen          | mg/l  | 11          | 11         | 11          | 95        | 98         | 80-120      | 3.1 | 20      |            |
| Nitrogen        | mg/l  | 140         | 120        | 130         | 91        | 92         | 80-120      | 1.1 | 20      |            |
| Carbon Monoxide | mg/l  | 2           | 2.2        | 2.2         | 111       | 110        | 80-120      | 0.9 | 20      |            |



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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Workorder: 11454 1402F04

| Lab ID    | Sample ID            | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|-----------|----------------------|-------------|------------|-----------------|----------------|
| 114540001 | RINSE-1-20140219-01  |             |            | AM20GAX         | DISG/3605      |
| 114540002 | DUP-02-20140219-01   |             |            | AM20GAX         | DISG/3605      |
| 114540003 | DUP-03-20140219-01   |             |            | AM20GAX         | DISG/3605      |
| 114540004 | MW-302DD-20140219-01 |             |            | AM20GAX         | DISG/3605      |
| 114540005 | MW-304D-20140219-01  |             |            | AM20GAX         | DISG/3605      |
| 114540006 | MW-205DD-20140219-01 |             |            | AM20GAX         | DISG/3605      |
| 114540007 | MW-205D-20140219-01  |             |            | AM20GAX         | DISG/3605      |



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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: \_\_\_\_\_

Date: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

COMPANY: **AES** ADDRESS: **Same as above**

PHONE: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_

| #  | SAMPLE ID            | SAMPLED |       | Grab | Composite | Matrix (See codes) | ANALYSIS REQUESTED |  |  |  | REMARKS | No # of Containers |  |
|----|----------------------|---------|-------|------|-----------|--------------------|--------------------|--|--|--|---------|--------------------|--|
|    |                      | DATE    | TIME  |      |           |                    |                    |  |  |  |         |                    |  |
| 1  | 2-115E-1-20140219-01 | 2-19-14 | 13:15 | X    |           | GW                 |                    |  |  |  |         |                    |  |
| 2  | Dup-02-20140219-01   |         | -     |      |           |                    |                    |  |  |  |         |                    |  |
| 3  | Dup-03-20140219-01   |         | -     |      |           |                    |                    |  |  |  |         |                    |  |
| 4  | MW-302DD-20140219-01 |         | 10:30 |      |           |                    |                    |  |  |  |         |                    |  |
| 5  | MW-304D-20140219-01  |         | 09:30 |      |           |                    |                    |  |  |  |         |                    |  |
| 6  | MW-205DD-20140219-01 |         | 11:10 |      |           |                    |                    |  |  |  |         |                    |  |
| 7  | MW-205D-20140219-01  |         | 13:25 |      |           |                    |                    |  |  |  |         |                    |  |
| 8  |                      |         |       |      |           |                    |                    |  |  |  |         |                    |  |
| 9  |                      |         |       |      |           |                    |                    |  |  |  |         |                    |  |
| 10 |                      |         |       |      |           |                    |                    |  |  |  |         |                    |  |
| 11 |                      |         |       |      |           |                    |                    |  |  |  |         |                    |  |
| 12 |                      |         |       |      |           |                    |                    |  |  |  |         |                    |  |
| 13 |                      |         |       |      |           |                    |                    |  |  |  |         |                    |  |
| 14 |                      |         |       |      |           |                    |                    |  |  |  |         |                    |  |

RELINQUISHED BY: *M. J. [Signature]* DATE/TIME: *2.26.14 12:30*

RECEIVED BY: *[Signature]* DATE/TIME: *2.26.14 12:30*

PROJECT NAME: **1402FE04**

PROJECT #: \_\_\_\_\_

SITE ADDRESS: \_\_\_\_\_

SEND REPORT TO: **Mtavaric@aesatlanta.com**

INVOICE TO: \_\_\_\_\_ (IF DIFFERENT FROM ABOVE)

QUOTE #: \_\_\_\_\_ PO#: \_\_\_\_\_

SHIPMENT METHOD: \_\_\_\_\_

OUT: / / VIA: \_\_\_\_\_

IN: / / VIA: \_\_\_\_\_

CLIENT: FedEx UPS MAIL COURIER

GREYHOUND OTHER: \_\_\_\_\_

SPECIAL INSTRUCTIONS/COMMENTS: \_\_\_\_\_

Page 33 of 54

Visit our website [www.aesatlanta.com](http://www.aesatlanta.com) to check on the status of your results, place bottle orders, etc.

RECEIPT  
Total # of Containers

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

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

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED 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) O = Other (specify) WW = Waste Water  
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+H = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

## Cooler Receipt Form

Client Name: AES Project: 1402FO4 Lab Work Order: 11454

**A. Shipping/Container Information** (circle appropriate response)

Courier:  FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present:  Yes No

Tracking Number: 561327014187

Custody Seal on Cooler/Box Present: Yes  No Seals Intact: Yes No

Cooler/Box Packing Material:  Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice:  Wet Blue None Ice Intact:  Yes Melted

Cooler Temperature: 10C Radiation Screened: Yes  No Chain of Custody Present:  Yes No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in** (check appropriate response)

|  | YES | NO | N/A | Comment<br>Reference non-Conformance |
|--|-----|----|-----|--------------------------------------|
| Chain of Custody properly filled out   | ✓   |    |     |                                      |
| Chain of Custody relinquished  | ✓   |    |     |                                      |
| Sampler Name & Signature on COC  |     | ✓  |     |                                      |
| Containers intact  | ✓   |    |     |                                      |
| Were samples in separate bags  |     | ✓  |     |                                      |
| Sample container labels match COC<br>Sample name/date and time collected   | ✓   |    |     |                                      |
| Sufficient volume provided   | ✓   |    |     |                                      |
| Microseeps containers used   | ✓   |    |     |                                      |
| Are containers properly preserved for the requested testing?<br>(as labeled)   | ✓   |    |     |                                      |
| If an unknown preservation state, were containers checked?<br>Exception: VOA's coliform                                |     |    | ✓   | If yes, see pH form.                 |
| Was volume for dissolved testing field filtered, as noted on<br>the COC? Was volume received in a preserved container? |     |    | ✓   |                                      |

Comments: \_\_\_\_\_

Cooler contents examined/received by: LY Date: 2.21.14

Project Manager Review: PR Date: 2/24/14

**Analytical Environmental Services, Inc.**

**Sample/Cooler Receipt Checklist**

Client EMM

Work Order Number 1402604

Checklist completed by [Signature] Date 2/19/19  
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? (4°C±2)\* Yes  No

Cooler #1 3.1 Cooler #2 \_\_\_\_\_ Cooler #3 \_\_\_\_\_ Cooler #4 \_\_\_\_\_ Cooler#5 \_\_\_\_\_ Cooler #6 \_\_\_\_\_

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Was TAT marked on the COC? Yes  No

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

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

Water - pH acceptable upon receipt? Yes  No  Not Applicable

Adjusted? \_\_\_\_\_ Checked by [Signature]

Sample Condition: Good  Other(Explain) \_\_\_\_\_

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

**See Case Narrative for resolution of the Non-Conformance.**

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

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402F04

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402F04-001A  | TB-03-20140219-01   | 2/19/2014 12:00:00AM | Aqueous     | Volatile Organic Compounds by GC/MS |           | 02/21/2014 | 02/21/2014    |
| 1402F04-002A  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/21/2014 | 02/21/2014    |
| 1402F04-002B  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402F04-002C  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F04-002C  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/21/2014 | 02/21/2014    |
| 1402F04-002D  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F04-002E  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F04-002F  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F04-002G  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F04-002H  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/24/2014    |
| 1402F04-002H  | RINSE-1-20140219-01 | 2/19/2014 1:15:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F04-003A  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/21/2014 | 02/21/2014    |
| 1402F04-003B  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402F04-003C  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F04-003C  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | TOTAL MERCURY                       |           | 02/21/2014 | 02/21/2014    |
| 1402F04-003D  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F04-003E  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F04-003F  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F04-003G  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F04-003H  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F04-003H  | DUP-02-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F04-004A  | DUP-03-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/21/2014 | 02/24/2014    |
| 1402F04-004B  | DUP-03-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402F04-004C  | DUP-03-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F04-004C  | DUP-03-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | TOTAL MERCURY                       |           | 02/21/2014 | 02/21/2014    |
| 1402F04-004D  | DUP-03-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F04-004E  | DUP-03-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F04-004F  | DUP-03-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F04-004G  | DUP-03-20140219-01  | 2/19/2014 12:00:00AM | Groundwater | Sulfide                             |           |            | 02/21/2014    |

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402F04

## Dates Report

| Lab Sample ID | Client Sample ID     | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|----------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402F04-004H  | DUP-03-20140219-01   | 2/19/2014 12:00:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F04-004H  | DUP-03-20140219-01   | 2/19/2014 12:00:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F04-005A  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/21/2014 | 02/21/2014    |
| 1402F04-005B  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402F04-005C  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F04-005C  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | TOTAL MERCURY                       |           | 02/21/2014 | 02/21/2014    |
| 1402F04-005D  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F04-005D  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | ION SCAN                            |           |            | 02/24/2014    |
| 1402F04-005E  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F04-005F  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F04-005G  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F04-005H  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F04-005H  | MW-302DD-20140219-01 | 2/19/2014 10:30:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F04-006A  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/21/2014 | 02/21/2014    |
| 1402F04-006B  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402F04-006C  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F04-006C  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | TOTAL MERCURY                       |           | 02/21/2014 | 02/21/2014    |
| 1402F04-006D  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F04-006E  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F04-006F  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F04-006G  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F04-006H  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F04-006H  | MW-304D-20140219-01  | 2/19/2014 9:30:00AM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F04-007A  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/21/2014 | 02/21/2014    |
| 1402F04-007B  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402F04-007C  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F04-007C  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | TOTAL MERCURY                       |           | 02/21/2014 | 02/21/2014    |
| 1402F04-007D  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F04-007E  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402F04

**Dates Report**

| Lab Sample ID | Client Sample ID     | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|----------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402F04-007F  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F04-007G  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F04-007H  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F04-007H  | MW-205DD-20140219-01 | 2/19/2014 11:10:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F04-008A  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/21/2014 | 02/24/2014    |
| 1402F04-008B  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/20/2014 | 02/20/2014    |
| 1402F04-008C  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F04-008C  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/21/2014 | 02/21/2014    |
| 1402F04-008D  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F04-008E  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F04-008F  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F04-008G  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F04-008H  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F04-008H  | MW-205D-20140219-01  | 2/19/2014 1:25:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 186622

| Sample ID: <b>MB-186622</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261875</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>186622</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5505349</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |     |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|-----|------|-----|--|--|--|--|
| Benz(a)anthracene      | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Benzo(a)pyrene         | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Benzo(b)fluoranthene   | BRL   | 0.10  |       |  |     |      |     |  |  |  |  |
| Dibenz(a,h)anthracene  | BRL   | 0.10  |       |  |     |      |     |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.372 | 0     | 2.000 |  | 119 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCS-186622</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261875</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>186622</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5505856</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 1.703 | 0.050 | 2.000 |  | 85.2 | 62.8 | 132 |  |  |  |  |
| Benzo(a)pyrene         | 1.976 | 0.050 | 2.000 |  | 98.8 | 56.4 | 123 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.610 | 0.10  | 2.000 |  | 80.5 | 69.2 | 132 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.809 | 0.10  | 2.000 |  | 90.5 | 49.3 | 134 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.832 | 0.050 | 2.000 |  | 91.6 | 48.3 | 137 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.153 | 0     | 2.000 |  | 108  | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCSD-186622</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261875</b>  |      |           |            |             |      |           |      |
|-------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCSD</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>186622</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5505860</b> |      |           |            |             |      |           |      |
| Analyte                       | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |       |      |      |  |
|------------------------|-------|-------|-------|--|------|------|-----|-------|------|------|--|
| Benz(a)anthracene      | 1.428 | 0.050 | 2.000 |  | 71.4 | 62.8 | 132 | 1.703 | 17.6 | 29.6 |  |
| Benzo(a)pyrene         | 1.887 | 0.050 | 2.000 |  | 94.3 | 56.4 | 123 | 1.976 | 4.60 | 29   |  |
| Benzo(b)fluoranthene   | 1.496 | 0.10  | 2.000 |  | 74.8 | 69.2 | 132 | 1.610 | 7.34 | 22   |  |
| Dibenz(a,h)anthracene  | 1.735 | 0.10  | 2.000 |  | 86.7 | 49.3 | 134 | 1.809 | 4.23 | 30   |  |
| Indeno(1,2,3-cd)pyrene | 1.770 | 0.050 | 2.000 |  | 88.5 | 48.3 | 137 | 1.832 | 3.43 | 35.8 |  |
| Surr: 4-Terphenyl-d14  | 2.054 | 0     | 2.000 |  | 103  | 53.2 | 145 | 2.153 | 0    | 0    |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187279

| Sample ID: <b>MB-187279</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502069</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 93.12 | 0  | 100.0 |  | 93.1 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 47.25 | 0  | 50.00 |  | 94.5 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 62.02 | 0  | 100.0 |  | 62.0 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 50.92 | 0  | 50.00 |  | 102  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 43.38 | 0  | 50.00 |  | 86.8 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 43.96 | 0  | 100.0 |  | 44.0 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-187279</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502080</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 94.12 | 10 | 100.0 |  | 94.1 | 67.7 | 122 |  |  |  |  |
| Phenol       | 42.55 | 10 | 100.0 |  | 42.6 | 24.6 | 120 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187279

| Sample ID: <b>LCS-187279</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502080</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Pyrene                     | 97.89 | 10 | 100.0 |  | 97.9 | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 110.1 | 0  | 100.0 |  | 110  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 53.40 | 0  | 50.00 |  | 107  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 65.41 | 0  | 100.0 |  | 65.4 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 56.80 | 0  | 50.00 |  | 114  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 48.68 | 0  | 50.00 |  | 97.4 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 48.89 | 0  | 100.0 |  | 48.9 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402C64-002GMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502077</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 90.11 | 10 | 100.0 |  | 90.1 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 60.41 | 10 | 100.0 |  | 60.4 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 91.41 | 10 | 100.0 |  | 91.4 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 108.1 | 0  | 100.0 |  | 108  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 51.23 | 0  | 50.00 |  | 102  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 78.41 | 0  | 100.0 |  | 78.4 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 52.61 | 0  | 50.00 |  | 105  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 48.32 | 0  | 50.00 |  | 96.6 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 69.97 | 0  | 100.0 |  | 70.0 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402C64-002GMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502079</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |      |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene | 87.92 | 10 | 100.0 |  | 87.9 | 51.9 | 120 | 90.11 | 2.46 | 24.9 |  |
| Phenol       | 58.05 | 10 | 100.0 |  | 58.0 | 30.5 | 120 | 60.41 | 3.98 | 34.4 |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187279

|                                   |   |                        |                                  |                        |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|
| Sample ID: <b>1402C64-002GMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502079</b> |

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Pyrene                     | 90.06  | 10        | 100.0     |             | 90.1 | 50.6      | 120        | 91.41       | 1.49 | 26.7      |      |
| Surr: 2,4,6-Tribromophenol | 100.6  | 0         | 100.0     |             | 101  | 51.5      | 124        | 108.1       | 0    | 0         |      |
| Surr: 2-Fluorobiphenyl     | 48.25  | 0         | 50.00     |             | 96.5 | 51.7      | 118        | 51.23       | 0    | 0         |      |
| Surr: 2-Fluorophenol       | 71.62  | 0         | 100.0     |             | 71.6 | 26        | 120        | 78.41       | 0    | 0         |      |
| Surr: 4-Terphenyl-d14      | 49.30  | 0         | 50.00     |             | 98.6 | 45.2      | 137        | 52.61       | 0    | 0         |      |
| Surr: Nitrobenzene-d5      | 43.84  | 0         | 50.00     |             | 87.7 | 42        | 120        | 48.32       | 0    | 0         |      |
| Surr: Phenol-d5            | 64.47  | 0         | 100.0     |             | 64.5 | 12.3      | 120        | 69.97       | 0    | 0         |      |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402F04

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187283**

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187283</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500697</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane BRL 4

|                              |   |                        |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-187283</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500753</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 129.0 4 200.0 64.5 45.2 115

|                               |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCSD-187283</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCSD</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500755</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 126.8 4 200.0 63.4 45.2 115 129.0 1.77 20

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002BMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500902</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 122.2 4 200.0 5.730 58.2 41.1 115

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-002BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187283</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500906</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 122.8 4 200.0 5.730 58.5 41.1 115 122.2 0.524 20

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402F04

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187286**

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187286</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502016</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane BRL 4

|                              |   |                        |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-187286</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502018</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 131.2 4 200.0 65.6 45.2 115

|                               |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCSD-187286</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCSD</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502020</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 132.6 4 200.0 66.3 45.2 115 131.2 1.08 20

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004BMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502030</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 134.9 4 200.0 67.5 41.1 115

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C76-004BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261637</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187286</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502035</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 141.2 4 200.0 70.6 41.1 115 134.9 4.54 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187299

| Sample ID: <b>MB-187299</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261715</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187299</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502691</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Carbon disulfide           | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Ethylbenzene               | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Toluene                    | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Xylenes, Total             | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 38.10 | 0   | 50.00 |  | 76.2 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 44.27 | 0   | 50.00 |  | 88.5 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 40.21 | 0   | 50.00 |  | 80.4 | 77   | 117 |  |  |  |  |

| Sample ID: <b>LCS-187299</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261715</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187299</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502689</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 49.30 | 5.0 | 50.00 |  | 98.6 | 74.2 | 129 |  |  |  |  |
| Toluene                    | 48.80 | 5.0 | 50.00 |  | 97.6 | 74.2 | 129 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 45.43 | 0   | 50.00 |  | 90.9 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 45.41 | 0   | 50.00 |  | 90.8 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 45.05 | 0   | 50.00 |  | 90.1 | 77   | 117 |  |  |  |  |

| Sample ID: <b>1402F04-008AMS</b> | Client ID: <b>MW-205D-20140219-01</b>                        | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261715</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187299</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502696</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |      |     |      |      |      |      |     |  |  |  |  |
|----------------------------|------|-----|------|------|------|------|-----|--|--|--|--|
| Benzene                    | 4310 | 250 | 2500 | 1728 | 103  | 70.2 | 138 |  |  |  |  |
| Toluene                    | 2432 | 250 | 2500 |      | 97.3 | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 2274 | 0   | 2500 |      | 90.9 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 2249 | 0   | 2500 |      | 90.0 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 2298 | 0   | 2500 |      | 91.9 | 77   | 117 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187299

|                                   |  |                        |                                  |                        |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|
| Sample ID: <b>1402F04-008AMSD</b> | Client ID: <b>MW-205D-20140219-01</b>                        | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261715</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187299</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502697</b> |

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD  | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|-------|-----------|------|
| Benzene                    | 4328   | 250       | 2500      | 1728        | 104  | 70.2      | 138        | 4310        | 0.440 | 20        |      |
| Toluene                    | 2412   | 250       | 2500      |             | 96.5 | 70        | 139        | 2432        | 0.826 | 20        |      |
| Surr: 4-Bromofluorobenzene | 2266   | 0         | 2500      |             | 90.6 | 66.2      | 120        | 2274        | 0     | 0         |      |
| Surr: Dibromofluoromethane | 2243   | 0         | 2500      |             | 89.7 | 79.5      | 121        | 2249        | 0     | 0         |      |
| Surr: Toluene-d8           | 2230   | 0         | 2500      |             | 89.2 | 77        | 117        | 2298        | 0     | 0         |      |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187318

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187318</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261703</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187318</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502570</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187318</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261703</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187318</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502573</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005483 0.00020 0.0050 110 85 115

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C64-002BMS</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261703</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187318</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502578</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.002403 0.00020 0.0050 48.1 70 130 S

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402C64-002BMSD</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261703</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187318</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502582</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.002362 0.00020 0.0050 47.2 70 130 0.002403 1.70 20 S

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187404

| Sample ID: <b>MB-187404</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261918</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187404</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5506185</b> |      |           |            |             |      |           |      |
| Analyte                     | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |     |        |  |  |  |  |  |  |  |  |  |
|-----------|-----|--------|--|--|--|--|--|--|--|--|--|
| Antimony  | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Arsenic   | BRL | 0.0500 |  |  |  |  |  |  |  |  |  |
| Barium    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Beryllium | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Cadmium   | BRL | 0.0050 |  |  |  |  |  |  |  |  |  |
| Chromium  | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Copper    | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Iron      | BRL | 0.100  |  |  |  |  |  |  |  |  |  |
| Lead      | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Nickel    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Zinc      | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |

| Sample ID: <b>LCS-187404</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261918</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187404</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5506183</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |           |     |    |     |  |  |  |  |
|-----------|-------|--------|-------|-----------|-----|----|-----|--|--|--|--|
| Antimony  | 1.078 | 0.0200 | 1.000 |           | 108 | 80 | 120 |  |  |  |  |
| Arsenic   | 1.065 | 0.0500 | 1.000 |           | 107 | 80 | 120 |  |  |  |  |
| Barium    | 1.054 | 0.0200 | 1.000 |           | 105 | 80 | 120 |  |  |  |  |
| Beryllium | 1.046 | 0.0100 | 1.000 |           | 105 | 80 | 120 |  |  |  |  |
| Cadmium   | 1.057 | 0.0050 | 1.000 |           | 106 | 80 | 120 |  |  |  |  |
| Chromium  | 1.062 | 0.0100 | 1.000 |           | 106 | 80 | 120 |  |  |  |  |
| Copper    | 1.072 | 0.0100 | 1.000 | 0.0007889 | 107 | 80 | 120 |  |  |  |  |
| Iron      | 10.17 | 0.100  | 10.00 |           | 102 | 80 | 120 |  |  |  |  |
| Lead      | 1.059 | 0.0100 | 1.000 |           | 106 | 80 | 120 |  |  |  |  |
| Nickel    | 1.057 | 0.0200 | 1.000 |           | 106 | 80 | 120 |  |  |  |  |
| Zinc      | 1.019 | 0.0200 | 1.000 |           | 102 | 80 | 120 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187404

| Sample ID: <b>1402F04-002CMS</b> | Client ID: <b>RINSE-1-20140219-01</b>  | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261918</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187404</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5506188</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |          |      |    |     |  |  |  |  |
|-----------|-------|--------|-------|----------|------|----|-----|--|--|--|--|
| Antimony  | 1.101 | 0.0200 | 1.000 |          | 110  | 75 | 125 |  |  |  |  |
| Arsenic   | 1.083 | 0.0500 | 1.000 |          | 108  | 75 | 125 |  |  |  |  |
| Barium    | 1.073 | 0.0200 | 1.000 |          | 107  | 75 | 125 |  |  |  |  |
| Beryllium | 1.053 | 0.0100 | 1.000 |          | 105  | 75 | 125 |  |  |  |  |
| Cadmium   | 1.076 | 0.0050 | 1.000 |          | 108  | 75 | 125 |  |  |  |  |
| Chromium  | 1.086 | 0.0100 | 1.000 |          | 109  | 75 | 125 |  |  |  |  |
| Copper    | 1.080 | 0.0100 | 1.000 | 0.003017 | 108  | 75 | 125 |  |  |  |  |
| Iron      | 10.36 | 0.100  | 10.00 | 0.4148   | 99.5 | 75 | 125 |  |  |  |  |
| Lead      | 1.082 | 0.0100 | 1.000 |          | 108  | 75 | 125 |  |  |  |  |
| Nickel    | 1.078 | 0.0200 | 1.000 |          | 108  | 75 | 125 |  |  |  |  |
| Zinc      | 1.038 | 0.0200 | 1.000 |          | 104  | 75 | 125 |  |  |  |  |

| Sample ID: <b>1402F04-002CMSD</b> | Client ID: <b>RINSE-1-20140219-01</b>  | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261918</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187404</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5506189</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |          |      |    |     |       |      |    |  |
|-----------|-------|--------|-------|----------|------|----|-----|-------|------|----|--|
| Antimony  | 1.071 | 0.0200 | 1.000 |          | 107  | 75 | 125 | 1.101 | 2.69 | 20 |  |
| Arsenic   | 1.058 | 0.0500 | 1.000 |          | 106  | 75 | 125 | 1.083 | 2.33 | 20 |  |
| Barium    | 1.055 | 0.0200 | 1.000 |          | 106  | 75 | 125 | 1.073 | 1.65 | 20 |  |
| Beryllium | 1.014 | 0.0100 | 1.000 |          | 101  | 75 | 125 | 1.053 | 3.76 | 20 |  |
| Cadmium   | 1.051 | 0.0050 | 1.000 |          | 105  | 75 | 125 | 1.076 | 2.37 | 20 |  |
| Chromium  | 1.059 | 0.0100 | 1.000 |          | 106  | 75 | 125 | 1.086 | 2.46 | 20 |  |
| Copper    | 1.050 | 0.0100 | 1.000 | 0.003017 | 105  | 75 | 125 | 1.080 | 2.81 | 20 |  |
| Iron      | 10.07 | 0.100  | 10.00 | 0.4148   | 96.6 | 75 | 125 | 10.36 | 2.84 | 20 |  |
| Lead      | 1.057 | 0.0100 | 1.000 |          | 106  | 75 | 125 | 1.082 | 2.34 | 20 |  |
| Nickel    | 1.054 | 0.0200 | 1.000 |          | 105  | 75 | 125 | 1.078 | 2.24 | 20 |  |
| Zinc      | 1.017 | 0.0200 | 1.000 |          | 102  | 75 | 125 | 1.038 | 2.07 | 20 |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187411

|                             |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187411</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503753</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187411</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503754</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2337                      0.010                      0.2500                      93.5                      85                      115

|                                  |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-004FMS</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503756</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2374                      0.010                      0.2500                      95.0                      70                      130

|                                   |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-004FMSD</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503757</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2352                      0.010                      0.2500                      94.1                      70                      130                      0.2374                      0.931                      20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261858

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261858</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261858</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261858</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5504985</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide BRL 1.0

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261858</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261858</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261858</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5504986</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 280.8 1.0 280.8 100 90 110

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-002GMS</b> | Client ID: <b>RINSE-1-20140219-01</b>         | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261858</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261858</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5504988</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 11.44 1.0 14.04 81.5 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-002GMSD</b> | Client ID: <b>RINSE-1-20140219-01</b>         | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261858</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261858</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5504990</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 11.64 1.0 14.04 82.9 80 120 11.44 1.73 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261862

|                              |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261862</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505071</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate BRL 0.25  
 Sulfate BRL 1.0

|                               |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261862</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505073</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 4.752 0.25 5.000 95.0 90 110  
 Sulfate 25.38 1.0 25.00 102 90 110

|                                  |                                       |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-008DMS</b> | Client ID: <b>MW-205D-20140219-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b>     | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505101</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 4.852 0.25 5.000 97.0 90 110  
 Sulfate 25.86 1.0 25.00 0.4009 102 90 110

|                                  |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F35-001AMS</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505108</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 8.299 0.25 5.000 3.216 102 90 110  
 Sulfate 28.82 1.0 25.00 3.711 100 90 110

|                                   |                                       |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-008DMSD</b> | Client ID: <b>MW-205D-20140219-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b>     | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505104</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 4.774 0.25 5.000 95.5 90 110 4.852 1.63 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261862**

|                                   |                                       |                         |                                  |                        |
|-----------------------------------|---------------------------------------|-------------------------|----------------------------------|------------------------|
| Sample ID: <b>1402F04-008DMSD</b> | Client ID: <b>MW-205D-20140219-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b>     | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505104</b> |

| Analyte | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|---------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Sulfate | 25.57  | 1.0       | 25.00     | 0.4009      | 101  | 90        | 110        | 25.86       | 1.13 | 20        |      |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F04

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261911

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261911</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261911</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261911</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5506006</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

BRL 0.100

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261911</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261911</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261911</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5506007</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.5263 0.100 0.5000 105 85 115

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-002EMS</b> | Client ID: <b>RINSE-1-20140219-01</b>     | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261911</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261911</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5506026</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.5177 0.100 0.5000 0.03710 96.1 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-002EMSD</b> | Client ID: <b>RINSE-1-20140219-01</b>     | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261911</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261911</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5506029</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.5465 0.100 0.5000 0.03710 102 80 120 0.5177 5.41 30

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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 |  |



March 04, 2014

Jim Morrison  
ERM-Southeast  
3200 Windy Hill Rd  
Atlanta GA 30339

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

RE: AGLC Macon

Dear Jim Morrison:

Order No: 1402F86

Analytical Environmental Services, Inc. received 9 samples on February 20, 2014 1:49 pm for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

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

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

Mirzeta Kararic  
Project Manager



**Client:** ERM-Southeast  
**Project:** AGLC Macon  
**Lab ID:** 1402F86

**Case Narrative**

Sample Receiving Nonconformance:

Hexavalent Chromium was listed on the COC. Samples were analyzed for Ferrous Iron per project history and Nic Vrey was notified via phone on 2/18/14.

Ion Chromatography Analysis by Method 9056A:

Due to sample matrix, sample 1402F86-003D and -005D required a dilution during preparation and/or analysis resulting in elevated reporting limits.

PAH Analysis by Method 8270D SIM:

Matrix spike and matrix spike duplicate analyses were not performed with Batch 186622 due to insufficient sample volume.

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> TB-04-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014          |
| <b>Lab ID:</b> 1402F86-001      | <b>Matrix:</b> Aqueous                     |

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 19:07 | GK      |
| Carbon disulfide                                   | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 19:07 | GK      |
| Ethylbenzene                                       | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 19:07 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 19:07 | GK      |
| Xylenes, Total                                     | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 19:07 | GK      |
| Surr: 4-Bromofluorobenzene                         | 93.8   | 66.2-120        |      | %REC             | 187306  | 1               | 02/20/2014 19:07 | GK      |
| Surr: Dibromofluoromethane                         | 100    | 79.5-121        |      | %REC             | 187306  | 1               | 02/20/2014 19:07 | GK      |
| Surr: Toluene-d8                                   | 99     | 77-117          |      | %REC             | 187306  | 1               | 02/20/2014 19:07 | GK      |

**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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402F86-002

Client Sample ID: MW-12DD-20140219-01  
 Collection Date: 2/19/2014 3:00:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 130    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 19:34 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 19:34 | GK      |
| Ethylbenzene   | 19     | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 19:34 | GK      |
| Toluene  | 5.8    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 19:34 | GK      |
| Xylenes, Total   | 13     | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 19:34 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 97.5   | 66.2-120        |      | %REC  | 187306  | 1               | 02/20/2014 19:34 | GK      |
| Surr: Dibromofluoromethane                                     | 100    | 79.5-121        |      | %REC  | 187306  | 1               | 02/20/2014 19:34 | GK      |
| Surr: Toluene-d8   | 99.4   | 77-117          |      | %REC  | 187306  | 1               | 02/20/2014 19:34 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | 1.6    | 1.0             |      | mg/L  | R261725 | 1               | 02/21/2014 10:45 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 14:05 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 14:05 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 14:05 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 14:05 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 14:05 | YH      |
| Surr: 4-Terphenyl-d14  | 72.4   | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 14:05 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 101    | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Surr: 2-Fluorobiphenyl   | 96.7   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Surr: 2-Fluorophenol   | 74.3   | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Surr: 4-Terphenyl-d14  | 99.5   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| Surr: Nitrobenzene-d5  | 90.2   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 18:28 | YH      |

**Qualifiers:**

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- 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:** 3-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-12DD-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 3:00:00 PM |
| <b>Lab ID:</b> 1402F86-002      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 70.6   | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 18:28 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187370  | 1               | 02/24/2014 13:20 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261862 | 1               | 02/20/2014 15:16 | GR      |
| Sulfate   | 6.3    | 1.0             |                  | mg/L  | R261862 | 1               | 02/20/2014 15:16 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 260    | 8               |                  | ug/L  | 187481  | 2               | 02/25/2014 14:21 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 0.258  | 0.200           |                  | mg/L  | R261911 | 2               | 02/20/2014 14:15 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | 0.012  | 0.010           |                  | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Barium  | 0.0844 | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Iron  | 0.161  | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |
| Zinc  | 0.0878 | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:23 | JL      |

**Qualifiers:**

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- 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
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**Analytical Environmental Services, Inc**

**Date:** 3-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-302D-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 3:30:00 PM |
| <b>Lab ID:</b> 1402F86-003      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 550    | 50              |      | ug/L  | 187306  | 10              | 02/21/2014 13:10 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 20:01 | GK      |
| Ethylbenzene   | 31     | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 20:01 | GK      |
| Toluene  | 610    | 50              |      | ug/L  | 187306  | 10              | 02/21/2014 13:10 | GK      |
| Xylenes, Total   | 170    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 20:01 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 96.5   | 66.2-120        |      | %REC  | 187306  | 10              | 02/21/2014 13:10 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 98.1   | 66.2-120        |      | %REC  | 187306  | 1               | 02/20/2014 20:01 | GK      |
| Surr: Dibromofluoromethane                                     | 96.9   | 79.5-121        |      | %REC  | 187306  | 10              | 02/21/2014 13:10 | GK      |
| Surr: Dibromofluoromethane                                     | 98.3   | 79.5-121        |      | %REC  | 187306  | 1               | 02/20/2014 20:01 | GK      |
| Surr: Toluene-d8   | 99.4   | 77-117          |      | %REC  | 187306  | 10              | 02/21/2014 13:10 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 187306  | 1               | 02/20/2014 20:01 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261725 | 1               | 02/21/2014 10:45 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.18   | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 14:31 | YH      |
| Benzo(b)fluoranthene   | 0.17   | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 14:31 | YH      |
| Benzo(a)pyrene   | 0.19   | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 14:31 | YH      |
| Indeno(1,2,3-cd)pyrene   | 0.080  | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 14:31 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 14:31 | YH      |
| Surr: 4-Terphenyl-d14  | 90.3   | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 14:31 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Naphthalene  | 300    | 100             |      | ug/L  | 187279  | 10              | 02/24/2014 14:36 | YH      |
| Phenanthrene   | 17     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 93.9   | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Surr: 2-Fluorobiphenyl   | 88.7   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 18:53 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

**Date:** 3-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-302D-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 3:30:00 PM |
| <b>Lab ID:</b> 1402F86-003      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit  | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|------------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        | <b>(SW3510C)</b> |      |       |         |                 |                  |         |
| Surr: 2-Fluorophenol                              | 65.9   | 26-120           |      | %REC  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Surr: 4-Terphenyl-d14                             | 91.5   | 45.2-137         |      | %REC  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Surr: Nitrobenzene-d5                             | 78.6   | 42-120           |      | %REC  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| Surr: Phenol-d5                                   | 31.1   | 12.3-120         |      | %REC  | 187279  | 1               | 02/21/2014 18:53 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        | <b>(SW7470A)</b> |      |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020          |      | mg/L  | 187370  | 1               | 02/24/2014 13:22 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                  |      |       |         |                 |                  |         |
| Nitrate   | BRL    | 2.5              |      | mg/L  | R261862 | 10              | 02/20/2014 18:15 | GR      |
| Sulfate   | 470    | 10               |      | mg/L  | R261862 | 10              | 02/20/2014 18:15 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        | <b>(RSK175)</b>  |      |       |         |                 |                  |         |
| Methane   | 35     | 4                |      | ug/L  | 187481  | 1               | 02/25/2014 14:12 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                  |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 6.04   | 2.50             |      | mg/L  | R261911 | 25              | 02/20/2014 14:15 | AB      |
| <b>Cyanide SW9014</b>                             |        | <b>(SW9010C)</b> |      |       |         |                 |                  |         |
| Cyanide, Total                                    | 0.425  | 0.010            |      | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        | <b>(SW3010A)</b> |      |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Arsenic   | BRL    | 0.0500           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Barium  | 0.0480 | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Beryllium   | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Cadmium   | BRL    | 0.0050           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Chromium  | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Copper  | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Iron  | 6.84   | 0.100            |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Lead  | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Nickel  | BRL    | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | JL      |
| Zinc  | 0.0312 | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 20:27 | 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402F86-004

Client Sample ID: MW-09D-20140219-01  
 Collection Date: 2/19/2014 5:05:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 22:18 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 22:18 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 22:18 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 22:18 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 22:18 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 95.9   | 66.2-120        |      | %REC  | 187306  | 1               | 02/20/2014 22:18 | GK      |
| Surr: Dibromofluoromethane                                     | 102    | 79.5-121        |      | %REC  | 187306  | 1               | 02/20/2014 22:18 | GK      |
| Surr: Toluene-d8   | 104    | 77-117          |      | %REC  | 187306  | 1               | 02/20/2014 22:18 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261725 | 1               | 02/21/2014 10:45 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 14:56 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 14:56 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 14:56 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 14:56 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 14:56 | YH      |
| Surr: 4-Terphenyl-d14  | 106    | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 14:56 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 85     | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Surr: 2-Fluorobiphenyl   | 74.5   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Surr: 2-Fluorophenol   | 55.4   | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Surr: 4-Terphenyl-d14  | 87.7   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| Surr: Nitrobenzene-d5  | 65.9   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 19:18 | 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: 3-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-09D-20140219-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 5:05:00 PM |
| <b>Lab ID:</b> 1402F86-004      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 45     | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 19:18 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187370  | 1               | 02/24/2014 13:24 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261862 | 1               | 02/20/2014 18:00 | GR      |
| Sulfate   | 2.1    | 1.0             |                  | mg/L  | R261862 | 1               | 02/20/2014 18:00 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 15     | 4               |                  | ug/L  | 187481  | 1               | 02/25/2014 14:17 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261911 | 1               | 02/20/2014 14:15 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187411  | 1               | 02/24/2014 09:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Barium  | 2.29   | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Iron  | 0.211  | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:31 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
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- N Analyte not NELAC certified
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- 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

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-308D-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 5:45:00 PM |
| <b>Lab ID:</b> 1402F86-005      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 6.8    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 20:29 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 20:29 | GK      |
| Ethylbenzene   | 5.8    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 20:29 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 20:29 | GK      |
| Xylenes, Total   | 5.4    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 20:29 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 98.8   | 66.2-120        |      | %REC  | 187306  | 1               | 02/20/2014 20:29 | GK      |
| Surr: Dibromofluoromethane                                     | 100    | 79.5-121        |      | %REC  | 187306  | 1               | 02/20/2014 20:29 | GK      |
| Surr: Toluene-d8   | 100    | 77-117          |      | %REC  | 187306  | 1               | 02/20/2014 20:29 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261725 | 1               | 02/21/2014 10:45 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 15:22 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 15:22 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 15:22 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 15:22 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 15:22 | YH      |
| Surr: 4-Terphenyl-d14  | 93.2   | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 15:22 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | 25     | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 103    | 51.5-124        |      | %REC  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Surr: 2-Fluorobiphenyl   | 91.1   | 51.7-118        |      | %REC  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Surr: 2-Fluorophenol   | 67     | 26-120          |      | %REC  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Surr: 4-Terphenyl-d14  | 97.5   | 45.2-137        |      | %REC  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| Surr: Nitrobenzene-d5  | 77.9   | 42-120          |      | %REC  | 187279  | 1               | 02/21/2014 19:44 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
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- 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: 3-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-308D-20140219-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/19/2014 5:45:00 PM |
| <b>Lab ID:</b> 1402F86-005      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 57.2   | 12.3-120        |                  | %REC  | 187279  | 1               | 02/21/2014 19:44 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187370  | 1               | 02/24/2014 13:25 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 2.5             |                  | mg/L  | R261862 | 10              | 02/20/2014 16:00 | GR      |
| Sulfate   | 12     | 10              |                  | mg/L  | R261862 | 10              | 02/20/2014 16:00 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 140    | 4               |                  | ug/L  | 187481  | 1               | 02/25/2014 14:26 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261911 | 1               | 02/20/2014 14:15 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Barium  | 0.106  | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Chromium  | 0.0257 | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Iron  | 1.65   | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:35 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402F86-006

Client Sample ID: MW-301D-20140220-01  
 Collection Date: 2/20/2014 9:30:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b>   |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 20:56 | GK      |
| Carbon disulfide                                     | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 20:56 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 20:56 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 20:56 | GK      |
| Xylenes, Total                                       | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 20:56 | GK      |
| Surr: 4-Bromofluorobenzene                           | 97.1   | 66.2-120        |      | %REC             | 187306  | 1               | 02/20/2014 20:56 | GK      |
| Surr: Dibromofluoromethane                           | 100    | 79.5-121        |      | %REC             | 187306  | 1               | 02/20/2014 20:56 | GK      |
| Surr: Toluene-d8                                     | 100    | 77-117          |      | %REC             | 187306  | 1               | 02/20/2014 20:56 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                  |        |                 |      |                  |         |                 |                  |         |
| Sulfide  | 2.6    | 1.0             |      | mg/L             | R261725 | 1               | 02/21/2014 10:45 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| Benz(a)anthracene                                    | BRL    | 0.050           |      | ug/L             | 186622  | 1               | 02/25/2014 15:48 | YH      |
| Benzo(b)fluoranthene                                 | BRL    | 0.10            |      | ug/L             | 186622  | 1               | 02/25/2014 15:48 | YH      |
| Benzo(a)pyrene                                       | BRL    | 0.050           |      | ug/L             | 186622  | 1               | 02/25/2014 15:48 | YH      |
| Indeno(1,2,3-cd)pyrene                               | BRL    | 0.050           |      | ug/L             | 186622  | 1               | 02/25/2014 15:48 | YH      |
| Dibenz(a,h)anthracene                                | BRL    | 0.10            |      | ug/L             | 186622  | 1               | 02/25/2014 15:48 | YH      |
| Surr: 4-Terphenyl-d14                                | 97     | 53.2-145        |      | %REC             | 186622  | 1               | 02/25/2014 15:48 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>      |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| 2,4-Dimethylphenol                                   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| 2-Methylphenol                                       | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| 3,4-Methylphenol                                     | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Acenaphthylene                                       | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Benzo(g,h,i)perylene                                 | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Benzo(k)fluoranthene                                 | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Phenol   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Surr: 2,4,6-Tribromophenol                           | 100    | 51.5-124        |      | %REC             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Surr: 2-Fluorobiphenyl                               | 89.5   | 51.7-118        |      | %REC             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Surr: 2-Fluorophenol                                 | 75.2   | 26-120          |      | %REC             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Surr: 4-Terphenyl-d14                                | 96.3   | 45.2-137        |      | %REC             | 187343  | 1               | 02/25/2014 13:38 | YH      |
| Surr: Nitrobenzene-d5                                | 87.1   | 42-120          |      | %REC             | 187343  | 1               | 02/25/2014 13:38 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc

Date: 3-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-301D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 9:30:00 AM |
| <b>Lab ID:</b> 1402F86-006      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 67.9   | 12.3-120        |                  | %REC  | 187343  | 1               | 02/25/2014 13:38 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187370  | 1               | 02/24/2014 13:27 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261862 | 1               | 02/20/2014 17:16 | GR      |
| Sulfate   | 18     | 1.0             |                  | mg/L  | R261862 | 1               | 02/20/2014 17:16 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 43     | 4               |                  | ug/L  | 187481  | 1               | 02/25/2014 14:31 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 4.31   | 1.00            |                  | mg/L  | R261911 | 10              | 02/20/2014 14:15 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | 0.062  | 0.010           |                  | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Barium  | 1.87   | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Iron  | 5.20   | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:39 | 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

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-207D-20140220-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 10:00:00 AM |
| <b>Lab ID:</b> 1402F86-007      | <b>Matrix:</b> Groundwater                    |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 21:24 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 21:24 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 21:24 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 21:24 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 21:24 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 95.7   | 66.2-120        |      | %REC  | 187306  | 1               | 02/20/2014 21:24 | GK      |
| Surr: Dibromofluoromethane                                     | 99     | 79.5-121        |      | %REC  | 187306  | 1               | 02/20/2014 21:24 | GK      |
| Surr: Toluene-d8   | 100    | 77-117          |      | %REC  | 187306  | 1               | 02/20/2014 21:24 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261725 | 1               | 02/21/2014 10:45 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 16:14 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 16:14 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 16:14 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 16:14 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 16:14 | YH      |
| Surr: 4-Terphenyl-d14  | 91.9   | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 16:14 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 84.4   | 51.5-124        |      | %REC  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Surr: 2-Fluorobiphenyl   | 76.7   | 51.7-118        |      | %REC  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Surr: 2-Fluorophenol   | 62.4   | 26-120          |      | %REC  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Surr: 4-Terphenyl-d14  | 82.9   | 45.2-137        |      | %REC  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| Surr: Nitrobenzene-d5  | 71.7   | 42-120          |      | %REC  | 187343  | 1               | 02/25/2014 14:04 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
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- > 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: 3-Mar-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-207D-20140220-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 10:00:00 AM |
| <b>Lab ID:</b> 1402F86-007      | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 56.8   | 12.3-120        |                  | %REC  | 187343  | 1               | 02/25/2014 14:04 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187370  | 1               | 02/24/2014 13:29 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261862 | 1               | 02/20/2014 17:31 | GR      |
| Sulfate   | 4.4    | 1.0             |                  | mg/L  | R261862 | 1               | 02/20/2014 17:31 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 48     | 4               |                  | ug/L  | 187481  | 1               | 02/25/2014 14:41 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261911 | 1               | 02/20/2014 14:15 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | 0.020  | 0.010           |                  | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Barium  | 1.98   | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Iron  | 0.687  | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:43 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
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- 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402F86-008

Client Sample ID: MW-303D-20140220-01  
 Collection Date: 2/20/2014 11:35:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b>   |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 21:51 | GK      |
| Carbon disulfide                                     | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 21:51 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 21:51 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 21:51 | GK      |
| Xylenes, Total                                       | BRL    | 5.0             |      | ug/L             | 187306  | 1               | 02/20/2014 21:51 | GK      |
| Surr: 4-Bromofluorobenzene                           | 94.8   | 66.2-120        |      | %REC             | 187306  | 1               | 02/20/2014 21:51 | GK      |
| Surr: Dibromofluoromethane                           | 99.7   | 79.5-121        |      | %REC             | 187306  | 1               | 02/20/2014 21:51 | GK      |
| Surr: Toluene-d8                                     | 101    | 77-117          |      | %REC             | 187306  | 1               | 02/20/2014 21:51 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                  |        |                 |      |                  |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L             | R261725 | 1               | 02/21/2014 10:45 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| Benz(a)anthracene                                    | BRL    | 0.050           |      | ug/L             | 186622  | 1               | 02/25/2014 16:40 | YH      |
| Benzo(b)fluoranthene                                 | BRL    | 0.10            |      | ug/L             | 186622  | 1               | 02/25/2014 16:40 | YH      |
| Benzo(a)pyrene                                       | BRL    | 0.050           |      | ug/L             | 186622  | 1               | 02/25/2014 16:40 | YH      |
| Indeno(1,2,3-cd)pyrene                               | BRL    | 0.050           |      | ug/L             | 186622  | 1               | 02/25/2014 16:40 | YH      |
| Dibenz(a,h)anthracene                                | BRL    | 0.10            |      | ug/L             | 186622  | 1               | 02/25/2014 16:40 | YH      |
| Surr: 4-Terphenyl-d14                                | 99.5   | 53.2-145        |      | %REC             | 186622  | 1               | 02/25/2014 16:40 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>      |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| 2,4-Dimethylphenol                                   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| 2-Methylphenol                                       | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| 3,4-Methylphenol                                     | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Acenaphthylene                                       | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Benzo(g,h,i)perylene                                 | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Benzo(k)fluoranthene                                 | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Phenol   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Surr: 2,4,6-Tribromophenol                           | 91.4   | 51.5-124        |      | %REC             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Surr: 2-Fluorobiphenyl                               | 83.5   | 51.7-118        |      | %REC             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Surr: 2-Fluorophenol                                 | 68.8   | 26-120          |      | %REC             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Surr: 4-Terphenyl-d14                                | 90.4   | 45.2-137        |      | %REC             | 187343  | 1               | 02/25/2014 14:30 | YH      |
| Surr: Nitrobenzene-d5                                | 78.6   | 42-120          |      | %REC             | 187343  | 1               | 02/25/2014 14:30 | YH      |

**Qualifiers:**

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- BRL Below reporting limit
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- 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: 3-Mar-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-303D-20140220-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 11:35:00 AM |
| <b>Lab ID:</b> 1402F86-008      | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 62     | 12.3-120        |                  | %REC  | 187343  | 1               | 02/25/2014 14:30 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187370  | 1               | 02/24/2014 13:35 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261862 | 1               | 02/21/2014 09:29 | GR      |
| Sulfate   | 7.7    | 1.0             |                  | mg/L  | R261862 | 1               | 02/21/2014 09:29 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 610    | 40              |                  | ug/L  | 187481  | 10              | 02/25/2014 15:06 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 1.35   | 0.100           |                  | mg/L  | R261911 | 1               | 02/20/2014 14:15 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Barium  | 0.703  | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Iron  | 1.83   | 0.100           |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |
| Zinc  | 0.0234 | 0.0200          |                  | mg/L  | 187404  | 1               | 02/24/2014 20:47 | JL      |

**Qualifiers:**

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- 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: 3-Mar-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-110D-20140220-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 11:40:00 AM |
| <b>Lab ID:</b> 1402F86-009      | <b>Matrix:</b> Groundwater                    |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 480    | 50              |      | ug/L  | 187306  | 10              | 02/21/2014 12:42 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 22:46 | GK      |
| Ethylbenzene   | 540    | 50              |      | ug/L  | 187306  | 10              | 02/21/2014 12:42 | GK      |
| Toluene  | 5.1    | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 22:46 | GK      |
| Xylenes, Total   | 48     | 5.0             |      | ug/L  | 187306  | 1               | 02/20/2014 22:46 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 99.8   | 66.2-120        |      | %REC  | 187306  | 10              | 02/21/2014 12:42 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 100    | 66.2-120        |      | %REC  | 187306  | 1               | 02/20/2014 22:46 | GK      |
| Surr: Dibromofluoromethane                                     | 96.7   | 79.5-121        |      | %REC  | 187306  | 1               | 02/20/2014 22:46 | GK      |
| Surr: Dibromofluoromethane                                     | 96.1   | 79.5-121        |      | %REC  | 187306  | 10              | 02/21/2014 12:42 | GK      |
| Surr: Toluene-d8   | 99.8   | 77-117          |      | %REC  | 187306  | 10              | 02/21/2014 12:42 | GK      |
| Surr: Toluene-d8   | 101    | 77-117          |      | %REC  | 187306  | 1               | 02/20/2014 22:46 | GK      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R261725 | 1               | 02/21/2014 10:45 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.18   | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 17:06 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 17:06 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 17:06 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 186622  | 1               | 02/25/2014 17:06 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 186622  | 1               | 02/25/2014 17:06 | YH      |
| Surr: 4-Terphenyl-d14  | 96     | 53.2-145        |      | %REC  | 186622  | 1               | 02/25/2014 17:06 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Acenaphthene   | 81     | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Fluorene   | 25     | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Naphthalene  | 1100   | 100             |      | ug/L  | 187632  | 10              | 02/28/2014 15:06 | YH      |
| Phenanthrene   | 40     | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 94.6   | 51.5-124        |      | %REC  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Surr: 2-Fluorobiphenyl   | 88.7   | 51.7-118        |      | %REC  | 187632  | 1               | 02/27/2014 22:54 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
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- 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: 3-Mar-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-110D-20140220-01  |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 11:40:00 AM |
| <b>Lab ID:</b> 1402F86-009      | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit  | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|------------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        | <b>(SW3510C)</b> |      |       |         |                 |                  |         |
| Surr: 2-Fluorophenol                              | 68.7   | 26-120           |      | %REC  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Surr: 4-Terphenyl-d14                             | 86.9   | 45.2-137         |      | %REC  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Surr: Nitrobenzene-d5                             | 92.4   | 42-120           |      | %REC  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| Surr: Phenol-d5                                   | 61.6   | 12.3-120         |      | %REC  | 187632  | 1               | 02/27/2014 22:54 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        | <b>(SW7470A)</b> |      |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020          |      | mg/L  | 187370  | 1               | 02/24/2014 13:37 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                  |      |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25             |      | mg/L  | R261829 | 1               | 02/20/2014 15:32 | GR      |
| Sulfate   | BRL    | 1.0              |      | mg/L  | R261829 | 1               | 02/20/2014 15:32 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        | <b>(RSK175)</b>  |      |       |         |                 |                  |         |
| Methane   | 770    | 40               |      | ug/L  | 187481  | 10              | 02/25/2014 15:17 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                  |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 5.00   | 1.00             |      | mg/L  | R261911 | 10              | 02/20/2014 14:15 | AB      |
| <b>Cyanide SW9014</b>                             |        | <b>(SW9010C)</b> |      |       |         |                 |                  |         |
| Cyanide, Total                                    | 0.021  | 0.010            |      | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        | <b>(SW3010A)</b> |      |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Arsenic   | BRL    | 0.0500           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Barium  | 4.77   | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Beryllium   | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Cadmium   | BRL    | 0.0050           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Chromium  | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Copper  | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Iron  | 5.89   | 0.100            |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Lead  | BRL    | 0.0100           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Nickel  | 0.125  | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |
| Zinc  | BRL    | 0.0200           |      | mg/L  | 187404  | 1               | 02/24/2014 20:50 | JL      |

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Microseeps/Pace Analytical Energy Services, LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

March 5, 2014

Mirzeta Kararic  
Analytical Environmental Services, Inc.  
3785 Presidential Parkway  
Suite 111  
Atlanta, GA 30340

RE: **1402F86**

*Microseeps Workorder: 11471*

Dear Mirzeta Kararic:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, February 24, 2014. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

*Robbin Robl CT 3/6/14*

Robbin Robl 03/05/2014  
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 19

Report ID: 11471 - 493965

Page 1 of 15



**CERTIFICATE OF ANALYSIS**

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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

|                          |  |   |
|--------------------------|--|---|
| <b>Accreditor:</b>       | Pennsylvania Department of Environmental Protection, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | 02-00538   |   |
| <b>Scope:</b>            | NELAP Non-Potable Water and Solid & Hazardous Waste  |   |
| <b>Accreditor:</b>       | NELAP: State of Florida, Department of Health, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | E87832   |   |
| <b>Scope:</b>            | Clean Water Act (CWA)  | Resource Conservation and Recovery Act (RCRA) |
| <b>Accreditor:</b>       | South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification  |   |
| <b>Accreditation ID:</b> | 89009003   |   |
| <b>Scope:</b>            | Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)   |   |
| <b>Accreditor:</b>       | NELAP: State of Louisiana, Department of Environmental Quality   |   |
| <b>Accreditation ID:</b> | 04104  |   |
| <b>Scope:</b>            | Solid and Chemical Materials; Non-Potable Water  |   |
| <b>Accreditor:</b>       | NELAP: New Jersey, Department of Environmental Protection  |   |
| <b>Accreditation ID:</b> | PA026  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Chemical Materials  |   |
| <b>Accreditor:</b>       | NELAP: New York, Department of Health Wadsworth Center   |   |
| <b>Accreditation ID:</b> | 11815  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Hazardous Waste   |   |
| <b>Accreditor:</b>       | State of Connecticut, Department of Public Health, Division of Environmental Health  |   |
| <b>Accreditation ID:</b> | PH-0263  |   |
| <b>Scope:</b>            | Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)  |   |
| <b>Accreditor:</b>       | NELAP: Texas, Commission on Environmental Quality  |   |
| <b>Accreditation ID:</b> | T104704453-09-TX   |   |
| <b>Scope:</b>            | Non-Potable Water  |   |
| <b>Accreditor:</b>       | State of New Hampshire   |   |
| <b>Accreditation ID:</b> | 299409   |   |
| <b>Scope:</b>            | Non-potable water  |   |
| <b>Accreditor:</b>       | State of Georgia   |   |
| <b>Accreditation ID:</b> | Chapter 391-3-26   |   |
| <b>Scope:</b>            | As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC). |   |



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### SAMPLE SUMMARY

Workorder: 11471 1402F86

| Lab ID    | Sample ID           | Matrix | Date Collected  | Date Received   |
|-----------|---------------------|--------|-----------------|-----------------|
| 114710001 | MW-12DD-20140219-01 | Water  | 2/19/2014 15:00 | 2/24/2014 15:49 |
| 114710002 | MW-302D-20140219-01 | Water  | 2/19/2014 15:30 | 2/24/2014 15:49 |
| 114710003 | MW-09D-20140219-01  | Water  | 2/19/2014 17:05 | 2/24/2014 15:49 |
| 114710004 | MW-308D-20140219-01 | Water  | 2/19/2014 17:45 | 2/24/2014 15:49 |
| 114710005 | MW-301D-20140220-01 | Water  | 2/20/2014 09:30 | 2/24/2014 15:49 |
| 114710006 | MW-207D-20140220-01 | Water  | 2/20/2014 10:00 | 2/24/2014 15:49 |
| 114710007 | MW-303D-20140220-01 | Water  | 2/20/2014 11:35 | 2/24/2014 15:49 |
| 114710008 | MW-110D-20140220-01 | Water  | 2/20/2014 11:40 | 2/24/2014 15:49 |



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## PROJECT SUMMARY

Workorder: 11471 1402F86

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### Batch Comments

---

**Batch:** DISG/3610 - AM20GAX Water QC

The percent recovery for the laboratory control sample was above laboratory control limits. Analytes Ethane and Ethene. Results associated to the analytes in samples may be bias high.



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### ANALYTICAL RESULTS

Workorder: 11471 1402F86

Lab ID: 114710001 Date Received: 2/24/2014 15:49 Matrix: Water  
 Sample ID: MW-12DD-20140219-01 Date Collected: 2/19/2014 15:00

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | <5.0    | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/3/2014 11:53 |    | GT   |
| Oxygen                 | 1.4     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/3/2014 11:53 |    | GT   |
| Nitrogen               | 14      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/3/2014 11:53 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/3/2014 11:53 |    | GT   |



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### ANALYTICAL RESULTS

Workorder: 11471 1402F86

Lab ID: 114710002 Date Received: 2/24/2014 15:49 Matrix: Water  
 Sample ID: MW-302D-20140219-01 Date Collected: 2/19/2014 15:30

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | 190     | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/3/2014 12:05 |    | GT   |
| Oxygen                 | 2.4     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/3/2014 12:05 |    | GT   |
| Nitrogen               | 24      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/3/2014 12:05 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/3/2014 12:05 |    | GT   |



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**ANALYTICAL RESULTS**

Workorder: 11471 1402F86

Lab ID: 114710003 Date Received: 2/24/2014 15:49 Matrix: Water  
 Sample ID: MW-09D-20140219-01 Date Collected: 2/19/2014 17:05

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | 45      | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/3/2014 12:17 |    | GT   |
| Oxygen                 | 4.7     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/3/2014 12:17 |    | GT   |
| Nitrogen               | 19      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/3/2014 12:17 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/3/2014 12:17 |    | GT   |



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### ANALYTICAL RESULTS

Workorder: 11471 1402F86

Lab ID: 114710004 Date Received: 2/24/2014 15:49 Matrix: Water  
 Sample ID: MW-308D-20140219-01 Date Collected: 2/19/2014 17:45

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | <5.0    | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/3/2014 12:30 |    | GT   |
| Oxygen                 | 4.1     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/3/2014 12:30 |    | GT   |
| Nitrogen               | 18      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/3/2014 12:30 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/3/2014 12:30 |    | GT   |



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### ANALYTICAL RESULTS

Workorder: 11471 1402F86

Lab ID: 114710005 Date Received: 2/24/2014 15:49 Matrix: Water  
 Sample ID: MW-301D-20140220-01 Date Collected: 2/20/2014 09:30

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | 91      | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/3/2014 12:42 |    | GT   |
| Oxygen                 | 2.0     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/3/2014 12:42 |    | GT   |
| Nitrogen               | 20      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/3/2014 12:42 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/3/2014 12:42 |    | GT   |



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### ANALYTICAL RESULTS

Workorder: 11471 1402F86

Lab ID: **114710006** Date Received: 2/24/2014 15:49 Matrix: Water  
 Sample ID: **MW-207D-20140220-01** Date Collected: 2/20/2014 10:00

| Parameters | Results | Units | PQL | MDL | DF | Prepared | By | Analyzed | By | Qual |
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|

**RISK - MICR**

Analysis Desc: AM20GAX

Analytical Method: AM20GAX

|                 |      |      |      |       |   |  |  |                |  |    |
|-----------------|------|------|------|-------|---|--|--|----------------|--|----|
| Carbon Dioxide  | 22   | mg/l | 5.0  | 0.23  | 1 |  |  | 3/3/2014 12:54 |  | GT |
| Oxygen          | 5.4  | mg/l | 0.50 | 0.082 | 1 |  |  | 3/3/2014 12:54 |  | GT |
| Nitrogen        | 19   | mg/l | 2.0  | 1.8   | 1 |  |  | 3/3/2014 12:54 |  | GT |
| Carbon Monoxide | <1.0 | mg/l | 1.0  | 0.14  | 1 |  |  | 3/3/2014 12:54 |  | GT |



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### ANALYTICAL RESULTS

Workorder: 11471 1402F86

Lab ID: 114710007

Date Received: 2/24/2014 15:49 Matrix: Water

Sample ID: MW-303D-20140220-01

Date Collected: 2/20/2014 11:35

| Parameters | Results | Units | PQL | MDL | DF | Prepared | By | Analyzed | By | Qual |
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|
|------------|---------|-------|-----|-----|----|----------|----|----------|----|------|

**RISK - MICR**

Analysis Desc: AM20GAX

Analytical Method: AM20GAX

|                 |      |      |      |       |   |  |  |                |  |    |
|-----------------|------|------|------|-------|---|--|--|----------------|--|----|
| Carbon Dioxide  | 18   | mg/l | 5.0  | 0.23  | 1 |  |  | 3/3/2014 13:06 |  | GT |
| Oxygen          | 2.5  | mg/l | 0.50 | 0.082 | 1 |  |  | 3/3/2014 13:06 |  | GT |
| Nitrogen        | 19   | mg/l | 2.0  | 1.8   | 1 |  |  | 3/3/2014 13:06 |  | GT |
| Carbon Monoxide | <1.0 | mg/l | 1.0  | 0.14  | 1 |  |  | 3/3/2014 13:06 |  | GT |



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**ANALYTICAL RESULTS**

Workorder: 11471 1402F86

Lab ID: 114710008 Date Received: 2/24/2014 15:49 Matrix: Water  
 Sample ID: MW-110D-20140220-01 Date Collected: 2/20/2014 11:40

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | 140     | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/3/2014 13:19 |    | GT   |
| Oxygen                 | 3.0     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/3/2014 13:19 |    | GT   |
| Nitrogen               | 17      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/3/2014 13:19 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/3/2014 13:19 |    | GT   |



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 11471 1402F86

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### DEFINITIONS/QUALIFIERS

**Disclaimer :** The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAX, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

- MDL** Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL** Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND** Not detected at or above reporting limit.
- DF** Dilution Factor.
- S** Surrogate.
- RPD** Relative Percent Difference.
- % Rec** Percent Recovery.
- U** Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J** Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).



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**QUALITY CONTROL DATA**

Workorder: 11471 1402F86

QC Batch: DISG/3610 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 114710001, 114710002, 114710003, 114710004, 114710005, 114710006, 114710007, 114710008

METHOD BLANK: 26154

| Parameter       | Units | Blank Result | Reporting Limit | Qualifiers |
|-----------------|-------|--------------|-----------------|------------|
| <b>RISK</b>     |       |              |                 |            |
| Carbon Dioxide  | mg/l  | <5.0         | 5.0             |            |
| Oxygen          | mg/l  | <0.50        | 0.50            |            |
| Nitrogen        | mg/l  | <2.0         | 2.0             |            |
| Carbon Monoxide | mg/l  | <1.0         | 1.0             |            |

LABORATORY CONTROL SAMPLE & LCSD: 26156 26158

| Parameter       | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|-----------------|-------|-------------|------------|-------------|-----------|------------|-------------|-----|---------|------------|
| <b>RISK</b>     |       |             |            |             |           |            |             |     |         |            |
| Carbon Dioxide  | mg/l  | 120         | 130        | 140         | 115       | 118        | 80-120      | 2.6 | 20      |            |
| Oxygen          | mg/l  | 11          | 12         | 12          | 107       | 109        | 80-120      | 1.9 | 20      |            |
| Nitrogen        | mg/l  | 140         | 140        | 140         | 98        | 99         | 80-120      | 1   | 20      |            |
| Carbon Monoxide | mg/l  | 2           | 2.2        | 2.3         | 112       | 117        | 80-120      | 4.4 | 20      |            |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 26177 26178 Original: 114580006

| Parameter       | Units | Original Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD | Qualifiers |
|-----------------|-------|-----------------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|------------|
| <b>RISK</b>     |       |                 |             |           |            |          |           |             |     |         |            |
| Carbon Dioxide  | mg/l  | 24              | 120         | 150       | 150        | 112      | 111       | 70-130      | 0.9 | 20      |            |
| Oxygen          | mg/l  | 7.2             | 11          | 18        | 17         | 97       | 84        | 70-130      | 14  | 20      |            |
| Nitrogen        | mg/l  | 23              | 140         | 150       | 150        | 93       | 93        | 70-130      | 0   | 20      |            |
| Carbon Monoxide | mg/l  | 0               | 2           | 2.3       | 2.4        | 117      | 119       | 70-130      | 1.7 | 20      |            |



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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 11471 1402F86

| Lab ID    | Sample ID           | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|-----------|---------------------|-------------|------------|-----------------|----------------|
| 114710001 | MW-12DD-20140219-01 |             |            | AM20GAX         | DISG/3610      |
| 114710002 | MW-302D-20140219-01 |             |            | AM20GAX         | DISG/3610      |
| 114710003 | MW-09D-20140219-01  |             |            | AM20GAX         | DISG/3610      |
| 114710004 | MW-308D-20140219-01 |             |            | AM20GAX         | DISG/3610      |
| 114710005 | MW-301D-20140220-01 |             |            | AM20GAX         | DISG/3610      |
| 114710006 | MW-207D-20140220-01 |             |            | AM20GAX         | DISG/3610      |
| 114710007 | MW-303D-20140220-01 |             |            | AM20GAX         | DISG/3610      |
| 114710008 | MW-110D-20140220-01 |             |            | AM20GAX         | DISG/3610      |



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

11471

**CHAIN OF CUSTODY**

Work Order: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_

COMPANY:

AES

ADDRESS:

Same as above

PHONE:

FAX:

SAMPLED BY:

SIGNATURE:

ANALYSIS REQUESTED  
 O<sub>2</sub>, N<sub>2</sub>, CO, CO<sub>2</sub>

Visit our website  
[www.aesatlanta.com](http://www.aesatlanta.com)  
 to check on the status of  
 your results, place bottle  
 orders, etc.

No # of Containers

| #  | SAMPLE ID           | DATE    | TIME  | Grab | Composite | Matrix (See codes) | PRESERVATION (See codes) |  |  |  | REMARKS |  |
|----|---------------------|---------|-------|------|-----------|--------------------|--------------------------|--|--|--|---------|--|
|    |                     |         |       |      |           |                    |                          |  |  |  |         |  |
| 1  | MW-12DD-20140219-01 | 2-19-14 | 15:00 | X    |           | GU                 |                          |  |  |  |         |  |
| 2  | MW-302D-20140219-01 | 2-19-14 | 15:30 | X    |           | GU                 |                          |  |  |  |         |  |
| 3  | MW-09D-20140219-01  | 2-19-14 | 17:05 | X    |           | GU                 |                          |  |  |  |         |  |
| 4  | MW-308D-20140219-01 | 2-19-14 | 17:45 | X    |           | GU                 |                          |  |  |  |         |  |
| 5  | MW-301D-20140220-01 | 2-20-14 | 09:30 | X    |           | GU                 |                          |  |  |  |         |  |
| 6  | MW-207D-20140220-01 | 2-20-14 | 10:00 | X    |           | GU                 |                          |  |  |  |         |  |
| 7  | MW-308D-20140220-01 | 2-20-14 | 11:35 | X    |           | GU                 |                          |  |  |  |         |  |
| 8  | MW-110D-20140220-01 | 2-20-14 | 11:40 | X    |           | GU                 |                          |  |  |  |         |  |
| 9  |                     |         |       |      |           |                    |                          |  |  |  |         |  |
| 10 |                     |         |       |      |           |                    |                          |  |  |  |         |  |
| 11 |                     |         |       |      |           |                    |                          |  |  |  |         |  |
| 12 |                     |         |       |      |           |                    |                          |  |  |  |         |  |
| 13 |                     |         |       |      |           |                    |                          |  |  |  |         |  |
| 14 |                     |         |       |      |           |                    |                          |  |  |  |         |  |

RECEIVED BY: DATE/TIME RECEIVED BY DATE/TIME

1: DATE DATE/TIME

2: DATE DATE/TIME

3: DATE DATE/TIME

SPECIAL INSTRUCTIONS/COMMENTS:

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

PROJECT NAME: PROJECT #: 1402F810

SITE ADDRESS: 1402F810

SEND REPORT TO: Mkaran@aesatlanta.com

INVOICE TO: Mkaran@aesatlanta.com

QUOTE #: PO#:

STATE PROGRAM (if any): TURNAROUND TIME IS NOT INDICATED. AES WILL PROCEED WITH STANDARD TAT OF SAMPLES.

E-mail? Y / N: Y Fax? Y / N: 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+1 = Hydrochloric acid + ice I = Ice only N = Nitric acid S+1 = Sulfuric acid + ice S/M+1 = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

NON-CONFORMANCE FORM

Microseeps Project Number: 11471

Date: 2-24-14 Time of Receipt: 10:30 Receiver: LY

Client: AES

REASON FOR NON-CONFORMANCE:

CDC was not relinquished by Client.

ACTION TAKEN:

Client name: AES

Date: 2/25/14 Time: e-mail

Client was made aware via e-mail.  
O.K. to Proceed.

Customer Service Initials: CA

Date: 2/25/14

## Chris Thomas

---

**From:** Chris Thomas  
**Sent:** Tuesday, February 25, 2014 3:08 PM  
**To:** 'mkararic@aesatlanta.com'  
**Subject:** PG SAMPLES  
**Attachments:** AES ATLANTA COC\_20140225152113.pdf; AES ATLANTA COC 11470\_20140225152206.pdf

Hello,

We received PG samples from your lab for two projects. I have attached a copy of the COC's and log-in information. The COC was not relinquished. With your permission we will proceed with the analysis.

Thanks,  
Chris

Christopher Thomas  
Microseeps, a Division of Pace Analytical Energy Services, LLC  
220 William Pitt Way  
Pittsburgh, PA 15238

Office: 412-826-5245  
Direct: 412-826-4481

Disclaimer: This message contains confidential information and is intended only for the individual(s) named. If you are not the named addressee, you should permanently delete this e-mail from your system and should not disseminate, distribute or copy this e-mail. E-mail transmission cannot be guaranteed to be secure or error-free as information delivered over the internet could be corrupted, lost, destroyed, delayed, or contain viruses

# Cooler Receipt Form

Client Name: AES Project: 1402F86 Lab Work Order: 11471

**A. Shipping/Container Information (circle appropriate response)**

Courier: FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present: Yes No

Tracking Number: 561327014522

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 10C Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in (check appropriate response)**

|  | YES | NO | N/A | Comment<br>Reference non-Conformance |
|--|-----|----|-----|--------------------------------------|
| Chain of Custody properly filled out   |     | ✓  |     |                                      |
| Chain of Custody relinquished  |     | ✓  |     |                                      |
| Sampler Name & Signature on COC  |     | ✓  |     |                                      |
| Containers intact  | ✓   |    |     |                                      |
| Were samples in separate bags  | ✓   |    |     |                                      |
| Sample container labels match COC<br>Sample name/date and time collected   | ✓   |    |     |                                      |
| Sufficient volume provided   | ✓   |    |     |                                      |
| Microseeps containers used   | ✓   |    |     |                                      |
| Are containers properly preserved for the requested testing?<br>(as labeled)   | ✓   |    |     |                                      |
| If an unknown preservation state, were containers checked?<br>Exception: VOA's coliform                                |     |    | ✓   | If yes, see pH form.                 |
| Was volume for dissolved testing field filtered, as noted on<br>the COC? Was volume received in a preserved container? |     |    | ✓   |                                      |

Comments: \_\_\_\_\_

Cooler contents examined/received by: LS Date: 2.29.14

Project Manager Review: CA Date: 2/25/14

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM

Work Order Number 1402806

Checklist completed by [Signature] Date 2/20/14

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? (4°C±2)\* Yes  No

Cooler #1 3.1 Cooler #2 3.3' Cooler #3 \_\_\_\_\_ Cooler #4 \_\_\_\_\_ Cooler #5 \_\_\_\_\_ Cooler #6 \_\_\_\_\_

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Was TAT marked on the COC? Yes  No

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

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

Water - pH acceptable upon receipt? Yes  No  Not Applicable

Adjusted? \_\_\_\_\_ Checked by MS

Sample Condition: Good  Other(Explain) \_\_\_\_\_

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

See Case Narrative for resolution of the Non-Conformance.

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

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402F86

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402F86-001A  | TB-04-20140219-01   | 2/19/2014 12:00:00AM | Aqueous     | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/20/2014    |
| 1402F86-002A  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/20/2014    |
| 1402F86-002B  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/25/2014 | 02/25/2014    |
| 1402F86-002C  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F86-002C  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/24/2014 | 02/24/2014    |
| 1402F86-002D  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F86-002E  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F86-002F  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F86-002G  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F86-002H  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F86-002H  | MW-12DD-20140219-01 | 2/19/2014 3:00:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F86-003A  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/20/2014    |
| 1402F86-003A  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/21/2014    |
| 1402F86-003B  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/25/2014 | 02/25/2014    |
| 1402F86-003C  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F86-003C  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/24/2014 | 02/24/2014    |
| 1402F86-003D  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F86-003E  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F86-003F  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F86-003G  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F86-003H  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F86-003H  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F86-003H  | MW-302D-20140219-01 | 2/19/2014 3:30:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/24/2014    |
| 1402F86-004A  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/20/2014    |
| 1402F86-004B  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/25/2014 | 02/25/2014    |
| 1402F86-004C  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F86-004C  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/24/2014 | 02/24/2014    |
| 1402F86-004D  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F86-004E  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402F86

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402F86-004F  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F86-004G  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F86-004H  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F86-004H  | MW-09D-20140219-01  | 2/19/2014 5:05:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F86-005A  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/20/2014    |
| 1402F86-005B  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/25/2014 | 02/25/2014    |
| 1402F86-005C  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F86-005C  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/24/2014 | 02/24/2014    |
| 1402F86-005D  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F86-005E  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F86-005F  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F86-005G  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F86-005H  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F86-005H  | MW-308D-20140219-01 | 2/19/2014 5:45:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/21/2014 | 02/21/2014    |
| 1402F86-006A  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/20/2014    |
| 1402F86-006B  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/25/2014 | 02/25/2014    |
| 1402F86-006C  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F86-006C  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | TOTAL MERCURY                       |           | 02/24/2014 | 02/24/2014    |
| 1402F86-006D  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F86-006E  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F86-006F  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F86-006G  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F86-006H  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F86-006H  | MW-301D-20140220-01 | 2/20/2014 9:30:00AM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/25/2014    |
| 1402F86-007A  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/20/2014    |
| 1402F86-007B  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/25/2014 | 02/25/2014    |
| 1402F86-007C  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F86-007C  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | TOTAL MERCURY                       |           | 02/24/2014 | 02/24/2014    |
| 1402F86-007D  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | ION SCAN                            |           |            | 02/20/2014    |

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402F86

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402F86-007E  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F86-007F  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F86-007G  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F86-007H  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F86-007H  | MW-207D-20140220-01 | 2/20/2014 10:00:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/25/2014    |
| 1402F86-008A  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/20/2014    |
| 1402F86-008B  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/25/2014 | 02/25/2014    |
| 1402F86-008C  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F86-008C  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | TOTAL MERCURY                       |           | 02/24/2014 | 02/24/2014    |
| 1402F86-008D  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | ION SCAN                            |           |            | 02/21/2014    |
| 1402F86-008E  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F86-008F  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F86-008G  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F86-008H  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F86-008H  | MW-303D-20140220-01 | 2/20/2014 11:35:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/25/2014    |
| 1402F86-009A  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/20/2014    |
| 1402F86-009A  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/20/2014 | 02/21/2014    |
| 1402F86-009B  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/25/2014 | 02/25/2014    |
| 1402F86-009C  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/24/2014    |
| 1402F86-009C  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | TOTAL MERCURY                       |           | 02/24/2014 | 02/24/2014    |
| 1402F86-009D  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | ION SCAN                            |           |            | 02/20/2014    |
| 1402F86-009E  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | Ferrous Iron                        |           |            | 02/20/2014    |
| 1402F86-009F  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402F86-009G  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | Sulfide                             |           |            | 02/21/2014    |
| 1402F86-009H  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/21/2014 | 02/25/2014    |
| 1402F86-009H  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/27/2014 | 02/27/2014    |
| 1402F86-009H  | MW-110D-20140220-01 | 2/20/2014 11:40:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/27/2014 | 02/28/2014    |

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 186622

| Sample ID: <b>MB-186622</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261875</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>186622</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5505349</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |     |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|-----|------|-----|--|--|--|--|
| Benz(a)anthracene      | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Benzo(a)pyrene         | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Benzo(b)fluoranthene   | BRL   | 0.10  |       |  |     |      |     |  |  |  |  |
| Dibenz(a,h)anthracene  | BRL   | 0.10  |       |  |     |      |     |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | BRL   | 0.050 |       |  |     |      |     |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.372 | 0     | 2.000 |  | 119 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCS-186622</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261875</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>186622</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5505856</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 1.703 | 0.050 | 2.000 |  | 85.2 | 62.8 | 132 |  |  |  |  |
| Benzo(a)pyrene         | 1.976 | 0.050 | 2.000 |  | 98.8 | 56.4 | 123 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.610 | 0.10  | 2.000 |  | 80.5 | 69.2 | 132 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.809 | 0.10  | 2.000 |  | 90.5 | 49.3 | 134 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.832 | 0.050 | 2.000 |  | 91.6 | 48.3 | 137 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 2.153 | 0     | 2.000 |  | 108  | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCSD-186622</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/21/2014</b>     | Run No: <b>261875</b>  |      |           |            |             |      |           |      |
|-------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCSD</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>186622</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5505860</b> |      |           |            |             |      |           |      |
| Analyte                       | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |       |      |      |  |
|------------------------|-------|-------|-------|--|------|------|-----|-------|------|------|--|
| Benz(a)anthracene      | 1.428 | 0.050 | 2.000 |  | 71.4 | 62.8 | 132 | 1.703 | 17.6 | 29.6 |  |
| Benzo(a)pyrene         | 1.887 | 0.050 | 2.000 |  | 94.3 | 56.4 | 123 | 1.976 | 4.60 | 29   |  |
| Benzo(b)fluoranthene   | 1.496 | 0.10  | 2.000 |  | 74.8 | 69.2 | 132 | 1.610 | 7.34 | 22   |  |
| Dibenz(a,h)anthracene  | 1.735 | 0.10  | 2.000 |  | 86.7 | 49.3 | 134 | 1.809 | 4.23 | 30   |  |
| Indeno(1,2,3-cd)pyrene | 1.770 | 0.050 | 2.000 |  | 88.5 | 48.3 | 137 | 1.832 | 3.43 | 35.8 |  |
| Surr: 4-Terphenyl-d14  | 2.054 | 0     | 2.000 |  | 103  | 53.2 | 145 | 2.153 | 0    | 0    |  |

**Qualifiers:**

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402F86

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187279**

| Sample ID: <b>MB-187279</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502069</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 93.12 | 0  | 100.0 |  | 93.1 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 47.25 | 0  | 50.00 |  | 94.5 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 62.02 | 0  | 100.0 |  | 62.0 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 50.92 | 0  | 50.00 |  | 102  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 43.38 | 0  | 50.00 |  | 86.8 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 43.96 | 0  | 100.0 |  | 44.0 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-187279</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502080</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 94.12 | 10 | 100.0 |  | 94.1 | 67.7 | 122 |  |  |  |  |
| Phenol       | 42.55 | 10 | 100.0 |  | 42.6 | 24.6 | 120 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187279

| Sample ID: <b>LCS-187279</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502080</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Pyrene                     | 97.89 | 10 | 100.0 |  | 97.9 | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 110.1 | 0  | 100.0 |  | 110  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 53.40 | 0  | 50.00 |  | 107  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 65.41 | 0  | 100.0 |  | 65.4 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 56.80 | 0  | 50.00 |  | 114  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 48.68 | 0  | 50.00 |  | 97.4 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 48.89 | 0  | 100.0 |  | 48.9 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402C64-002GMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502077</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 90.11 | 10 | 100.0 |  | 90.1 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 60.41 | 10 | 100.0 |  | 60.4 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 91.41 | 10 | 100.0 |  | 91.4 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 108.1 | 0  | 100.0 |  | 108  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 51.23 | 0  | 50.00 |  | 102  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 78.41 | 0  | 100.0 |  | 78.4 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 52.61 | 0  | 50.00 |  | 105  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 48.32 | 0  | 50.00 |  | 96.6 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 69.97 | 0  | 100.0 |  | 70.0 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402C64-002GMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261713</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187279</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5502079</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |      |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene | 87.92 | 10 | 100.0 |  | 87.9 | 51.9 | 120 | 90.11 | 2.46 | 24.9 |  |
| Phenol       | 58.05 | 10 | 100.0 |  | 58.0 | 30.5 | 120 | 60.41 | 3.98 | 34.4 |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187279

|                            |  |                 |                           |                 |
|----------------------------|--|-----------------|---------------------------|-----------------|
| Sample ID: 1402C64-002GMSD | Client ID:   | Units: ug/L     | Prep Date: 02/20/2014     | Run No: 261713  |
| SampleType: MSD            | TestCode: Semivolatile Org. Comp. by GC/MS SW8270D | BatchID: 187279 | Analysis Date: 02/20/2014 | Seq No: 5502079 |

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Pyrene                     | 90.06  | 10        | 100.0     |             | 90.1 | 50.6      | 120        | 91.41       | 1.49 | 26.7      |      |
| Surr: 2,4,6-Tribromophenol | 100.6  | 0         | 100.0     |             | 101  | 51.5      | 124        | 108.1       | 0    | 0         |      |
| Surr: 2-Fluorobiphenyl     | 48.25  | 0         | 50.00     |             | 96.5 | 51.7      | 118        | 51.23       | 0    | 0         |      |
| Surr: 2-Fluorophenol       | 71.62  | 0         | 100.0     |             | 71.6 | 26        | 120        | 78.41       | 0    | 0         |      |
| Surr: 4-Terphenyl-d14      | 49.30  | 0         | 50.00     |             | 98.6 | 45.2      | 137        | 52.61       | 0    | 0         |      |
| Surr: Nitrobenzene-d5      | 43.84  | 0         | 50.00     |             | 87.7 | 42        | 120        | 48.32       | 0    | 0         |      |
| Surr: Phenol-d5            | 64.47  | 0         | 100.0     |             | 64.5 | 12.3      | 120        | 69.97       | 0    | 0         |      |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402F86

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187306**

| Sample ID: <b>MB-187306</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261634</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187306</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500896</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Carbon disulfide           | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Ethylbenzene               | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Toluene                    | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Xylenes, Total             | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 46.92 | 0   | 50.00 |  | 93.8 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 49.94 | 0   | 50.00 |  | 99.9 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 49.02 | 0   | 50.00 |  | 98.0 | 77   | 117 |  |  |  |  |

| Sample ID: <b>LCS-187306</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261634</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187306</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5500895</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |       |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|-------|------|-----|--|--|--|--|
| Benzene                    | 49.99 | 5.0 | 50.00 |  | 100.0 | 74.2 | 129 |  |  |  |  |
| Toluene                    | 49.48 | 5.0 | 50.00 |  | 99.0  | 74.2 | 129 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 48.41 | 0   | 50.00 |  | 96.8  | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 50.65 | 0   | 50.00 |  | 101   | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 50.08 | 0   | 50.00 |  | 100   | 77   | 117 |  |  |  |  |

| Sample ID: <b>1402E86-001AMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261634</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187306</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5501312</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |     |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|-----|------|-----|--|--|--|--|
| Benzene                    | 54.15 | 5.0 | 50.00 |  | 108 | 70.2 | 138 |  |  |  |  |
| Toluene                    | 53.60 | 5.0 | 50.00 |  | 107 | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 50.47 | 0   | 50.00 |  | 101 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 51.04 | 0   | 50.00 |  | 102 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 51.18 | 0   | 50.00 |  | 102 | 77   | 117 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187306**

| Sample ID: <b>1402E86-001AMSD</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/20/2014</b>     | Run No: <b>261634</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187306</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5501355</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |       |      |    |  |
|----------------------------|-------|-----|-------|--|------|------|-----|-------|------|----|--|
| Benzene                    | 53.60 | 5.0 | 50.00 |  | 107  | 70.2 | 138 | 54.15 | 1.02 | 20 |  |
| Toluene                    | 52.89 | 5.0 | 50.00 |  | 106  | 70   | 139 | 53.60 | 1.33 | 20 |  |
| Surr: 4-Bromofluorobenzene | 49.28 | 0   | 50.00 |  | 98.6 | 66.2 | 120 | 50.47 | 0    | 0  |  |
| Surr: Dibromofluoromethane | 51.54 | 0   | 50.00 |  | 103  | 79.5 | 121 | 51.04 | 0    | 0  |  |
| Surr: Toluene-d8           | 50.34 | 0   | 50.00 |  | 101  | 77   | 117 | 51.18 | 0    | 0  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187343

| Sample ID: <b>MB-187343</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261956</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5507106</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 95.76 | 0  | 100.0 |  | 95.8 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 45.00 | 0  | 50.00 |  | 90.0 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 59.74 | 0  | 100.0 |  | 59.7 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 45.38 | 0  | 50.00 |  | 90.8 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 43.61 | 0  | 50.00 |  | 87.2 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 41.40 | 0  | 100.0 |  | 41.4 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-187343</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261956</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5507114</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 100.2 | 10 | 100.0 |  | 100  | 67.7 | 122 |  |  |  |  |
| Phenol       | 48.47 | 10 | 100.0 |  | 48.5 | 24.6 | 120 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187343

| Sample ID: <b>LCS-187343</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261956</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5507114</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Pyrene                     | 102.3 | 10 | 100.0 |  | 102  | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 120.1 | 0  | 100.0 |  | 120  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 55.02 | 0  | 50.00 |  | 110  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 74.55 | 0  | 100.0 |  | 74.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 57.48 | 0  | 50.00 |  | 115  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 52.53 | 0  | 50.00 |  | 105  | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 54.38 | 0  | 100.0 |  | 54.4 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402G31-003BMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261956</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5508303</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 78.53 | 10 | 100.0 |  | 78.5 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 50.83 | 10 | 100.0 |  | 50.8 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 81.33 | 10 | 100.0 |  | 81.3 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 97.55 | 0  | 100.0 |  | 97.6 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 43.58 | 0  | 50.00 |  | 87.2 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 64.47 | 0  | 100.0 |  | 64.5 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 44.88 | 0  | 50.00 |  | 89.8 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 39.60 | 0  | 50.00 |  | 79.2 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 60.02 | 0  | 100.0 |  | 60.0 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402G31-003BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262027</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5509639</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |      |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene | 81.50 | 10 | 100.0 |  | 81.5 | 51.9 | 120 | 78.53 | 3.71 | 24.9 |  |
| Phenol       | 52.53 | 10 | 100.0 |  | 52.5 | 30.5 | 120 | 50.83 | 3.29 | 34.4 |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187343

| Sample ID: <b>1402G31-003BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262027</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5509639</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |       |      |      |  |
|----------------------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Pyrene                     | 82.96 | 10 | 100.0 |  | 83.0 | 50.6 | 120 | 81.33 | 1.98 | 26.7 |  |
| Surr: 2,4,6-Tribromophenol | 94.63 | 0  | 100.0 |  | 94.6 | 51.5 | 124 | 97.55 | 0    | 0    |  |
| Surr: 2-Fluorobiphenyl     | 46.42 | 0  | 50.00 |  | 92.8 | 51.7 | 118 | 43.58 | 0    | 0    |  |
| Surr: 2-Fluorophenol       | 70.14 | 0  | 100.0 |  | 70.1 | 26   | 120 | 64.47 | 0    | 0    |  |
| Surr: 4-Terphenyl-d14      | 44.18 | 0  | 50.00 |  | 88.4 | 45.2 | 137 | 44.88 | 0    | 0    |  |
| Surr: Nitrobenzene-d5      | 43.53 | 0  | 50.00 |  | 87.1 | 42   | 120 | 39.60 | 0    | 0    |  |
| Surr: Phenol-d5            | 61.41 | 0  | 100.0 |  | 61.4 | 12.3 | 120 | 60.02 | 0    | 0    |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187370

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187370</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261798</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187370</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503891</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187370</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261798</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187370</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503892</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.004722 0.00020 0.0050 94.4 85 115

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402E54-004AMS</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261798</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187370</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5504302</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005066 0.00020 0.0050 101 70 130

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402E54-004AMSD</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261798</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187370</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5504305</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.004845 0.00020 0.0050 96.9 70 130 0.005066 4.44 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187404

| Sample ID: <b>MB-187404</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261918</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187404</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5506185</b> |      |           |            |             |      |           |      |
| Analyte                     | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |     |        |  |  |  |  |  |  |  |  |  |
|-----------|-----|--------|--|--|--|--|--|--|--|--|--|
| Antimony  | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Arsenic   | BRL | 0.0500 |  |  |  |  |  |  |  |  |  |
| Barium    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Beryllium | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Cadmium   | BRL | 0.0050 |  |  |  |  |  |  |  |  |  |
| Chromium  | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Copper    | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Iron      | BRL | 0.100  |  |  |  |  |  |  |  |  |  |
| Lead      | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Nickel    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Zinc      | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |

| Sample ID: <b>LCS-187404</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261918</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187404</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5506183</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |           |     |    |     |  |  |  |  |
|-----------|-------|--------|-------|-----------|-----|----|-----|--|--|--|--|
| Antimony  | 1.078 | 0.0200 | 1.000 |           | 108 | 80 | 120 |  |  |  |  |
| Arsenic   | 1.065 | 0.0500 | 1.000 |           | 107 | 80 | 120 |  |  |  |  |
| Barium    | 1.054 | 0.0200 | 1.000 |           | 105 | 80 | 120 |  |  |  |  |
| Beryllium | 1.046 | 0.0100 | 1.000 |           | 105 | 80 | 120 |  |  |  |  |
| Cadmium   | 1.057 | 0.0050 | 1.000 |           | 106 | 80 | 120 |  |  |  |  |
| Chromium  | 1.062 | 0.0100 | 1.000 |           | 106 | 80 | 120 |  |  |  |  |
| Copper    | 1.072 | 0.0100 | 1.000 | 0.0007889 | 107 | 80 | 120 |  |  |  |  |
| Iron      | 10.17 | 0.100  | 10.00 |           | 102 | 80 | 120 |  |  |  |  |
| Lead      | 1.059 | 0.0100 | 1.000 |           | 106 | 80 | 120 |  |  |  |  |
| Nickel    | 1.057 | 0.0200 | 1.000 |           | 106 | 80 | 120 |  |  |  |  |
| Zinc      | 1.019 | 0.0200 | 1.000 |           | 102 | 80 | 120 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187404

| Sample ID: <b>1402F04-002CMS</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261918</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187404</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5506188</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |          |      |    |     |  |  |  |  |
|-----------|-------|--------|-------|----------|------|----|-----|--|--|--|--|
| Antimony  | 1.101 | 0.0200 | 1.000 |          | 110  | 75 | 125 |  |  |  |  |
| Arsenic   | 1.083 | 0.0500 | 1.000 |          | 108  | 75 | 125 |  |  |  |  |
| Barium    | 1.073 | 0.0200 | 1.000 |          | 107  | 75 | 125 |  |  |  |  |
| Beryllium | 1.053 | 0.0100 | 1.000 |          | 105  | 75 | 125 |  |  |  |  |
| Cadmium   | 1.076 | 0.0050 | 1.000 |          | 108  | 75 | 125 |  |  |  |  |
| Chromium  | 1.086 | 0.0100 | 1.000 |          | 109  | 75 | 125 |  |  |  |  |
| Copper    | 1.080 | 0.0100 | 1.000 | 0.003017 | 108  | 75 | 125 |  |  |  |  |
| Iron      | 10.36 | 0.100  | 10.00 | 0.4148   | 99.5 | 75 | 125 |  |  |  |  |
| Lead      | 1.082 | 0.0100 | 1.000 |          | 108  | 75 | 125 |  |  |  |  |
| Nickel    | 1.078 | 0.0200 | 1.000 |          | 108  | 75 | 125 |  |  |  |  |
| Zinc      | 1.038 | 0.0200 | 1.000 |          | 104  | 75 | 125 |  |  |  |  |

| Sample ID: <b>1402F04-002CMSD</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261918</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187404</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5506189</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |          |      |    |     |       |      |    |  |
|-----------|-------|--------|-------|----------|------|----|-----|-------|------|----|--|
| Antimony  | 1.071 | 0.0200 | 1.000 |          | 107  | 75 | 125 | 1.101 | 2.69 | 20 |  |
| Arsenic   | 1.058 | 0.0500 | 1.000 |          | 106  | 75 | 125 | 1.083 | 2.33 | 20 |  |
| Barium    | 1.055 | 0.0200 | 1.000 |          | 106  | 75 | 125 | 1.073 | 1.65 | 20 |  |
| Beryllium | 1.014 | 0.0100 | 1.000 |          | 101  | 75 | 125 | 1.053 | 3.76 | 20 |  |
| Cadmium   | 1.051 | 0.0050 | 1.000 |          | 105  | 75 | 125 | 1.076 | 2.37 | 20 |  |
| Chromium  | 1.059 | 0.0100 | 1.000 |          | 106  | 75 | 125 | 1.086 | 2.46 | 20 |  |
| Copper    | 1.050 | 0.0100 | 1.000 | 0.003017 | 105  | 75 | 125 | 1.080 | 2.81 | 20 |  |
| Iron      | 10.07 | 0.100  | 10.00 | 0.4148   | 96.6 | 75 | 125 | 10.36 | 2.84 | 20 |  |
| Lead      | 1.057 | 0.0100 | 1.000 |          | 106  | 75 | 125 | 1.082 | 2.34 | 20 |  |
| Nickel    | 1.054 | 0.0200 | 1.000 |          | 105  | 75 | 125 | 1.078 | 2.24 | 20 |  |
| Zinc      | 1.017 | 0.0200 | 1.000 |          | 102  | 75 | 125 | 1.038 | 2.07 | 20 |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187411

|                             |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187411</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503753</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187411</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503754</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2337                      0.010                      0.2500                      93.5                      85                      115

|                                  |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-004FMS</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503756</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2374                      0.010                      0.2500                      95.0                      70                      130

|                                   |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402D63-004FMSD</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261807</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187411</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5503757</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2352                      0.010                      0.2500                      94.1                      70                      130                      0.2374                      0.931                      20

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402F86

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187412**

|                             |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187412</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262074</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187412</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5510013</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187412</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262074</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187412</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5510014</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2625                      0.010                      0.2500                      105                      85                      115

|                                  |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F86-005FMS</b> | Client ID: <b>MW-308D-20140219-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262074</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>187412</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5510026</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2499                      0.010                      0.2500                      100.0                      70                      130

|                                   |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F86-005FMSD</b> | Client ID: <b>MW-308D-20140219-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262074</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>187412</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5510027</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2533                      0.010                      0.2500                      101                      70                      130                      0.2499                      1.35                      20

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402F86

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187481**

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187481</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/25/2014</b>     | Run No: <b>261932</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187481</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5506490</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

BRL 4

|                              |   |                        |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-187481</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/25/2014</b>     | Run No: <b>261932</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187481</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5506484</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

109.2 4 200.0 54.6 45.2 115

|                               |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCSD-187481</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/25/2014</b>     | Run No: <b>261932</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCSD</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187481</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5506487</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

112.1 4 200.0 56.1 45.2 115 109.2 2.67 20

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F97-003BMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/25/2014</b>     | Run No: <b>261932</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187481</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5507865</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

124.0 4 200.0 62.0 41.1 115

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F97-003BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/25/2014</b>     | Run No: <b>261932</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187481</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5507866</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane

122.0 4 200.0 61.0 41.1 115 124.0 1.59 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: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187632

| Sample ID: <b>MB-187632</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/27/2014</b>     | Run No: <b>262232</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187632</b> | Analysis Date: <b>02/28/2014</b> | Seq No: <b>5515781</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 75.11 | 0  | 100.0 |  | 75.1 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 38.69 | 0  | 50.00 |  | 77.4 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 34.98 | 0  | 100.0 |  | 35.0 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 45.14 | 0  | 50.00 |  | 90.3 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 40.93 | 0  | 50.00 |  | 81.9 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 58.58 | 0  | 100.0 |  | 58.6 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-187632</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/27/2014</b>     | Run No: <b>262232</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187632</b> | Analysis Date: <b>02/28/2014</b> | Seq No: <b>5515782</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 83.40 | 10 | 100.0 |  | 83.4 | 67.7 | 122 |  |  |  |  |
| Phenol       | 44.77 | 10 | 100.0 |  | 44.8 | 24.6 | 120 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187632

| Sample ID: <b>LCS-187632</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/27/2014</b>     | Run No: <b>262232</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187632</b> | Analysis Date: <b>02/28/2014</b> | Seq No: <b>5515782</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Pyrene                     | 88.43 | 10 | 100.0 |  | 88.4 | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 102.1 | 0  | 100.0 |  | 102  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 46.11 | 0  | 50.00 |  | 92.2 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 68.24 | 0  | 100.0 |  | 68.2 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 50.50 | 0  | 50.00 |  | 101  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 48.65 | 0  | 50.00 |  | 97.3 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 50.78 | 0  | 100.0 |  | 50.8 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402M37-001BMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/28/2014</b>     | Run No: <b>262232</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187632</b> | Analysis Date: <b>02/28/2014</b> | Seq No: <b>5515784</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 66.75 | 50 | 100.0 |  | 66.8 | 51.9 | 120 |  |  |  |  |
| Phenol                     | BRL   | 50 | 100.0 |  | 45.2 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 65.95 | 50 | 100.0 |  | 66.0 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 71.50 | 0  | 100.0 |  | 71.5 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 35.85 | 0  | 50.00 |  | 71.7 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 58.60 | 0  | 100.0 |  | 58.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 38.10 | 0  | 50.00 |  | 76.2 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 33.45 | 0  | 50.00 |  | 66.9 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 51.75 | 0  | 100.0 |  | 51.8 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402M37-001BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/28/2014</b>     | Run No: <b>262232</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187632</b> | Analysis Date: <b>02/28/2014</b> | Seq No: <b>5515785</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |      |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene | 55.00 | 50 | 100.0 |  | 55.0 | 51.9 | 120 | 66.75 | 19.3 | 24.9 |  |
| Phenol       | BRL   | 50 | 100.0 |  | 40.4 | 30.5 | 120 | 45.20 | 0    | 34.4 |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187632

| Sample ID: <b>1402M37-001BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/28/2014</b>     | Run No: <b>262232</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187632</b> | Analysis Date: <b>02/28/2014</b> | Seq No: <b>5515785</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |       |      |      |  |
|----------------------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Pyrene                     | 54.00 | 50 | 100.0 |  | 54.0 | 50.6 | 120 | 65.95 | 19.9 | 26.7 |  |
| Surr: 2,4,6-Tribromophenol | 55.05 | 0  | 100.0 |  | 55.0 | 51.5 | 124 | 71.50 | 0    | 0    |  |
| Surr: 2-Fluorobiphenyl     | 29.20 | 0  | 50.00 |  | 58.4 | 51.7 | 118 | 35.85 | 0    | 0    |  |
| Surr: 2-Fluorophenol       | 48.90 | 0  | 100.0 |  | 48.9 | 26   | 120 | 58.60 | 0    | 0    |  |
| Surr: 4-Terphenyl-d14      | 29.80 | 0  | 50.00 |  | 59.6 | 45.2 | 137 | 38.10 | 0    | 0    |  |
| Surr: Nitrobenzene-d5      | 29.30 | 0  | 50.00 |  | 58.6 | 42   | 120 | 33.45 | 0    | 0    |  |
| Surr: Phenol-d5            | 46.20 | 0  | 100.0 |  | 46.2 | 12.3 | 120 | 51.75 | 0    | 0    |  |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402F86

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261725**

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261725</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261725</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261725</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502267</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide BRL 1.0

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261725</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261725</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261725</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502268</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 264.8 1.0 264.8 100 90 110

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F86-003GMS</b> | Client ID: <b>MW-302D-20140219-01</b>         | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261725</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261725</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502270</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 11.24 1.0 13.24 84.9 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F86-003GMSD</b> | Client ID: <b>MW-302D-20140219-01</b>         | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261725</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R261725</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5502271</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 11.44 1.0 13.24 86.4 80 120 11.24 1.76 20

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402F86

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261829**

|                              |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261829</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261829</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261829</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5504367</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate BRL 0.25  
 Sulfate BRL 1.0

|                               |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261829</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261829</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261829</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5504366</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 5.428 0.25 5.000 109 90 110  
 Sulfate 25.53 1.0 25.00 102 90 110

|                                  |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402E93-001BMS</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261829</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261829</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5504372</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 6.308 0.25 5.000 1.117 104 90 110  
 Sulfate 36.28 1.0 25.00 10.77 102 90 110

|                                  |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402E98-001BMS</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261829</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261829</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5504403</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 6.176 0.25 5.000 1.084 102 90 110  
 Sulfate 43.22 1.0 25.00 17.26 104 90 110

|                                   |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402E93-001BMSD</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261829</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261829</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5504375</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 6.310 0.25 5.000 1.117 104 90 110 6.308 0.026 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261829

|                                   |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402E93-001BMSD</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261829</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261829</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5504375</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|         |       |     |       |       |     |    |     |       |       |    |  |
|---------|-------|-----|-------|-------|-----|----|-----|-------|-------|----|--|
| Sulfate | 36.41 | 1.0 | 25.00 | 10.77 | 103 | 90 | 110 | 36.28 | 0.368 | 20 |  |
|---------|-------|-----|-------|-------|-----|----|-----|-------|-------|----|--|

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402F86

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261862**

|                              |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261862</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505071</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate BRL 0.25  
 Sulfate BRL 1.0

|                               |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261862</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505073</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 4.752 0.25 5.000 95.0 90 110  
 Sulfate 25.38 1.0 25.00 102 90 110

|                                  |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-008DMS</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505101</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 4.852 0.25 5.000 97.0 90 110  
 Sulfate 25.86 1.0 25.00 0.4009 102 90 110

|                                  |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F35-001AMS</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505108</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 8.299 0.25 5.000 3.216 102 90 110  
 Sulfate 28.82 1.0 25.00 3.711 100 90 110

|                                   |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-008DMSD</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505104</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 4.774 0.25 5.000 95.5 90 110 4.852 1.63 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261862

|                                   |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-008DMSD</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261862</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261862</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5505104</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|         |       |     |       |        |     |    |     |       |      |    |  |
|---------|-------|-----|-------|--------|-----|----|-----|-------|------|----|--|
| Sulfate | 25.57 | 1.0 | 25.00 | 0.4009 | 101 | 90 | 110 | 25.86 | 1.13 | 20 |  |
|---------|-------|-----|-------|--------|-----|----|-----|-------|------|----|--|

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402F86

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261911

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261911</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261911</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261911</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5506006</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

BRL 0.100

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261911</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261911</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261911</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5506007</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.5263 0.100 0.5000 105 85 115

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-002EMS</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261911</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261911</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5506026</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.5177 0.100 0.5000 0.03710 96.1 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F04-002EMSD</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261911</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261911</b> | Analysis Date: <b>02/20/2014</b> | Seq No: <b>5506029</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.5465 0.100 0.5000 0.03710 102 80 120 0.5177 5.41 30

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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 |  |



March 04, 2014

Jim Morrison  
ERM-Southeast  
3200 Windy Hill Rd  
Atlanta GA 30339

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

RE: AGLC Macon

Dear Jim Morrison:

Order No: 1402G60

Analytical Environmental Services, Inc. received 7 samples on February 21, 2014 9:57 am for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/13-06/30/14.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) effective until 09/01/15.

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

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

Mirzeta Kararic  
Project Manager



**Client:** ERM-Southeast  
**Project:** AGLC Macon  
**Lab ID:** 1402G60

**Case Narrative**

Sample Receiving Nonconformance:

Hexavalent Chromium was listed on the COC. Samples were analyzed for Ferrous Iron per project history and Nic Vrey was notified via phone on 2/18/14.

Volatiles Organic Compounds Analysis by Method 8260B:

Due to sample matrix, sample 1402G60-002A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Sample 1402G60-007A as received did not meet method specified preservation requirements of pH <2.

Ion Chromatography Analysis by Method 9056A:

Due to sample matrix, samples 1402G60-002G, -003G, and -006G required a dilution during preparation and/or analysis resulting in elevated reporting limits

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> TB-05-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014          |
| <b>Lab ID:</b> 1402G60-001      | <b>Matrix:</b> Aqueous                     |

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b> |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L             | 187424  | 1               | 02/24/2014 16:16 | NP      |
| Carbon disulfide                                   | BRL    | 5.0             |      | ug/L             | 187424  | 1               | 02/24/2014 16:16 | NP      |
| Ethylbenzene                                       | BRL    | 5.0             |      | ug/L             | 187424  | 1               | 02/24/2014 16:16 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 187424  | 1               | 02/24/2014 16:16 | NP      |
| Xylenes, Total                                     | BRL    | 5.0             |      | ug/L             | 187424  | 1               | 02/24/2014 16:16 | NP      |
| Surr: 4-Bromofluorobenzene                         | 89.5   | 66.2-120        |      | %REC             | 187424  | 1               | 02/24/2014 16:16 | NP      |
| Surr: Dibromofluoromethane                         | 106    | 79.5-121        |      | %REC             | 187424  | 1               | 02/24/2014 16:16 | NP      |
| Surr: Toluene-d8                                   | 101    | 77-117          |      | %REC             | 187424  | 1               | 02/24/2014 16:16 | NP      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1402G60-002

Client Sample ID: MW-305D-20140220-01  
 Collection Date: 2/20/2014 2:00:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 12000  | 500             |      | ug/L  | 187424  | 100             | 02/24/2014 16:44 | NP      |
| Carbon disulfide   | BRL    | 500             |      | ug/L  | 187424  | 100             | 02/24/2014 16:44 | NP      |
| Ethylbenzene   | BRL    | 500             |      | ug/L  | 187424  | 100             | 02/24/2014 16:44 | NP      |
| Toluene  | 5600   | 500             |      | ug/L  | 187424  | 100             | 02/24/2014 16:44 | NP      |
| Xylenes, Total   | 810    | 500             |      | ug/L  | 187424  | 100             | 02/24/2014 16:44 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 98.4   | 66.2-120        |      | %REC  | 187424  | 100             | 02/24/2014 16:44 | NP      |
| Surr: Dibromofluoromethane                                     | 99.9   | 79.5-121        |      | %REC  | 187424  | 100             | 02/24/2014 16:44 | NP      |
| Surr: Toluene-d8   | 98.5   | 77-117          |      | %REC  | 187424  | 100             | 02/24/2014 16:44 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R262006 | 1               | 02/26/2014 10:10 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.45   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 18:35 | YH      |
| Benzo(b)fluoranthene   | 0.18   | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 18:35 | YH      |
| Benzo(a)pyrene   | 0.16   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 18:35 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 18:35 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 18:35 | YH      |
| Surr: 4-Terphenyl-d14  | 146    | 53.2-145        | S    | %REC  | 187484  | 1               | 02/27/2014 18:35 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Acenaphthylene   | 78     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Fluorene   | 22     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Naphthalene  | 2000   | 200             |      | ug/L  | 187343  | 20              | 02/28/2014 12:04 | YH      |
| Phenanthrene   | 37     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 85.6   | 51.5-124        |      | %REC  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Surr: 2-Fluorobiphenyl   | 76.3   | 51.7-118        |      | %REC  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Surr: 2-Fluorophenol   | 55.6   | 26-120          |      | %REC  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Surr: 4-Terphenyl-d14  | 82.5   | 45.2-137        |      | %REC  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| Surr: Nitrobenzene-d5  | 72.6   | 42-120          |      | %REC  | 187343  | 1               | 02/25/2014 15:20 | 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: 4-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-305D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 2:00:00 PM |
| <b>Lab ID:</b> 1402G60-002      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>  |        |                 |      |       |         |                 |                  |         |
| Surr: Phenol-d5  | 52.1   | 12.3-120        |      | %REC  | 187343  | 1               | 02/25/2014 15:20 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                    |        |                 |      |       |         |                 |                  |         |
| Mercury  | BRL    | 0.00020         |      | mg/L  | 187503  | 1               | 02/26/2014 13:48 | CG      |
| <b>ION SCAN SW9056A</b>                                    |        |                 |      |       |         |                 |                  |         |
| Nitrate  | BRL    | 2.5             |      | mg/L  | R261921 | 10              | 02/21/2014 13:11 | GR      |
| Sulfate  | BRL    | 10              |      | mg/L  | R261921 | 10              | 02/21/2014 13:11 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175 (RSK175)</b> |        |                 |      |       |         |                 |                  |         |
| Methane  | 13     | 4               |      | ug/L  | 187547  | 1               | 02/26/2014 11:50 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                            |        |                 |      |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                                    | BRL    | 0.100           |      | mg/L  | R261914 | 1               | 02/21/2014 13:30 | AB      |
| <b>Cyanide SW9014 (SW9010C)</b>                            |        |                 |      |       |         |                 |                  |         |
| Cyanide, Total   | BRL    | 0.010           |      | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C (SW3010A)</b>                     |        |                 |      |       |         |                 |                  |         |
| Antimony   | BRL    | 0.0200          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Arsenic  | BRL    | 0.0500          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Barium   | 0.130  | 0.0200          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Beryllium  | BRL    | 0.0100          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Cadmium  | BRL    | 0.0050          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Chromium   | 0.0245 | 0.0100          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Copper   | BRL    | 0.0100          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Iron   | BRL    | 0.100           |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Lead   | BRL    | 0.0100          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Nickel   | BRL    | 0.0200          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |
| Zinc   | BRL    | 0.0200          |      | mg/L  | 187419  | 1               | 02/25/2014 22:43 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
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- 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

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-307D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 4:05:00 PM |
| <b>Lab ID:</b> 1402G60-003      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 6.0    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 17:12 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 17:12 | NP      |
| Ethylbenzene   | 14     | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 17:12 | NP      |
| Toluene  | 15     | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 17:12 | NP      |
| Xylenes, Total   | 16     | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 17:12 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 96.6   | 66.2-120        |      | %REC  | 187424  | 1               | 02/24/2014 17:12 | NP      |
| Surr: Dibromofluoromethane                                     | 104    | 79.5-121        |      | %REC  | 187424  | 1               | 02/24/2014 17:12 | NP      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 187424  | 1               | 02/24/2014 17:12 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R262006 | 1               | 02/26/2014 10:10 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.27   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 19:01 | YH      |
| Benzo(b)fluoranthene   | 0.16   | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 19:01 | YH      |
| Benzo(a)pyrene   | 0.30   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 19:01 | YH      |
| Indeno(1,2,3-cd)pyrene   | 0.32   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 19:01 | YH      |
| Dibenz(a,h)anthracene  | 0.58   | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 19:01 | YH      |
| Surr: 4-Terphenyl-d14  | 113    | 53.2-145        |      | %REC  | 187484  | 1               | 02/27/2014 19:01 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Naphthalene  | 47     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 83.3   | 51.5-124        |      | %REC  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Surr: 2-Fluorobiphenyl   | 73.4   | 51.7-118        |      | %REC  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Surr: 2-Fluorophenol   | 55.5   | 26-120          |      | %REC  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Surr: 4-Terphenyl-d14  | 83.4   | 45.2-137        |      | %REC  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| Surr: Nitrobenzene-d5  | 64.5   | 42-120          |      | %REC  | 187343  | 1               | 02/25/2014 15:46 | YH      |

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- 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:** 4-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-307D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 4:05:00 PM |
| <b>Lab ID:</b> 1402G60-003      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 51.5   | 12.3-120        |                  | %REC  | 187343  | 1               | 02/25/2014 15:46 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187503  | 1               | 02/26/2014 13:56 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 12              |                  | mg/L  | R261921 | 50              | 02/21/2014 13:26 | GR      |
| Sulfate   | BRL    | 50              |                  | mg/L  | R261921 | 50              | 02/21/2014 13:26 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 21     | 4               |                  | ug/L  | 187547  | 1               | 02/26/2014 11:54 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261914 | 1               | 02/21/2014 13:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Barium  | 1.58   | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Chromium  | 0.0688 | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Iron  | BRL    | 0.100           |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:46 | JL      |

**Qualifiers:**

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- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
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- > 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:** 4-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-204D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 4:40:00 PM |
| <b>Lab ID:</b> 1402G60-004      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 310    | 50              |      | ug/L  | 187424  | 10              | 02/25/2014 15:14 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 17:41 | NP      |
| Ethylbenzene   | 210    | 50              |      | ug/L  | 187424  | 10              | 02/25/2014 15:14 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 17:41 | NP      |
| Xylenes, Total   | 36     | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 17:41 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 97.9   | 66.2-120        |      | %REC  | 187424  | 10              | 02/25/2014 15:14 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 109    | 66.2-120        |      | %REC  | 187424  | 1               | 02/24/2014 17:41 | NP      |
| Surr: Dibromofluoromethane                                     | 97.6   | 79.5-121        |      | %REC  | 187424  | 1               | 02/24/2014 17:41 | NP      |
| Surr: Dibromofluoromethane                                     | 101    | 79.5-121        |      | %REC  | 187424  | 10              | 02/25/2014 15:14 | NP      |
| Surr: Toluene-d8   | 97.2   | 77-117          |      | %REC  | 187424  | 1               | 02/24/2014 17:41 | NP      |
| Surr: Toluene-d8   | 99.6   | 77-117          |      | %REC  | 187424  | 10              | 02/25/2014 15:14 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R262006 | 1               | 02/26/2014 10:10 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.11   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 19:27 | YH      |
| Benzo(b)fluoranthene   | 0.11   | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 19:27 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 19:27 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 19:27 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 19:27 | YH      |
| Surr: 4-Terphenyl-d14  | 110    | 53.2-145        |      | %REC  | 187484  | 1               | 02/27/2014 19:27 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Acenaphthene   | 28     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Fluorene   | 12     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Naphthalene  | 770    | 100             |      | ug/L  | 187343  | 10              | 02/28/2014 12:30 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 77.2   | 51.5-124        |      | %REC  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Surr: 2-Fluorobiphenyl   | 68.4   | 51.7-118        |      | %REC  | 187343  | 1               | 02/25/2014 17:03 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

**Date:** 4-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-204D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 4:40:00 PM |
| <b>Lab ID:</b> 1402G60-004      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: 2-Fluorophenol                              | 50.4   | 26-120          |                  | %REC  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Surr: 4-Terphenyl-d14                             | 77.4   | 45.2-137        |                  | %REC  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Surr: Nitrobenzene-d5                             | 64.3   | 42-120          |                  | %REC  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| Surr: Phenol-d5                                   | 47.8   | 12.3-120        |                  | %REC  | 187343  | 1               | 02/25/2014 17:03 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187503  | 1               | 02/26/2014 13:58 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261921 | 1               | 02/21/2014 13:42 | GR      |
| Sulfate   | BRL    | 1.0             |                  | mg/L  | R261921 | 1               | 02/21/2014 13:42 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 790    | 40              |                  | ug/L  | 187547  | 10              | 02/26/2014 12:08 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 0.621  | 0.100           |                  | mg/L  | R261914 | 1               | 02/21/2014 13:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | 0.029  | 0.010           |                  | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Barium  | 4.01   | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Chromium  | 0.0241 | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Iron  | 2.88   | 0.100           |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Nickel  | 0.0584 | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:50 | 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

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-115D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 2:55:00 PM |
| <b>Lab ID:</b> 1402G60-005      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 18:09 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 18:09 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 18:09 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 18:09 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 18:09 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 92.2   | 66.2-120        |      | %REC  | 187424  | 1               | 02/24/2014 18:09 | NP      |
| Surr: Dibromofluoromethane                                     | 107    | 79.5-121        |      | %REC  | 187424  | 1               | 02/24/2014 18:09 | NP      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 187424  | 1               | 02/24/2014 18:09 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R262006 | 1               | 02/26/2014 10:10 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.24   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 19:53 | YH      |
| Benzo(b)fluoranthene   | 0.33   | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 19:53 | YH      |
| Benzo(a)pyrene   | 0.47   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 19:53 | YH      |
| Indeno(1,2,3-cd)pyrene   | 0.53   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 19:53 | YH      |
| Dibenz(a,h)anthracene  | 0.63   | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 19:53 | YH      |
| Surr: 4-Terphenyl-d14  | 125    | 53.2-145        |      | %REC  | 187484  | 1               | 02/27/2014 19:53 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 83.8   | 51.5-124        |      | %REC  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Surr: 2-Fluorobiphenyl   | 79.2   | 51.7-118        |      | %REC  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Surr: 2-Fluorophenol   | 63.6   | 26-120          |      | %REC  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Surr: 4-Terphenyl-d14  | 87.2   | 45.2-137        |      | %REC  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| Surr: Nitrobenzene-d5  | 73.1   | 42-120          |      | %REC  | 187343  | 1               | 02/25/2014 17:28 | YH      |

**Qualifiers:**

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- 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:** 4-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-115D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 2:55:00 PM |
| <b>Lab ID:</b> 1402G60-005      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                   | 55     | 12.3-120        |                  | %REC  | 187343  | 1               | 02/25/2014 17:28 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187503  | 1               | 02/26/2014 14:00 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 0.25            |                  | mg/L  | R261921 | 1               | 02/21/2014 13:57 | GR      |
| Sulfate   | 19     | 1.0             |                  | mg/L  | R261921 | 1               | 02/21/2014 13:57 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 83     | 4               |                  | ug/L  | 187547  | 1               | 02/26/2014 12:20 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261914 | 1               | 02/21/2014 13:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Barium  | 2.49   | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Iron  | 0.727  | 0.100           |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | JL      |
| Zinc  | 0.0362 | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:54 | 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:** 4-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-306D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 3:30:00 PM |
| <b>Lab ID:</b> 1402G60-006      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 1400   | 100             |      | ug/L  | 187424  | 20              | 02/24/2014 18:37 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 20:56 | NP      |
| Ethylbenzene   | 360    | 100             |      | ug/L  | 187424  | 20              | 02/24/2014 18:37 | NP      |
| Toluene  | 96     | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 20:56 | NP      |
| Xylenes, Total   | 340    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 20:56 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 112    | 66.2-120        |      | %REC  | 187424  | 1               | 02/24/2014 20:56 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 97.1   | 66.2-120        |      | %REC  | 187424  | 20              | 02/24/2014 18:37 | NP      |
| Surr: Dibromofluoromethane                                     | 99.1   | 79.5-121        |      | %REC  | 187424  | 1               | 02/24/2014 20:56 | NP      |
| Surr: Dibromofluoromethane                                     | 100    | 79.5-121        |      | %REC  | 187424  | 20              | 02/24/2014 18:37 | NP      |
| Surr: Toluene-d8   | 99.1   | 77-117          |      | %REC  | 187424  | 1               | 02/24/2014 20:56 | NP      |
| Surr: Toluene-d8   | 95.6   | 77-117          |      | %REC  | 187424  | 20              | 02/24/2014 18:37 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R262006 | 1               | 02/26/2014 10:10 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 20:19 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 20:19 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 20:19 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 20:19 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 20:19 | YH      |
| Surr: 4-Terphenyl-d14  | 107    | 53.2-145        |      | %REC  | 187484  | 1               | 02/27/2014 20:19 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| 2-Methylphenol   | 11     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Acenaphthene   | 28     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Naphthalene  | 190    | 100             |      | ug/L  | 187343  | 10              | 02/28/2014 12:56 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Phenol   | 97     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 82.4   | 51.5-124        |      | %REC  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Surr: 2-Fluorobiphenyl   | 74.2   | 51.7-118        |      | %REC  | 187343  | 1               | 02/25/2014 17:54 | 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: 4-Mar-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-306D-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 3:30:00 PM |
| <b>Lab ID:</b> 1402G60-006      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: 2-Fluorophenol                              | 59.1   | 26-120          |                  | %REC  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Surr: 4-Terphenyl-d14                             | 78     | 45.2-137        |                  | %REC  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Surr: Nitrobenzene-d5                             | 71.2   | 42-120          |                  | %REC  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| Surr: Phenol-d5                                   | 53.6   | 12.3-120        |                  | %REC  | 187343  | 1               | 02/25/2014 17:54 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 187503  | 1               | 02/26/2014 14:05 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |                  |       |         |                 |                  |         |
| Nitrate   | BRL    | 2.5             |                  | mg/L  | R261921 | 10              | 02/21/2014 14:12 | GR      |
| Sulfate   | BRL    | 10              |                  | mg/L  | R261921 | 10              | 02/21/2014 14:12 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 | <b>(RSK175)</b>  |       |         |                 |                  |         |
| Methane   | 460    | 20              |                  | ug/L  | 187547  | 5               | 02/26/2014 12:57 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |                  |       |         |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | BRL    | 0.100           |                  | mg/L  | R261914 | 1               | 02/21/2014 13:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                    | BRL    | 0.010           |                  | mg/L  | 187412  | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Barium  | 0.271  | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Beryllium   | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Chromium  | 0.0200 | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Iron  | BRL    | 0.100           |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 187419  | 1               | 02/25/2014 22:58 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
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- > 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

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-200DR-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 5:05:00 PM  |
| <b>Lab ID:</b> 1402G60-007      | <b>Matrix:</b> Groundwater                    |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 7.5    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 19:05 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 19:05 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 19:05 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 19:05 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 187424  | 1               | 02/24/2014 19:05 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 97.4   | 66.2-120        |      | %REC  | 187424  | 1               | 02/24/2014 19:05 | NP      |
| Surr: Dibromofluoromethane                                     | 101    | 79.5-121        |      | %REC  | 187424  | 1               | 02/24/2014 19:05 | NP      |
| Surr: Toluene-d8   | 99.6   | 77-117          |      | %REC  | 187424  | 1               | 02/24/2014 19:05 | NP      |
| <b>Sulfide (E376.1/SM4500 S2 F)</b>                            |        |                 |      |       |         |                 |                  |         |
| Sulfide  | BRL    | 1.0             |      | mg/L  | R262006 | 1               | 02/26/2014 10:10 | EH      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.12   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 20:45 | YH      |
| Benzo(b)fluoranthene   | 0.11   | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 20:45 | YH      |
| Benzo(a)pyrene   | 0.12   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 20:45 | YH      |
| Indeno(1,2,3-cd)pyrene   | 0.11   | 0.050           |      | ug/L  | 187484  | 1               | 02/27/2014 20:45 | YH      |
| Dibenz(a,h)anthracene  | 0.15   | 0.10            |      | ug/L  | 187484  | 1               | 02/27/2014 20:45 | YH      |
| Surr: 4-Terphenyl-d14  | 115    | 53.2-145        |      | %REC  | 187484  | 1               | 02/27/2014 20:45 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Acenaphthene   | 21     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Fluorene   | 15     | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Naphthalene  | 140    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 8.17   | 51.5-124        | S    | %REC  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Surr: 2-Fluorobiphenyl   | 77.8   | 51.7-118        |      | %REC  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Surr: 2-Fluorophenol   | 24.3   | 26-120          | S    | %REC  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Surr: 4-Terphenyl-d14  | 88.1   | 45.2-137        |      | %REC  | 187343  | 1               | 02/25/2014 18:19 | YH      |
| Surr: Nitrobenzene-d5  | 61     | 42-120          |      | %REC  | 187343  | 1               | 02/25/2014 18:19 | YH      |

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Analytical Environmental Services, Inc

Date: 4-Mar-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-200DR-20140220-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 2/20/2014 5:05:00 PM  |
| <b>Lab ID:</b> 1402G60-007      | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>   |        |                 |      |       | <b>(SW3510C)</b> |                 |                  |         |
| Surr: Phenol-d5                                   | 9.98   | 12.3-120        | S    | %REC  | 187343           | 1               | 02/25/2014 18:19 | YH      |
| <b>Mercury, Total SW7470A</b>                     |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury   | BRL    | 0.00020         |      | mg/L  | 187503           | 1               | 02/26/2014 14:07 | CG      |
| <b>ION SCAN SW9056A</b>                           |        |                 |      |       |                  |                 |                  |         |
| Nitrate   | BRL    | 0.25            |      | mg/L  | R261921          | 1               | 02/21/2014 14:27 | GR      |
| Sulfate   | BRL    | 1.0             |      | mg/L  | R261921          | 1               | 02/21/2014 14:27 | GR      |
| <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> |        |                 |      |       | <b>(RSK175)</b>  |                 |                  |         |
| Methane   | 1600   | 80              |      | ug/L  | 187547           | 20              | 02/26/2014 13:14 | SH      |
| <b>Ferrous Iron SM3500-Fe-B</b>                   |        |                 |      |       |                  |                 |                  |         |
| Iron, as Ferrous (Fe+2)                           | 0.618  | 0.500           |      | mg/L  | R261914          | 5               | 02/21/2014 13:30 | AB      |
| <b>Cyanide SW9014</b>                             |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                                    | 0.054  | 0.010           |      | mg/L  | 187412           | 1               | 02/24/2014 10:00 | EH      |
| <b>METALS, TOTAL SW6010C</b>                      |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony  | BRL    | 0.0200          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Arsenic   | BRL    | 0.0500          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Barium  | 0.948  | 0.0200          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Beryllium   | BRL    | 0.0100          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Cadmium   | BRL    | 0.0050          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Chromium  | BRL    | 0.0100          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Copper  | BRL    | 0.0100          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Iron  | 4.48   | 0.100           |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Lead  | BRL    | 0.0100          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Nickel  | BRL    | 0.0200          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |
| Zinc  | BRL    | 0.0200          |      | mg/L  | 187419           | 1               | 02/25/2014 23:02 | JL      |

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Microseeps/Pace Analytical Energy Services, LLC  
220 William Pitt Way  
Pittsburgh, PA 15238  
Phone: (412) 826-5245  
Fax: (412) 826-3433

March 5, 2014

Mirzeta Kararic  
Analytical Environmental Services, Inc.  
3785 Presidential Parkway  
Suite 111  
Atlanta, GA 30340

RE: **1402G60**

*Microseeps Workorder: 11470*

Dear Mirzeta Kararic:

Enclosed are the analytical results for sample(s) received by the laboratory on Monday, February 24, 2014. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Robbin Robl 03/05/2014  
rrobl@microseeps.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.  
Please email [info@microseeps.com](mailto:info@microseeps.com).

Total Number of Pages 17

Report ID: 11470 - 494255

Page 1 of 13



**CERTIFICATE OF ANALYSIS**

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## LABORATORY ACCREDITATIONS & CERTIFICATIONS

|                          |  |   |
|--------------------------|--|---|
| <b>Accreditor:</b>       | Pennsylvania Department of Environmental Protection, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | 02-00538   |   |
| <b>Scope:</b>            | NELAP Non-Potable Water and Solid & Hazardous Waste  |   |
| <b>Accreditor:</b>       | NELAP: State of Florida, Department of Health, Bureau of Laboratories  |   |
| <b>Accreditation ID:</b> | E87832   |   |
| <b>Scope:</b>            | Clean Water Act (CWA)  | Resource Conservation and Recovery Act (RCRA) |
| <b>Accreditor:</b>       | South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification  |   |
| <b>Accreditation ID:</b> | 89009003   |   |
| <b>Scope:</b>            | Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)   |   |
| <b>Accreditor:</b>       | NELAP: State of Louisiana, Department of Environmental Quality   |   |
| <b>Accreditation ID:</b> | 04104  |   |
| <b>Scope:</b>            | Solid and Chemical Materials; Non-Potable Water  |   |
| <b>Accreditor:</b>       | NELAP: New Jersey, Department of Environmental Protection  |   |
| <b>Accreditation ID:</b> | PA026  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Chemical Materials  |   |
| <b>Accreditor:</b>       | NELAP: New York, Department of Health Wadsworth Center   |   |
| <b>Accreditation ID:</b> | 11815  |   |
| <b>Scope:</b>            | Non-Potable Water; Solid and Hazardous Waste   |   |
| <b>Accreditor:</b>       | State of Connecticut, Department of Public Health, Division of Environmental Health  |   |
| <b>Accreditation ID:</b> | PH-0263  |   |
| <b>Scope:</b>            | Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)  |   |
| <b>Accreditor:</b>       | NELAP: Texas, Commission on Environmental Quality  |   |
| <b>Accreditation ID:</b> | T104704453-09-TX   |   |
| <b>Scope:</b>            | Non-Potable Water  |   |
| <b>Accreditor:</b>       | State of New Hampshire   |   |
| <b>Accreditation ID:</b> | 299409   |   |
| <b>Scope:</b>            | Non-potable water  |   |
| <b>Accreditor:</b>       | State of Georgia   |   |
| <b>Accreditation ID:</b> | Chapter 391-3-26   |   |
| <b>Scope:</b>            | As per the Georgia EPD Rules and Regulations for Commercial Laboratories, Microseeps is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC). |   |



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Microseeps/Pace Analytical Energy Services, LLC  
 220 William Pitt Way  
 Pittsburgh, PA 15238  
 Phone: (412) 826-5245  
 Fax: (412) 826-3433

### SAMPLE SUMMARY

Workorder: 11470 1402G60

| Lab ID    | Sample ID            | Matrix | Date Collected  | Date Received   |
|-----------|----------------------|--------|-----------------|-----------------|
| 114700001 | MW-305D-20140220-01  | Water  | 2/20/2014 14:00 | 2/24/2014 10:30 |
| 114700002 | MW-307D-20140220-01  | Water  | 2/20/2014 16:05 | 2/24/2014 10:30 |
| 114700003 | MW-204D-20140220-01  | Water  | 2/20/2014 16:40 | 2/24/2014 10:30 |
| 114700004 | MW-115D-20140220-01  | Water  | 2/20/2014 14:55 | 2/24/2014 10:30 |
| 114700005 | MW-306D-20140220-01  | Water  | 2/20/2014 15:30 | 2/24/2014 10:30 |
| 114700006 | MW-200DR-20140220-01 | Water  | 2/20/2014 17:05 | 2/24/2014 10:30 |



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Pittsburgh, PA 15238  
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Fax: (412) 826-3433

## PROJECT SUMMARY

Workorder: 11470 1402G60

---

### Batch Comments

---

**Batch:** DISG/3611 - AM20GAX Water QC

The percent recovery for the laboratory control sample was above laboratory control limits. Analytes Ethane and Ethene. Results associated to the analytes in samples may be bias high.

The matrix spike and/or spike duplicate, recovery or relative percent difference; accuracy influenced by the reference sample 114660004. Analyte Carbon Dioxide. Batch acceptance based on laboratory control sample recovery.



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### ANALYTICAL RESULTS

Workorder: 11470 1402G60

Lab ID: 114700002 Date Received: 2/24/2014 10:30 Matrix: Water  
 Sample ID: MW-307D-20140220-01 Date Collected: 2/20/2014 16:05

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | <5.0    | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/4/2014 11:20 |    | GT   |
| Oxygen                 | 9.4     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/4/2014 11:20 |    | GT   |
| Nitrogen               | 20      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/4/2014 11:20 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/4/2014 11:20 |    | GT   |



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### ANALYTICAL RESULTS

Workorder: 11470 1402G60

Lab ID: 114700003 Date Received: 2/24/2014 10:30 Matrix: Water  
 Sample ID: MW-204D-20140220-01 Date Collected: 2/20/2014 16:40

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | 75      | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/4/2014 11:32 | GT |      |
| Oxygen                 | 4.7     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/4/2014 11:32 | GT |      |
| Nitrogen               | 18      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/4/2014 11:32 | GT |      |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/4/2014 11:32 | GT |      |



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### ANALYTICAL RESULTS

Workorder: 11470 1402G60

Lab ID: 114700004 Date Received: 2/24/2014 10:30 Matrix: Water  
 Sample ID: MW-115D-20140220-01 Date Collected: 2/20/2014 14:55

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | 6.9     | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/4/2014 11:45 | GT |      |
| Oxygen                 | 3.9     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/4/2014 11:45 | GT |      |
| Nitrogen               | 18      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/4/2014 11:45 | GT |      |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/4/2014 11:45 | GT |      |



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### ANALYTICAL RESULTS

Workorder: 11470 1402G60

Lab ID: 114700005 Date Received: 2/24/2014 10:30 Matrix: Water  
 Sample ID: MW-306D-20140220-01 Date Collected: 2/20/2014 15:30

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | <5.0    | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/4/2014 11:57 |    | GT   |
| Oxygen                 | 7.6     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/4/2014 11:57 |    | GT   |
| Nitrogen               | 20      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/4/2014 11:57 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/4/2014 11:57 |    | GT   |



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### ANALYTICAL RESULTS

Workorder: 11470 1402G60

Lab ID: 114700006 Date Received: 2/24/2014 10:30 Matrix: Water  
 Sample ID: MW-200DR-20140220-01 Date Collected: 2/20/2014 17:05

| Parameters             | Results | Units | PQL                        | MDL   | DF | Prepared | By | Analyzed       | By | Qual |
|------------------------|---------|-------|----------------------------|-------|----|----------|----|----------------|----|------|
| <b>RISK - MICR</b>     |         |       |                            |       |    |          |    |                |    |      |
| Analysis Desc: AM20GAX |         |       | Analytical Method: AM20GAX |       |    |          |    |                |    |      |
| Carbon Dioxide         | 97      | mg/l  | 5.0                        | 0.23  | 1  |          |    | 3/4/2014 12:11 |    | GT   |
| Oxygen                 | 2.3     | mg/l  | 0.50                       | 0.082 | 1  |          |    | 3/4/2014 12:11 |    | GT   |
| Nitrogen               | 21      | mg/l  | 2.0                        | 1.8   | 1  |          |    | 3/4/2014 12:11 |    | GT   |
| Carbon Monoxide        | <1.0    | mg/l  | 1.0                        | 0.14  | 1  |          |    | 3/4/2014 12:11 |    | GT   |



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## ANALYTICAL RESULTS QUALIFIERS

Workorder: 11470 1402G60

### DEFINITIONS/QUALIFIERS

**Disclaimer :** The Pennsylvania Department of Environmental Protection (PADEP) has decided to no longer recognize analyses that do not produce data for primary compliance, for NELAP accreditation. The methods affected by this decision are AM20GAX, AM21G, SW846 7199 and AM4.02. The laboratory shall continue to administer the NELAP/TNI standard requirements in the performance of these methods.

**MDL** Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.

**PQL** Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.

**ND** Not detected at or above reporting limit.

**DF** Dilution Factor.

**S** Surrogate.

**RPD** Relative Percent Difference.

**% Rec** Percent Recovery.

**U** Indicates the compound was analyzed for, but not detected at or above the noted concentration.

**J** Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).



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**QUALITY CONTROL DATA**

Workorder: 11470 1402G60

QC Batch: DISG/3611 Analysis Method: AM20GAX  
 QC Batch Method: AM20GAX  
 Associated Lab Samples: 114700001, 114700002, 114700003, 114700004, 114700005, 114700006

METHOD BLANK: 26164

| Parameter       | Units | Blank Result | Reporting Limit Qualifiers |
|-----------------|-------|--------------|----------------------------|
| <b>RISK</b>     |       |              |                            |
| Carbon Dioxide  | mg/l  | <5.0         | 5.0                        |
| Oxygen          | mg/l  | <0.50        | 0.50                       |
| Nitrogen        | mg/l  | <2.0         | 2.0                        |
| Carbon Monoxide | mg/l  | <1.0         | 1.0                        |

LABORATORY CONTROL SAMPLE & LCSD: 26166 26168

| Parameter       | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limit | RPD | Max RPD Qualifiers |
|-----------------|-------|-------------|------------|-------------|-----------|------------|-------------|-----|--------------------|
| <b>RISK</b>     |       |             |            |             |           |            |             |     |                    |
| Carbon Dioxide  | mg/l  | 120         | 130        | 130         | 111       | 114        | 80-120      | 2.7 | 20                 |
| Oxygen          | mg/l  | 11          | 11         | 12          | 98        | 104        | 80-120      | 5.9 | 20                 |
| Nitrogen        | mg/l  | 140         | 130        | 140         | 97        | 98         | 80-120      | 1   | 20                 |
| Carbon Monoxide | mg/l  | 2           | 2.1        | 2.2         | 108       | 110        | 80-120      | 1.8 | 20                 |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 26196 26197 Original: 114660004

| Parameter       | Units | Original Result | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | Max RPD Qualifiers |
|-----------------|-------|-----------------|-------------|-----------|------------|----------|-----------|-------------|--------------------|
| <b>RISK</b>     |       |                 |             |           |            |          |           |             |                    |
| Carbon Dioxide  | mg/l  | 0               | 120         | 73        | 72         | 63       | 62        | 70-130      |                    |
| Oxygen          | mg/l  | 3.4             | 11          | 13        | 14         | 86       | 93        | 70-130      |                    |
| Nitrogen        | mg/l  | 28              | 140         | 160       | 160        | 96       | 97        | 70-130      |                    |
| Carbon Monoxide | mg/l  | 0               | 2           | 2.3       | 2.3        | 117      | 115       | 70-130      |                    |



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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Workorder: 11470 1402G60

| Lab ID    | Sample ID            | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|-----------|----------------------|-------------|------------|-----------------|----------------|
| 114700001 | MW-305D-20140220-01  |             |            | AM20GAX         | DISG/3611      |
| 114700002 | MW-307D-20140220-01  |             |            | AM20GAX         | DISG/3611      |
| 114700003 | MW-204D-20140220-01  |             |            | AM20GAX         | DISG/3611      |
| 114700004 | MW-115D-20140220-01  |             |            | AM20GAX         | DISG/3611      |
| 114700005 | MW-306D-20140220-01  |             |            | AM20GAX         | DISG/3611      |
| 114700006 | MW-200DR-20140220-01 |             |            | AM20GAX         | DISG/3611      |



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|  |                      |  |       |                    |         |  |         |   |  |
|--|----------------------|--|-------|--------------------|---------|--|---------|---|--|
| COMPANY: <b>AES</b>  |                      | ADDRESS: <b>11470</b>  |       | ANALYSIS REQUESTED |         | Visit our website<br><a href="http://www.aesatlanta.com">www.aesatlanta.com</a><br>to check on the status of your results, place bottle orders, etc. |         | No # of Containers                            |  |
| PHONE:   |                      | FAX:   |       | SIGNATURE:         |         | PRESERVATION (See codes)   |         | REMARKS                                       |  |
| SAMPLED BY:  |                      | DATE   |       | SAMPLED TIME       |         | Grab   |         | Composite                                     |  |
| SAMPLE ID  |                      | DATE/TIME  |       | RECEIVED BY        |         | DATE/TIME  |         | PROJECT INFORMATION                           |  |
| 1  | MW-305D-20140220-01  | 2-20-14  | 14:00 | WDR                | 2-24-14 | 10:30  | 1402G60 | PROJECT NAME: 1402G60                         |  |
| 2  | MW-307D-20140220-01  |  | 16:05 |                    |         |  |         | PROJECT #: _____                              |  |
| 3  | MW-204D-20140220-01  |  | 16:40 |                    |         |  |         | SITE ADDRESS: _____                           |  |
| 4  | MW-1150-20140220-01  |  | 14:55 |                    |         |  |         | SEND REPORT TO: <u>MKAVARI@AESATLANTA.COM</u> |  |
| 5  | MW-306D-20140220-01  |  | 15:30 |                    |         |  |         | INVOICE TO (IF DIFFERENT FROM ABOVE)          |  |
| 6  | MW-200DL-20140220-01 |  | 17:05 |                    |         |  |         | QUOTE #: _____                                |  |
| 7  |                      |  |       |                    |         |  |         | STATE PROGRAM (if any): _____                 |  |
| 8  |                      |  |       |                    |         |  |         | E-mail? Y / N; Fax? Y / N                     |  |
| 9  |                      |  |       |                    |         |  |         | DATA PACKAGE: I II III IV                     |  |
| 10   |                      |  |       |                    |         |  |         | Turnaround Time Request                       |  |
| 11   |                      |  |       |                    |         |  |         | Standard 5 Business Days                      |  |
| 12   |                      |  |       |                    |         |  |         | 2 Business Day Rush                           |  |
| 13   |                      |  |       |                    |         |  |         | Next Business Day Rush                        |  |
| 14   |                      |  |       |                    |         |  |         | Same Day Rush (auth req.)                     |  |
|  |                      |  |       |                    |         |  |         | Other   |  |
|  |                      |  |       |                    |         |  |         | Total # of Containers                         |  |
| RELINQUISHED BY:   |                      | DATE/TIME  |       | RECEIVED BY        |         | DATE/TIME  |         | PROJECT INFORMATION                           |  |
| 1:   |                      |  |       | WDR                |         | 2-24-14 10:30  |         | PROJECT NAME: 1402G60                         |  |
| 2:   |                      |  |       |                    |         |  |         | PROJECT #: _____                              |  |
| 3:   |                      |  |       |                    |         |  |         | SITE ADDRESS: _____                           |  |
| SPECIAL INSTRUCTIONS/COMMENTS:   |                      | SHIPMENT METHOD  |       | OUT / / VIA:       |         | IN / / VIA:  |         | SEND REPORT TO: <u>MKAVARI@AESATLANTA.COM</u> |  |
|  |                      | CLIENT FedEx UPS MAIL COURIER  |       | GREYHOUND OTHER    |         |  |         | INVOICE TO (IF DIFFERENT FROM ABOVE)          |  |
| 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. |       |                    |         |  |         | QUOTE #: _____                                |  |

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

NON-CONFORMANCE FORM

Microseeps Project Number: 11470

Date: 2.24.14 Time of Receipt: 10:30 Receiver: LY

Client: AES

REASON FOR NON-CONFORMANCE:

COC was not relinquished by Client

ACTION TAKEN:

Client name: AES Date: 2/25/14 Time: e-mail

Client was made aware via e-mail.

O.K. to Proceed.

Customer Service Initials: CT

Date: 2/25/14

## Chris Thomas

---

**From:** Chris Thomas  
**Sent:** Tuesday, February 25, 2014 3:08 PM  
**To:** 'mkararic@aesatlanta.com'  
**Subject:** PG SAMPLES  
**Attachments:** AES ATLANTA COC\_20140225152113.pdf; AES ATLANTA COC 11470\_20140225152206.pdf

Hello,

We received PG samples from your lab for two projects. I have attached a copy of the COC's and log-in information. The COC was not relinquished. With your permission we will proceed with the analysis.

Thanks,  
Chris

Christopher Thomas  
Microseeps, a Division of Pace Analytical Energy Services, LLC  
220 William Pitt Way  
Pittsburgh, PA 15238

Office: 412-826-5245  
Direct: 412-826-4481

Disclaimer: This message contains confidential information and is intended only for the individual(s) named. If you are not the named addressee, you should permanently delete this e-mail from your system and should not disseminate, distribute or copy this e-mail. E-mail transmission cannot be guaranteed to be secure or error-free as information delivered over the internet could be corrupted, lost, destroyed, delayed, or contain viruses

# Cooler Receipt Form

Client Name: AES Project: 1402660 Lab Work Order: 11470

**A. Shipping/Container Information** (circle appropriate response)

Courier: FedEx UPS USPS Client Other: \_\_\_\_\_ Air bill Present: Yes No

Tracking Number: 561327014522

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: \_\_\_\_\_

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 10C Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: \_\_\_\_\_

**B. Laboratory Assignment/Log-in** (check appropriate response)

|  | YES                                 | NO                                  | N/A                                 | Comment<br>Reference non-Conformance |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| Chain of Custody properly filled out   |                                     | <input checked="" type="checkbox"/> |                                     |                                      |
| Chain of Custody relinquished  |                                     | <input checked="" type="checkbox"/> |                                     |                                      |
| Sampler Name & Signature on COC  |                                     | <input checked="" type="checkbox"/> |                                     |                                      |
| Containers intact  | <input checked="" type="checkbox"/> |                                     |                                     |                                      |
| Were samples in separate bags  | <input checked="" type="checkbox"/> |                                     |                                     |                                      |
| Sample container labels match COC  | <input checked="" type="checkbox"/> |                                     |                                     |                                      |
| Sample name/date and time collected  | <input checked="" type="checkbox"/> |                                     |                                     |                                      |
| Sufficient volume provided   | <input checked="" type="checkbox"/> |                                     |                                     |                                      |
| Microseeps containers used   | <input checked="" type="checkbox"/> |                                     |                                     |                                      |
| Are containers properly preserved for the requested testing?<br>(as labeled)   | <input checked="" type="checkbox"/> |                                     |                                     |                                      |
| If an unknown preservation state, were containers checked?<br>Exception: VOA's coliform                                |                                     |                                     | <input checked="" type="checkbox"/> | If yes, see pH form.                 |
| Was volume for dissolved testing field filtered, as noted on<br>the COC? Was volume received in a preserved container? |                                     |                                     | <input checked="" type="checkbox"/> |                                      |

Comments: \_\_\_\_\_

Cooler contents examined/received by: LS Date: 2.29.14

Project Manager Review: CA Date: 2/25/14

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EFM

Work Order Number 1402660

Checklist completed by [Signature] Date 7-21-14

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? (4°C±2)\* Yes  No \_\_\_

Cooler #1 3-1 Cooler #2 3-8 Cooler #3 3-9 Cooler #4 \_\_\_\_\_ Cooler#5 \_\_\_\_\_ Cooler #6 \_\_\_\_\_

Chain of custody present? Yes  No \_\_\_

Chain of custody signed when relinquished and received? Yes  No \_\_\_

Chain of custody agrees with sample labels? Yes  No \_\_\_

Samples in proper container/bottle? Yes  No \_\_\_

Sample containers intact? Yes  No \_\_\_

Sufficient sample volume for indicated test? Yes  No \_\_\_

All samples received within holding time? Yes  No \_\_\_

Was TAT marked on the COC? Yes  No \_\_\_

Proceed with Standard TAT as per project history? Yes \_\_\_ No \_\_\_ Not Applicable

Water - VOA vials have zero headspace? No VOA vials submitted \_\_\_ Yes  No \_\_\_

Water - pH acceptable upon receipt? Yes  No \_\_\_ Not Applicable \_\_\_

Adjusted? \_\_\_\_\_ Checked by [Signature]

Sample Condition: Good  Other(Explain) \_\_\_\_\_

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

See Case Narrative for resolution of the Non-Conformance.

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

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402G60

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date      | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|----------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402G60-001A  | TB-05-20140220-01   | 2/20/2014 12:00:00AM | Aqueous     | Volatile Organic Compounds by GC/MS |           | 02/24/2014 | 02/24/2014    |
| 1402G60-002A  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/24/2014 | 02/24/2014    |
| 1402G60-002B  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/26/2014 | 02/26/2014    |
| 1402G60-002C  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/26/2014 | 02/27/2014    |
| 1402G60-002C  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | TCL-SEMIVOLATILE ORGANICS           |           | 02/24/2014 | 02/25/2014    |
| 1402G60-002C  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/25/2014    |
| 1402G60-002C  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/28/2014    |
| 1402G60-002D  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/25/2014    |
| 1402G60-002D  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/26/2014 | 02/26/2014    |
| 1402G60-002E  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402G60-002F  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/21/2014    |
| 1402G60-002G  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | ION SCAN                            |           |            | 02/21/2014    |
| 1402G60-002H  | MW-305D-20140220-01 | 2/20/2014 2:00:00PM  | Groundwater | Sulfide                             |           |            | 02/26/2014    |
| 1402G60-003A  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/24/2014 | 02/24/2014    |
| 1402G60-003B  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/26/2014 | 02/26/2014    |
| 1402G60-003C  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/26/2014 | 02/27/2014    |
| 1402G60-003C  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | TCL-SEMIVOLATILE ORGANICS           |           | 02/24/2014 | 02/25/2014    |
| 1402G60-003C  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/25/2014    |
| 1402G60-003D  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/25/2014    |
| 1402G60-003D  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | TOTAL MERCURY                       |           | 02/26/2014 | 02/26/2014    |
| 1402G60-003E  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402G60-003F  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | Ferrous Iron                        |           |            | 02/21/2014    |
| 1402G60-003G  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | ION SCAN                            |           |            | 02/21/2014    |
| 1402G60-003H  | MW-307D-20140220-01 | 2/20/2014 4:05:00PM  | Groundwater | Sulfide                             |           |            | 02/26/2014    |
| 1402G60-004A  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/24/2014 | 02/24/2014    |
| 1402G60-004A  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/24/2014 | 02/25/2014    |
| 1402G60-004B  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM  | Groundwater | GC Analysis of Gaseous Samples      |           | 02/26/2014 | 02/26/2014    |
| 1402G60-004C  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/26/2014 | 02/27/2014    |
| 1402G60-004C  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM  | Groundwater | TCL-SEMIVOLATILE ORGANICS           |           | 02/24/2014 | 02/25/2014    |

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402G60

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date     | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|---------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402G60-004C  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/25/2014    |
| 1402G60-004C  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/28/2014    |
| 1402G60-004D  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/25/2014    |
| 1402G60-004D  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM | Groundwater | TOTAL MERCURY                       |           | 02/26/2014 | 02/26/2014    |
| 1402G60-004E  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402G60-004F  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM | Groundwater | Ferrous Iron                        |           |            | 02/21/2014    |
| 1402G60-004G  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM | Groundwater | ION SCAN                            |           |            | 02/21/2014    |
| 1402G60-004H  | MW-204D-20140220-01 | 2/20/2014 4:40:00PM | Groundwater | Sulfide                             |           |            | 02/26/2014    |
| 1402G60-005A  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/24/2014 | 02/24/2014    |
| 1402G60-005B  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/26/2014 | 02/26/2014    |
| 1402G60-005C  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/26/2014 | 02/27/2014    |
| 1402G60-005C  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | TCL-SEMIVOLATILE ORGANICS           |           | 02/24/2014 | 02/25/2014    |
| 1402G60-005C  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/25/2014    |
| 1402G60-005D  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/25/2014    |
| 1402G60-005D  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | TOTAL MERCURY                       |           | 02/26/2014 | 02/26/2014    |
| 1402G60-005E  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402G60-005F  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | Ferrous Iron                        |           |            | 02/21/2014    |
| 1402G60-005G  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | ION SCAN                            |           |            | 02/21/2014    |
| 1402G60-005H  | MW-115D-20140220-01 | 2/20/2014 2:55:00PM | Groundwater | Sulfide                             |           |            | 02/26/2014    |
| 1402G60-006A  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/24/2014 | 02/24/2014    |
| 1402G60-006B  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/26/2014 | 02/26/2014    |
| 1402G60-006C  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/26/2014 | 02/27/2014    |
| 1402G60-006C  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | TCL-SEMIVOLATILE ORGANICS           |           | 02/24/2014 | 02/25/2014    |
| 1402G60-006C  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/25/2014    |
| 1402G60-006C  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/28/2014    |
| 1402G60-006D  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/25/2014    |
| 1402G60-006D  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | TOTAL MERCURY                       |           | 02/26/2014 | 02/26/2014    |
| 1402G60-006E  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402G60-006F  | MW-306D-20140220-01 | 2/20/2014 3:30:00PM | Groundwater | Ferrous Iron                        |           |            | 02/21/2014    |

Client: ERM-Southeast  
 Project: AGLC Macon  
 Lab Order: 1402G60

## Dates Report

| Lab Sample ID | Client Sample ID     | Collection Date     | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|----------------------|---------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1402G60-006G  | MW-306D-20140220-01  | 2/20/2014 3:30:00PM | Groundwater | ION SCAN                            |           |            | 02/21/2014    |
| 1402G60-006H  | MW-306D-20140220-01  | 2/20/2014 3:30:00PM | Groundwater | Sulfide                             |           |            | 02/26/2014    |
| 1402G60-007A  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 02/24/2014 | 02/24/2014    |
| 1402G60-007B  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | GC Analysis of Gaseous Samples      |           | 02/26/2014 | 02/26/2014    |
| 1402G60-007C  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 02/26/2014 | 02/27/2014    |
| 1402G60-007C  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | TCL-SEMIVOLATILE ORGANICS           |           | 02/24/2014 | 02/25/2014    |
| 1402G60-007C  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 02/24/2014 | 02/25/2014    |
| 1402G60-007D  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 02/24/2014 | 02/25/2014    |
| 1402G60-007D  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | TOTAL MERCURY                       |           | 02/26/2014 | 02/26/2014    |
| 1402G60-007E  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | Cyanide                             |           | 02/24/2014 | 02/24/2014    |
| 1402G60-007F  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | Ferrous Iron                        |           |            | 02/21/2014    |
| 1402G60-007G  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | ION SCAN                            |           |            | 02/21/2014    |
| 1402G60-007H  | MW-200DR-20140220-01 | 2/20/2014 5:05:00PM | Groundwater | Sulfide                             |           |            | 02/26/2014    |

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187343

| Sample ID: <b>MB-187343</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261956</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5507106</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 95.76 | 0  | 100.0 |  | 95.8 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 45.00 | 0  | 50.00 |  | 90.0 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 59.74 | 0  | 100.0 |  | 59.7 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 45.38 | 0  | 50.00 |  | 90.8 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 43.61 | 0  | 50.00 |  | 87.2 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 41.40 | 0  | 100.0 |  | 41.4 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-187343</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261956</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5507114</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |     |      |     |  |  |  |  |
|--------------|-------|----|-------|--|-----|------|-----|--|--|--|--|
| Acenaphthene | 100.2 | 10 | 100.0 |  | 100 | 67.7 | 122 |  |  |  |  |
|--------------|-------|----|-------|--|-----|------|-----|--|--|--|--|

**Qualifiers:**

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402G60

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 187343**

| Sample ID: <b>LCS-187343</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261956</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5507114</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Phenol                     | 48.47 | 10 | 100.0 |  | 48.5 | 24.6 | 120 |  |  |  |  |
| Pyrene                     | 102.3 | 10 | 100.0 |  | 102  | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 120.1 | 0  | 100.0 |  | 120  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 55.02 | 0  | 50.00 |  | 110  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 74.55 | 0  | 100.0 |  | 74.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 57.48 | 0  | 50.00 |  | 115  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 52.53 | 0  | 50.00 |  | 105  | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 54.38 | 0  | 100.0 |  | 54.4 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402G31-003BMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261956</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5508303</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 78.53 | 10 | 100.0 |  | 78.5 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 50.83 | 10 | 100.0 |  | 50.8 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 81.33 | 10 | 100.0 |  | 81.3 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 97.55 | 0  | 100.0 |  | 97.6 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 43.58 | 0  | 50.00 |  | 87.2 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 64.47 | 0  | 100.0 |  | 64.5 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 44.88 | 0  | 50.00 |  | 89.8 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 39.60 | 0  | 50.00 |  | 79.2 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 60.02 | 0  | 100.0 |  | 60.0 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1402G31-003BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262027</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>187343</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5509639</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |      |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene | 81.50 | 10 | 100.0 |  | 81.5 | 51.9 | 120 | 78.53 | 3.71 | 24.9 |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187343

Sample ID: 1402G31-003BMSD Client ID: Units: ug/L Prep Date: 02/24/2014 Run No: 262027  
 SampleType: MSD TestCode: Semivolatile Org. Comp. by GC/MS SW8270D BatchID: 187343 Analysis Date: 02/26/2014 Seq No: 5509639

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Phenol                     | 52.53  | 10        | 100.0     |             | 52.5 | 30.5      | 120        | 50.83       | 3.29 | 34.4      |      |
| Pyrene                     | 82.96  | 10        | 100.0     |             | 83.0 | 50.6      | 120        | 81.33       | 1.98 | 26.7      |      |
| Surr: 2,4,6-Tribromophenol | 94.63  | 0         | 100.0     |             | 94.6 | 51.5      | 124        | 97.55       | 0    | 0         |      |
| Surr: 2-Fluorobiphenyl     | 46.42  | 0         | 50.00     |             | 92.8 | 51.7      | 118        | 43.58       | 0    | 0         |      |
| Surr: 2-Fluorophenol       | 70.14  | 0         | 100.0     |             | 70.1 | 26        | 120        | 64.47       | 0    | 0         |      |
| Surr: 4-Terphenyl-d14      | 44.18  | 0         | 50.00     |             | 88.4 | 45.2      | 137        | 44.88       | 0    | 0         |      |
| Surr: Nitrobenzene-d5      | 43.53  | 0         | 50.00     |             | 87.1 | 42        | 120        | 39.60       | 0    | 0         |      |
| Surr: Phenol-d5            | 61.41  | 0         | 100.0     |             | 61.4 | 12.3      | 120        | 60.02       | 0    | 0         |      |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187412

|                             |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187412</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262074</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187412</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5510013</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187412</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262074</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187412</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5510014</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2625                      0.010                      0.2500                      105                      85                      115

|                                  |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F86-005FMS</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262074</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187412</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5510026</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2499                      0.010                      0.2500                      100.0                      70                      130

|                                   |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402F86-005FMSD</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262074</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>187412</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5510027</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2533                      0.010                      0.2500                      101                      70                      130                      0.2499                      1.35                      20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187419

| Sample ID: <b>MB-187419</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262015</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187419</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5508658</b> |      |           |            |             |      |           |      |
| Analyte                     | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |     |        |  |  |  |  |  |  |  |  |  |
|-----------|-----|--------|--|--|--|--|--|--|--|--|--|
| Antimony  | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Arsenic   | BRL | 0.0500 |  |  |  |  |  |  |  |  |  |
| Barium    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Beryllium | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Cadmium   | BRL | 0.0050 |  |  |  |  |  |  |  |  |  |
| Chromium  | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Copper    | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Iron      | BRL | 0.100  |  |  |  |  |  |  |  |  |  |
| Lead      | BRL | 0.0100 |  |  |  |  |  |  |  |  |  |
| Nickel    | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |
| Zinc      | BRL | 0.0200 |  |  |  |  |  |  |  |  |  |

| Sample ID: <b>LCS-187419</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262015</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187419</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5508656</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |          |     |    |     |  |  |  |  |
|-----------|-------|--------|-------|----------|-----|----|-----|--|--|--|--|
| Antimony  | 1.052 | 0.0200 | 1.000 |          | 105 | 80 | 120 |  |  |  |  |
| Arsenic   | 1.047 | 0.0500 | 1.000 |          | 105 | 80 | 120 |  |  |  |  |
| Barium    | 1.023 | 0.0200 | 1.000 |          | 102 | 80 | 120 |  |  |  |  |
| Beryllium | 1.024 | 0.0100 | 1.000 |          | 102 | 80 | 120 |  |  |  |  |
| Cadmium   | 1.033 | 0.0050 | 1.000 |          | 103 | 80 | 120 |  |  |  |  |
| Chromium  | 1.033 | 0.0100 | 1.000 |          | 103 | 80 | 120 |  |  |  |  |
| Copper    | 1.007 | 0.0100 | 1.000 |          | 101 | 80 | 120 |  |  |  |  |
| Iron      | 10.22 | 0.100  | 10.00 |          | 102 | 80 | 120 |  |  |  |  |
| Lead      | 1.032 | 0.0100 | 1.000 |          | 103 | 80 | 120 |  |  |  |  |
| Nickel    | 1.032 | 0.0200 | 1.000 |          | 103 | 80 | 120 |  |  |  |  |
| Zinc      | 1.036 | 0.0200 | 1.000 | 0.003983 | 103 | 80 | 120 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187419

| Sample ID: <b>1402G34-001CMS</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262015</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187419</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5508660</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |       |    |     |  |  |  |   |
|-----------|--------|--------|-------|----------|-------|----|-----|--|--|--|---|
| Antimony  | 0.9979 | 0.0200 | 1.000 | 0.002386 | 99.5  | 75 | 125 |  |  |  |   |
| Arsenic   | 1.028  | 0.0500 | 1.000 | 0.01809  | 101   | 75 | 125 |  |  |  |   |
| Barium    | 1.041  | 0.0200 | 1.000 | 0.03954  | 100   | 75 | 125 |  |  |  |   |
| Beryllium | 1.014  | 0.0100 | 1.000 |          | 101   | 75 | 125 |  |  |  |   |
| Cadmium   | 1.008  | 0.0050 | 1.000 |          | 101   | 75 | 125 |  |  |  |   |
| Chromium  | 1.015  | 0.0100 | 1.000 |          | 101   | 75 | 125 |  |  |  |   |
| Copper    | 0.9971 | 0.0100 | 1.000 |          | 99.7  | 75 | 125 |  |  |  |   |
| Iron      | 90.37  | 0.100  | 10.00 | 91.55    | -11.8 | 75 | 125 |  |  |  | S |
| Lead      | 0.9978 | 0.0100 | 1.000 |          | 99.8  | 75 | 125 |  |  |  |   |
| Nickel    | 1.003  | 0.0200 | 1.000 |          | 100   | 75 | 125 |  |  |  |   |
| Zinc      | 1.018  | 0.0200 | 1.000 | 0.01729  | 100   | 75 | 125 |  |  |  |   |

| Sample ID: <b>1402G34-001CMSD</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>262015</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>187419</b> | Analysis Date: <b>02/25/2014</b> | Seq No: <b>5508661</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |          |      |    |     |        |       |    |   |
|-----------|-------|--------|-------|----------|------|----|-----|--------|-------|----|---|
| Antimony  | 1.020 | 0.0200 | 1.000 | 0.002386 | 102  | 75 | 125 | 0.9979 | 2.21  | 20 |   |
| Arsenic   | 1.053 | 0.0500 | 1.000 | 0.01809  | 103  | 75 | 125 | 1.028  | 2.45  | 20 |   |
| Barium    | 1.065 | 0.0200 | 1.000 | 0.03954  | 103  | 75 | 125 | 1.041  | 2.27  | 20 |   |
| Beryllium | 1.020 | 0.0100 | 1.000 |          | 102  | 75 | 125 | 1.014  | 0.591 | 20 |   |
| Cadmium   | 1.031 | 0.0050 | 1.000 |          | 103  | 75 | 125 | 1.008  | 2.23  | 20 |   |
| Chromium  | 1.040 | 0.0100 | 1.000 |          | 104  | 75 | 125 | 1.015  | 2.45  | 20 |   |
| Copper    | 1.023 | 0.0100 | 1.000 |          | 102  | 75 | 125 | 0.9971 | 2.52  | 20 |   |
| Iron      | 94.00 | 0.100  | 10.00 | 91.55    | 24.4 | 75 | 125 | 90.37  | 3.93  | 20 | S |
| Lead      | 1.023 | 0.0100 | 1.000 |          | 102  | 75 | 125 | 0.9978 | 2.53  | 20 |   |
| Nickel    | 1.028 | 0.0200 | 1.000 |          | 103  | 75 | 125 | 1.003  | 2.52  | 20 |   |
| Zinc      | 1.040 | 0.0200 | 1.000 | 0.01729  | 102  | 75 | 125 | 1.018  | 2.15  | 20 |   |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187424

| Sample ID: <b>MB-187424</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261820</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187424</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5504012</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Carbon disulfide           | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Ethylbenzene               | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Toluene                    | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Xylenes, Total             | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 47.29 | 0   | 50.00 |  | 94.6 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 51.71 | 0   | 50.00 |  | 103  | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 50.88 | 0   | 50.00 |  | 102  | 77   | 117 |  |  |  |  |

| Sample ID: <b>LCS-187424</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261820</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187424</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5504010</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 50.07 | 5.0 | 50.00 |  | 100  | 74.2 | 129 |  |  |  |  |
| Toluene                    | 47.72 | 5.0 | 50.00 |  | 95.4 | 74.2 | 129 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 48.70 | 0   | 50.00 |  | 97.4 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 51.88 | 0   | 50.00 |  | 104  | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 51.16 | 0   | 50.00 |  | 102  | 77   | 117 |  |  |  |  |

| Sample ID: <b>1402F61-021AMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261820</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187424</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5505428</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 539.9 | 50 | 500.0 |  | 108  | 70.2 | 138 |  |  |  |  |
| Toluene                    | 527.9 | 50 | 500.0 |  | 106  | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 496.8 | 0  | 500.0 |  | 99.4 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 522.2 | 0  | 500.0 |  | 104  | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 513.9 | 0  | 500.0 |  | 103  | 77   | 117 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187424

| Sample ID: <b>1402F61-021AMSD</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/24/2014</b>     | Run No: <b>261820</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>187424</b> | Analysis Date: <b>02/24/2014</b> | Seq No: <b>5505429</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |       |      |    |  |
|----------------------------|-------|----|-------|--|------|------|-----|-------|------|----|--|
| Benzene                    | 511.6 | 50 | 500.0 |  | 102  | 70.2 | 138 | 539.9 | 5.38 | 20 |  |
| Toluene                    | 507.8 | 50 | 500.0 |  | 102  | 70   | 139 | 527.9 | 3.88 | 20 |  |
| Surr: 4-Bromofluorobenzene | 493.5 | 0  | 500.0 |  | 98.7 | 66.2 | 120 | 496.8 | 0    | 0  |  |
| Surr: Dibromofluoromethane | 505.2 | 0  | 500.0 |  | 101  | 79.5 | 121 | 522.2 | 0    | 0  |  |
| Surr: Toluene-d8           | 510.8 | 0  | 500.0 |  | 102  | 77   | 117 | 513.9 | 0    | 0  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187484

| Sample ID: <b>MB-187484</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>262198</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187484</b> | Analysis Date: <b>02/27/2014</b> | Seq No: <b>5513003</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Benzo(a)pyrene         | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Benzo(b)fluoranthene   | BRL   | 0.10  |       |  |      |      |     |  |  |  |  |
| Dibenz(a,h)anthracene  | BRL   | 0.10  |       |  |      |      |     |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.937 | 0     | 2.000 |  | 96.8 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCS-187484</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>262198</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187484</b> | Analysis Date: <b>02/27/2014</b> | Seq No: <b>5513054</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 1.997 | 0.050 | 2.000 |  | 99.8 | 62.8 | 132 |  |  |  |  |
| Benzo(a)pyrene         | 1.912 | 0.050 | 2.000 |  | 95.6 | 56.4 | 123 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.706 | 0.10  | 2.000 |  | 85.3 | 69.2 | 132 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.402 | 0.10  | 2.000 |  | 70.1 | 49.3 | 134 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.670 | 0.050 | 2.000 |  | 83.5 | 48.3 | 137 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.757 | 0     | 2.000 |  | 87.8 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>1402I15-001AMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>262198</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187484</b> | Analysis Date: <b>02/27/2014</b> | Seq No: <b>5513051</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |         |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|---------|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.236 | 0.050 | 2.000 | 0.03338 | 110  | 51.4 | 142 |  |  |  |  |
| Benzo(a)pyrene         | 2.155 | 0.050 | 2.000 |         | 108  | 48.3 | 126 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.841 | 0.10  | 2.000 |         | 92.0 | 49.9 | 134 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.828 | 0.10  | 2.000 |         | 91.4 | 41.8 | 121 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.922 | 0.050 | 2.000 |         | 96.1 | 42   | 129 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.982 | 0     | 2.000 |         | 99.1 | 53.2 | 145 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187484

| Sample ID: <b>1402I15-001AMSD</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>262198</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>187484</b> | Analysis Date: <b>02/27/2014</b> | Seq No: <b>5513052</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |         |      |      |     |       |      |      |  |
|------------------------|-------|-------|-------|---------|------|------|-----|-------|------|------|--|
| Benz(a)anthracene      | 2.392 | 0.050 | 2.000 | 0.03338 | 118  | 51.4 | 142 | 2.236 | 6.75 | 48.1 |  |
| Benzo(a)pyrene         | 2.281 | 0.050 | 2.000 |         | 114  | 48.3 | 126 | 2.155 | 5.65 | 53.5 |  |
| Benzo(b)fluoranthene   | 1.921 | 0.10  | 2.000 |         | 96.0 | 49.9 | 134 | 1.841 | 4.26 | 51.1 |  |
| Dibenz(a,h)anthracene  | 1.922 | 0.10  | 2.000 |         | 96.1 | 41.8 | 121 | 1.828 | 5.01 | 54.2 |  |
| Indeno(1,2,3-cd)pyrene | 1.989 | 0.050 | 2.000 |         | 99.4 | 42   | 129 | 1.922 | 3.40 | 44.6 |  |
| Surr: 4-Terphenyl-d14  | 2.038 | 0     | 2.000 |         | 102  | 53.2 | 145 | 1.982 | 0    | 0    |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187503

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187503</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>261987</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187503</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5508972</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-187503</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>261987</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187503</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5508974</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005087 0.00020 0.0050 102 85 115

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G60-002DMS</b> | Client ID: <b>MW-305D-20140220-01</b>   | Units: <b>mg/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>261987</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187503</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5508977</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.004021 0.00020 0.0050 80.4 70 130

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G60-002DMSD</b> | Client ID: <b>MW-305D-20140220-01</b>   | Units: <b>mg/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>261987</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>187503</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5508979</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.003952 0.00020 0.0050 79.0 70 130 0.004021 1.73 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 187547

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-187547</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>262034</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187547</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5510061</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane BRL 4

|                              |   |                        |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-187547</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>262034</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187547</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5510062</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 109.4 4 200.0 54.7 45.2 115

|                               |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCSD-187547</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>262034</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCSD</b>       | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187547</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5510063</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 116.5 4 200.0 58.2 45.2 115 109.4 6.28 20

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G60-002BMS</b> | Client ID: <b>MW-305D-20140220-01</b>                       | Units: <b>ug/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>262034</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187547</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5510081</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 123.7 4 200.0 2.838 60.4 41.1 115

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G60-002BMSD</b> | Client ID: <b>MW-305D-20140220-01</b>                       | Units: <b>ug/L</b>     | Prep Date: <b>02/26/2014</b>     | Run No: <b>262034</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>GC Analysis of Gaseous Samples SOP-RSK 175</b> | BatchID: <b>187547</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5510082</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Methane 119.2 4 200.0 2.838 58.2 41.1 115 123.7 3.66 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

BatchID: R261914

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261914</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261914</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261914</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506090</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

BRL 0.100

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261914</b> | Client ID:                                | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261914</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261914</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506091</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.5263 0.100 0.5000 105 85 115

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G60-002FMS</b> | Client ID: <b>MW-305D-20140220-01</b>     | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261914</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261914</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506100</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.5321 0.100 0.5000 106 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G60-002FMSD</b> | Client ID: <b>MW-305D-20140220-01</b>     | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261914</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Ferrous Iron SM3500-Fe-B</b> | BatchID: <b>R261914</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506101</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                    | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Iron, as Ferrous (Fe+2)

0.5436 0.100 0.5000 109 80 120 0.5321 2.14 30

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402G60

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261921**

|                              |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R261921</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261921</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261921</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506335</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate BRL 0.25  
 Sulfate BRL 1.0

|                               |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R261921</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261921</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261921</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506333</b> |      |           |            |             |      |           |      |
| Analyte                       | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 5.472 0.25 5.000 109 90 110  
 Sulfate 25.43 1.0 25.00 102 90 110

|                                  |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G34-008EMS</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261921</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261921</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506360</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 86.60 2.5 50.00 37.43 98.3 90 110  
 Sulfate 245.6 10 250.0 4.517 96.4 90 110

|                                  |                                       |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G60-005GMS</b> | Client ID: <b>MW-115D-20140220-01</b> | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261921</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>ION SCAN SW9056A</b>     | BatchID: <b>R261921</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506370</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 25.38 1.2 25.00 102 90 110  
 Sulfate 142.4 5.0 125.0 18.70 99.0 90 110

|                                   |                                   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G34-008EMSD</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261921</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261921</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506361</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                            | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Nitrate 86.69 2.5 50.00 37.43 98.5 90 110 86.60 0.105 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1402G60

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R261921**

|                                   |                                   |                         |                                  |                        |
|-----------------------------------|-----------------------------------|-------------------------|----------------------------------|------------------------|
| Sample ID: <b>1402G34-008EMSD</b> | Client ID:                        | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>261921</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>ION SCAN SW9056A</b> | BatchID: <b>R261921</b> | Analysis Date: <b>02/21/2014</b> | Seq No: <b>5506361</b> |

| Analyte | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|---------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Sulfate | 248.2  | 10        | 250.0     | 4.517       | 97.5 | 90        | 110        | 245.6       | 1.05 | 20        |      |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1402G60

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: R262006**

|                              |   |                         |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-R262006</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>262006</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>      | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R262006</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5508411</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide BRL 1.0

|                               |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-R262006</b> | Client ID:                                    | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>262006</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>        | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R262006</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5508412</b> |      |           |            |             |      |           |      |
| Analyte                       | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 296.8 1.0 296.8 100 90 110

|                                  |   |                         |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G60-003HMS</b> | Client ID: <b>MW-307D-20140220-01</b>         | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>262006</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R262006</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5508416</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 16.64 1.0 14.84 112 80 120

|                                   |   |                         |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|-------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1402G60-003HMSD</b> | Client ID: <b>MW-307D-20140220-01</b>         | Units: <b>mg/L</b>      | Prep Date:                       | Run No: <b>262006</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Sulfide (E376.1/SM4500 S2 F)</b> | BatchID: <b>R262006</b> | Analysis Date: <b>02/26/2014</b> | Seq No: <b>5508417</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit               | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Sulfide 16.44 1.0 14.84 111 80 120 16.64 1.21 20

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



**ANALYTICAL ENVIRONMENTAL SERVICES, INC.**

August 18, 2014

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

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

RE: AGL Macon

Dear Nic Vrey:

Order No: 1408474

Analytical Environmental Services, Inc. received **23** samples on 8/6/2014 4:35:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

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

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

Mirzeta Kararic  
Project Manager



**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: 1408474

COMPANY: ERM

Date: 8/4/14 Page 1 of 2

ADDRESS: 3200 Windy Hill Rd SE Atlanta, GA 30339  
 PHONE: (678) 486-2700  
 SAMPLED BY: J. Maloney / A. Kelly  
 SIGNATURE: \_\_\_\_\_  
 MATRIX: \_\_\_\_\_

| #  | SAMPLE ID            | SAMPLED |       | Grab | Composite | Matrix (See codes) | ANALYSIS REQUESTED          |             | REMARKS | No # of Containers |
|----|----------------------|---------|-------|------|-----------|--------------------|-----------------------------|-------------|---------|--------------------|
|    |                      | DATE    | TIME  |      |           |                    | 82608 (VCS)                 | 8270 (SVCS) |         |                    |
| 1  | MW-230-20140804-01   | 8/4/14  | 14:30 | X    |           | GW                 | Metals + Mercury<br>Cyanide |             |         | 6                  |
| 2  | MW-250-20140804-01   |         | 16:00 | X    |           |                    |                             |             |         | 6                  |
| 3  | MW-250MS-20140804-01 |         | 16:00 | X    |           |                    |                             |             |         | 6                  |
| 4  | MW-250MS-20140804-01 |         | 16:00 | X    |           |                    |                             |             |         | 6                  |
| 5  | MW-300-20140804-01   |         | 16:05 | X    |           |                    |                             |             |         | 6                  |
| 6  | MW-300MS-20140804-01 |         | 16:05 | X    |           |                    |                             |             |         | 6                  |
| 7  | MW-300MS-20140804-01 |         | 16:05 | X    |           |                    |                             |             |         | 6                  |
| 8  | MW-3040-20140804-01  |         | 18:00 | X    |           |                    |                             |             |         | 6                  |
| 9  | MW-2020-20140805-01  | 8/5/14  | 08:50 | X    |           |                    |                             |             |         | 6                  |
| 10 | MW-1130-20140805-01  |         | 09:15 | X    |           |                    |                             |             |         | 6                  |
| 11 | MW-1080-20140805-01  |         | 09:50 | X    |           |                    |                             |             |         | 6                  |
| 12 | MW-1120-20140805-01  |         | 10:15 | X    |           |                    |                             |             |         | 6                  |
| 13 | MW-1202-20140805-01  |         | 11:25 | X    |           |                    |                             |             |         | 6                  |
| 14 | MW-090-20140805-01   |         | 11:45 | X    |           |                    |                             |             |         | 6                  |

RELINQUISHED BY: [Signature] DATE/TIME: 8/6/14 16:00  
 RECEIVED BY: [Signature] DATE/TIME: 8/6/14 4:10  
 PROJECT NAME: AGL Macon  
 PROJECT #: \_\_\_\_\_  
 SITE ADDRESS: Walnut Street Macon, GA  
 SEND REPORT TO: Nic.Vrey@erm.com  
 INVOICE TO: \_\_\_\_\_  
 (IF DIFFERENT FROM ABOVE)  
 QUOTE #: \_\_\_\_\_  
 PO#: \_\_\_\_\_  
 SHIPMENT METHOD: \_\_\_\_\_  
 OUT: / / VIA: \_\_\_\_\_  
 IN: / / VIA: \_\_\_\_\_  
 CLIENT FedEx UPS MAIL COURIER  
 GREYHOUND OTHER: \_\_\_\_\_  
 SPECIAL INSTRUCTIONS/COMMENTS: \_\_\_\_\_  
 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.  
 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

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: 1408474

Date: 8/5/14 Page 2 of 2

| #  | SAMPLE ID           | DATE   | TIME  | SAMPLED |      | Grab | Composite | Matrix (See codes) | ANALYSIS REQUESTED |             |                 |         | REMARKS | No # of Containers |
|----|---------------------|--------|-------|---------|------|------|-----------|--------------------|--------------------|-------------|-----------------|---------|---------|--------------------|
|    |                     |        |       | DATE    | TIME |      |           |                    | 8260 (VOCs)        | 8270 (SVOC) | Meths r Mercury | Cyanide |         |                    |
| 1  | DUP-02-20140805-01  | 8/5/14 |       | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 2  | DUP-01-20140805-01  |        |       | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 3  | MW-1150-20140805-01 |        | 14:30 | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 4  | MW-1200-20140805-01 |        | 14:15 | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 5  | MW-2070-20140805-01 |        |       | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 6  | MW-2100-20140806-01 | 8/6/14 | 09:50 | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 7  | MW-3080-20140806-01 |        | 09:30 | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 8  | MW-3030-20140806-01 |        | 10:45 | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 9  | TB-01-20140806-01   | 8/6/14 |       | X       |      | X    |           | W                  |                    |             |                 |         |         | 2                  |
| 10 | MW-1100-20140806-01 |        | 11:10 | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 11 | MW-2040-20140806-01 |        | 13:10 | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 12 | MW-3060-20140806-01 |        | 13:30 | X       |      | X    |           | GW                 |                    |             |                 |         |         | 6                  |
| 13 |                     |        |       |         |      |      |           |                    |                    |             |                 |         |         |                    |
| 14 |                     |        |       |         |      |      |           |                    |                    |             |                 |         |         |                    |

|                                     |                         |                                 |                        |
|-------------------------------------|-------------------------|---------------------------------|------------------------|
| RELINQUISHED BY: <i>[Signature]</i> | DATE/TIME: 8/6/14 16:00 | RECEIVED BY: <i>[Signature]</i> | DATE/TIME: 8/6/14 4:00 |
| 2: <i>[Signature]</i>               | 8/6/14 4:35             | 3: <i>[Signature]</i>           |                        |

|                                   |  |  |  |
|-----------------------------------|--|--|--|
| SPECIAL INSTRUCTIONS/COMMENTS:    |  | SHIPMENT METHOD:<br>OUT / / VIA:<br>IN / / VIA:<br>CLIENT FedEx UPS MAIL COURIER |  |
| PROJECT NAME: Aclil Macon         |  | PROJECT INFORMATION  |  |
| PROJECT #: PH052 0230715          |  | SITE ADDRESS: Walnut St. Macon, GA   |  |
| SEND REPORT TO: Nic. Vrejo@em.com |  | INVOICE TO: (IF DIFFERENT FROM ABOVE)  |  |
| STATE PROGRAM (if any):           |  | QUOTE #:   |  |
| E-mail? Y/N:                      |  | DATA PACKAGE: I II III IV  |  |
| Fax? Y/N:                         |  | Total # of Containers  |  |
| Other                             |  | Turnaround Time Request  |  |
| Standard 5 Business Days          |  | 2 Business Day Rush  |  |
| Next Business Day Rush            |  | Same Day Rush (auth req.)  |  |
| Other                             |  | Other  |  |

SAMPLES RECEIVED AFTER 3PM OR ON SATURDAY ARE CONSIDERED 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:** 1408474

**Case Narrative**

A second set of Trip Blanks was received but was not listed on the COC. The Trip Blanks were analysis at no cost to the client.

|                                |   |
|--------------------------------|---|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-23D-20140804-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/4/2014 2:30:00 PM |
| <b>Lab ID:</b> 1408474-001     | <b>Matrix:</b> Groundwater                  |

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b>   |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L             | 194591  | 1               | 08/07/2014 13:36 | GK      |
| Carbon disulfide                                     | BRL    | 5.0             |      | ug/L             | 194591  | 1               | 08/07/2014 13:36 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L             | 194591  | 1               | 08/07/2014 13:36 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 194591  | 1               | 08/07/2014 13:36 | GK      |
| Xylenes, Total                                       | BRL    | 5.0             |      | ug/L             | 194591  | 1               | 08/07/2014 13:36 | GK      |
| Surr: 4-Bromofluorobenzene                           | 90.2   | 66.2-120        |      | %REC             | 194591  | 1               | 08/07/2014 13:36 | GK      |
| Surr: Dibromofluoromethane                           | 100    | 79.5-121        |      | %REC             | 194591  | 1               | 08/07/2014 13:36 | GK      |
| Surr: Toluene-d8                                     | 103    | 77-117          |      | %REC             | 194591  | 1               | 08/07/2014 13:36 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| Benz(a)anthracene                                    | BRL    | 0.050           |      | ug/L             | 194592  | 1               | 08/11/2014 14:19 | YH      |
| Benzo(b)fluoranthene                                 | BRL    | 0.10            |      | ug/L             | 194592  | 1               | 08/11/2014 14:19 | YH      |
| Benzo(a)pyrene                                       | BRL    | 0.050           |      | ug/L             | 194592  | 1               | 08/11/2014 14:19 | YH      |
| Indeno(1,2,3-cd)pyrene                               | BRL    | 0.050           |      | ug/L             | 194592  | 1               | 08/11/2014 14:19 | YH      |
| Dibenz(a,h)anthracene                                | BRL    | 0.10            |      | ug/L             | 194592  | 1               | 08/11/2014 14:19 | YH      |
| Surr: 4-Terphenyl-d14                                | 82.4   | 53.2-145        |      | %REC             | 194592  | 1               | 08/11/2014 14:19 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>      |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| 2,4-Dimethylphenol                                   | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| 2-Methylphenol                                       | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| 3,4-Methylphenol                                     | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Acenaphthylene                                       | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Benzo(g,h,i)perylene                                 | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Benzo(k)fluoranthene                                 | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Phenol   | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Surr: 2,4,6-Tribromophenol                           | 95.2   | 51.5-124        |      | %REC             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Surr: 2-Fluorobiphenyl                               | 84.2   | 51.7-118        |      | %REC             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Surr: 2-Fluorophenol                                 | 71.2   | 26-120          |      | %REC             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Surr: 4-Terphenyl-d14                                | 99.7   | 45.2-137        |      | %REC             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Surr: Nitrobenzene-d5                                | 77.8   | 42-120          |      | %REC             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| Surr: Phenol-d5                                      | 57.2   | 12.3-120        |      | %REC             | 194601  | 1               | 08/12/2014 15:01 | YH      |
| <b>Mercury, Total SW7470A</b>                        |        |                 |      | <b>(SW7470A)</b> |         |                 |                  |         |

**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:** 18-Aug-14

|                                |   |
|--------------------------------|---|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-23D-20140804-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/4/2014 2:30:00 PM |
| <b>Lab ID:</b> 1408474-001     | <b>Matrix:</b> Groundwater                  |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 13:51 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |
| Barium                        | 0.0566 | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:35 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-002

Client Sample ID: MW-25D-20140804-01  
 Collection Date: 8/4/2014 4:00:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 14:04 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 14:04 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 14:04 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 14:04 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 14:04 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 89.8   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 14:04 | GK      |
| Surr: Dibromofluoromethane                                     | 99.4   | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 14:04 | GK      |
| Surr: Toluene-d8   | 103    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 14:04 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 14:45 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 14:45 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 14:45 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 14:45 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 14:45 | YH      |
| Surr: 4-Terphenyl-d14  | 79.3   | 53.2-145        |      | %REC  | 194592  | 1               | 08/11/2014 14:45 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 90.9   | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Surr: 2-Fluorobiphenyl   | 95.3   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Surr: 2-Fluorophenol   | 60     | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Surr: 4-Terphenyl-d14  | 94.6   | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Surr: Nitrobenzene-d5  | 81.9   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| Surr: Phenol-d5  | 37.8   | 12.3-120        |      | %REC  | 194690  | 1               | 08/11/2014 16:46 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |   |
|--------------------------------|---|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-25D-20140804-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/4/2014 4:00:00 PM |
| <b>Lab ID:</b> 1408474-002     | <b>Matrix:</b> Groundwater                  |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 13:31 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |
| Barium                        | 3.96   | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 21:42 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-003

Client Sample ID: MW-300D-20140804-01  
 Collection Date: 8/4/2014 4:05:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 16:54 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 16:54 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 16:54 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 16:54 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 16:54 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 89.7   | 66.2-120        |      | %REC  | 194659  | 1               | 08/08/2014 16:54 | GK      |
| Surr: Dibromofluoromethane                                     | 102    | 79.5-121        |      | %REC  | 194659  | 1               | 08/08/2014 16:54 | GK      |
| Surr: Toluene-d8   | 103    | 77-117          |      | %REC  | 194659  | 1               | 08/08/2014 16:54 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 18:36 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 18:36 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 18:36 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 18:36 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 18:36 | YH      |
| Surr: 4-Terphenyl-d14  | 68.5   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 18:36 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 90.9   | 51.5-124        |      | %REC  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Surr: 2-Fluorobiphenyl   | 88.9   | 51.7-118        |      | %REC  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Surr: 2-Fluorophenol   | 63.2   | 26-120          |      | %REC  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Surr: 4-Terphenyl-d14  | 86.4   | 45.2-137        |      | %REC  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Surr: Nitrobenzene-d5  | 84.9   | 42-120          |      | %REC  | 194601  | 1               | 08/13/2014 12:27 | YH      |
| Surr: Phenol-d5  | 41.7   | 12.3-120        |      | %REC  | 194601  | 1               | 08/13/2014 12:27 | YH      |

**Mercury, Total SW7470A****(SW7470A)**

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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: 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-300D-20140804-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/4/2014 4:05:00 PM  |
| <b>Lab ID:</b> 1408474-003     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       |         |                 |                  |         |
|                               |        |                 |      |       |         |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664  | 1               | 08/11/2014 13:39 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       |         |                 |                  |         |
|                               |        |                 |      |       |         |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194654  | 1               | 08/08/2014 11:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       |         |                 |                  |         |
|                               |        |                 |      |       |         |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | JL      |
| Barium                        | 1.52   | 0.0200          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | JL      |
| Beryllium                     | 0.0113 | 0.0100          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | JL      |
| Nickel                        | 0.0251 | 0.0200          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | JL      |
| Zinc                          | 0.0884 | 0.0200          |      | mg/L  | 194631  | 1               | 08/08/2014 22:06 | 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

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-004

Client Sample ID: MW-304D-20140804-01  
 Collection Date: 8/4/2014 6:00:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:28 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:28 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:28 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:28 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:28 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 89.2   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 15:28 | GK      |
| Surr: Dibromofluoromethane                                     | 99.8   | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 15:28 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 15:28 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 15:11 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 15:11 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 15:11 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 15:11 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 15:11 | YH      |
| Surr: 4-Terphenyl-d14  | 82.4   | 53.2-145        |      | %REC  | 194592  | 1               | 08/11/2014 15:11 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 101    | 51.5-124        |      | %REC  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Surr: 2-Fluorobiphenyl   | 87.3   | 51.7-118        |      | %REC  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Surr: 2-Fluorophenol   | 65.8   | 26-120          |      | %REC  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Surr: 4-Terphenyl-d14  | 99.1   | 45.2-137        |      | %REC  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Surr: Nitrobenzene-d5  | 73.5   | 42-120          |      | %REC  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| Surr: Phenol-d5  | 50.5   | 12.3-120        |      | %REC  | 194601  | 1               | 08/12/2014 15:28 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-304D-20140804-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/4/2014 6:00:00 PM  |
| <b>Lab ID:</b> 1408474-004     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 13:53 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | 0.012  | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |
| Barium                        | 4.87   | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:39 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-206D-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 8:50:00 AM  |
| <b>Lab ID:</b> 1408474-005     | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:56 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:56 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:56 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:56 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 15:56 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 91.4   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 15:56 | GK      |
| Surr: Dibromofluoromethane                                     | 98.7   | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 15:56 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 15:56 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.14   | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 15:37 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 15:37 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 15:37 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 15:37 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 15:37 | YH      |
| Surr: 4-Terphenyl-d14  | 76.6   | 53.2-145        |      | %REC  | 194592  | 1               | 08/11/2014 15:37 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 99.1   | 51.5-124        |      | %REC  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Surr: 2-Fluorobiphenyl   | 86.1   | 51.7-118        |      | %REC  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Surr: 2-Fluorophenol   | 65.9   | 26-120          |      | %REC  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Surr: 4-Terphenyl-d14  | 107    | 45.2-137        |      | %REC  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Surr: Nitrobenzene-d5  | 69.9   | 42-120          |      | %REC  | 194601  | 1               | 08/12/2014 15:54 | YH      |
| Surr: Phenol-d5  | 55.9   | 12.3-120        |      | %REC  | 194601  | 1               | 08/12/2014 15:54 | YH      |

**Mercury, Total SW7470A (SW7470A)**

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-206D-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 8:50:00 AM  |
| <b>Lab ID:</b> 1408474-005     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 13:55 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |
| Barium                        | 0.143  | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:43 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-006

Client Sample ID: MW-113D-20140805-01  
 Collection Date: 8/5/2014 9:15:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:24 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:24 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:24 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:24 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:24 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 91.5   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 16:24 | GK      |
| Surr: Dibromofluoromethane                                     | 99.6   | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 16:24 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 16:24 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 16:03 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 16:03 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 16:03 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 16:03 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 16:03 | YH      |
| Surr: 4-Terphenyl-d14  | 78.3   | 53.2-145        |      | %REC  | 194592  | 1               | 08/11/2014 16:03 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 91.9   | 51.5-124        |      | %REC  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Surr: 2-Fluorobiphenyl   | 80     | 51.7-118        |      | %REC  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Surr: 2-Fluorophenol   | 66.7   | 26-120          |      | %REC  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Surr: 4-Terphenyl-d14  | 101    | 45.2-137        |      | %REC  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Surr: Nitrobenzene-d5  | 71.5   | 42-120          |      | %REC  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| Surr: Phenol-d5  | 53.5   | 12.3-120        |      | %REC  | 194601  | 1               | 08/12/2014 16:21 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-113D-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 9:15:00 AM  |
| <b>Lab ID:</b> 1408474-006     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 13:57 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |
| Barium                        | 0.0803 | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:47 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-108D-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 9:50:00 AM  |
| <b>Lab ID:</b> 1408474-007     | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:52 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:52 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:52 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:52 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 16:52 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 89     | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 16:52 | GK      |
| Surr: Dibromofluoromethane                                     | 103    | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 16:52 | GK      |
| Surr: Toluene-d8   | 104    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 16:52 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 16:29 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 16:29 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 16:29 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 16:29 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 16:29 | YH      |
| Surr: 4-Terphenyl-d14  | 76.9   | 53.2-145        |      | %REC  | 194592  | 1               | 08/11/2014 16:29 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 87.8   | 51.5-124        |      | %REC  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Surr: 2-Fluorobiphenyl   | 78.1   | 51.7-118        |      | %REC  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Surr: 2-Fluorophenol   | 65.2   | 26-120          |      | %REC  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Surr: 4-Terphenyl-d14  | 99.5   | 45.2-137        |      | %REC  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Surr: Nitrobenzene-d5  | 68.5   | 42-120          |      | %REC  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| Surr: Phenol-d5  | 51.2   | 12.3-120        |      | %REC  | 194601  | 1               | 08/12/2014 16:47 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-108D-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 9:50:00 AM  |
| <b>Lab ID:</b> 1408474-007     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 13:59 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |
| Barium                        | 0.632  | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |
| Cadmium                       | 0.0131 | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |
| Zinc                          | 0.0501 | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:51 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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: 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-112D-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 10:15:00 AM |
| <b>Lab ID:</b> 1408474-008     | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 17:20 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 17:20 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 17:20 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 17:20 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 17:20 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 89.9   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 17:20 | GK      |
| Surr: Dibromofluoromethane                                     | 102    | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 17:20 | GK      |
| Surr: Toluene-d8   | 105    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 17:20 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 16:55 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 16:55 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 16:55 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194592  | 1               | 08/11/2014 16:55 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194592  | 1               | 08/11/2014 16:55 | YH      |
| Surr: 4-Terphenyl-d14  | 83.8   | 53.2-145        |      | %REC  | 194592  | 1               | 08/11/2014 16:55 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 88.5   | 51.5-124        |      | %REC  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Surr: 2-Fluorobiphenyl   | 79     | 51.7-118        |      | %REC  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Surr: 2-Fluorophenol   | 68.2   | 26-120          |      | %REC  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Surr: 4-Terphenyl-d14  | 102    | 45.2-137        |      | %REC  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Surr: Nitrobenzene-d5  | 70.1   | 42-120          |      | %REC  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| Surr: Phenol-d5  | 38     | 12.3-120        |      | %REC  | 194601  | 1               | 08/12/2014 17:13 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-112D-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 10:15:00 AM |
| <b>Lab ID:</b> 1408474-008     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:01 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |
| Barium                        | 0.225  | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 22:55 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-009

Client Sample ID: MW-12DRR-20140805-01  
 Collection Date: 8/5/2014 11:25:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 340    | 50              |      | ug/L  | 194591  | 10              | 08/07/2014 18:16 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 17:48 | GK      |
| Ethylbenzene   | 130    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 17:48 | GK      |
| Toluene  | 5.4    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 17:48 | GK      |
| Xylenes, Total   | 56     | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 17:48 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 94.5   | 66.2-120        |      | %REC  | 194591  | 10              | 08/07/2014 18:16 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 99.3   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 17:48 | GK      |
| Surr: Dibromofluoromethane                                     | 97.3   | 79.5-121        |      | %REC  | 194591  | 10              | 08/07/2014 18:16 | GK      |
| Surr: Dibromofluoromethane                                     | 99     | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 17:48 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 17:48 | GK      |
| Surr: Toluene-d8   | 101    | 77-117          |      | %REC  | 194591  | 10              | 08/07/2014 18:16 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.17   | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 19:01 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 19:01 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 19:01 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 19:01 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 19:01 | YH      |
| Surr: 4-Terphenyl-d14  | 75.7   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 19:01 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Acenaphthene   | 39     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Acenaphthylene   | 16     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Fluorene   | 48     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Naphthalene  | 1000   | 100             |      | ug/L  | 194690  | 10              | 08/13/2014 02:36 | YH      |
| Phenanthrene   | 25     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 93.7   | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Surr: 2-Fluorobiphenyl   | 86.5   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Surr: 2-Fluorophenol   | 63.6   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Surr: 4-Terphenyl-d14  | 87.2   | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| Surr: Nitrobenzene-d5  | 77.7   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 17:12 | 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:** 18-Aug-14

|                                |   |
|--------------------------------|---|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-12DRR-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 11:25:00 AM  |
| <b>Lab ID:</b> 1408474-009     | <b>Matrix:</b> Groundwater                    |

| Analyses  | Result | Reporting Limit | Qual             | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------------------|-------|---------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> |        |                 | <b>(SW3510C)</b> |       |         |                 |                  |         |
| Surr: Phenol-d5                                 | 50.2   | 12.3-120        |                  | %REC  | 194690  | 1               | 08/11/2014 17:12 | YH      |
| <b>Mercury, Total SW7470A</b>                   |        |                 | <b>(SW7470A)</b> |       |         |                 |                  |         |
| Mercury   | BRL    | 0.00020         |                  | mg/L  | 194664  | 1               | 08/11/2014 14:03 | CG      |
| <b>Cyanide SW9014</b>                           |        |                 | <b>(SW9010C)</b> |       |         |                 |                  |         |
| Cyanide, Total                                  | 0.048  | 0.010           |                  | mg/L  | 194594  | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>                    |        |                 | <b>(SW3010A)</b> |       |         |                 |                  |         |
| Antimony  | BRL    | 0.0200          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |
| Arsenic   | BRL    | 0.0500          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |
| Barium  | 1.61   | 0.0200          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |
| Beryllium                                       | BRL    | 0.0100          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |
| Cadmium   | BRL    | 0.0050          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |
| Chromium  | BRL    | 0.0100          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |
| Copper  | BRL    | 0.0100          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |
| Lead  | BRL    | 0.0100          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |
| Nickel  | BRL    | 0.0200          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |
| Zinc  | BRL    | 0.0200          |                  | mg/L  | 194631  | 1               | 08/08/2014 22:59 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-010

Client Sample ID: MW-09D-20140805-01  
 Collection Date: 8/5/2014 11:45:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 77     | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 18:44 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 18:44 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 18:44 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 18:44 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 18:44 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 93.5   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 18:44 | GK      |
| Surr: Dibromofluoromethane                                     | 96.6   | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 18:44 | GK      |
| Surr: Toluene-d8   | 100    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 18:44 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 19:27 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 19:27 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 19:27 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 19:27 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 19:27 | YH      |
| Surr: 4-Terphenyl-d14  | 57.3   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 19:27 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Naphthalene  | 130    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 90     | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Surr: 2-Fluorobiphenyl   | 78.4   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Surr: 2-Fluorophenol   | 58.3   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Surr: 4-Terphenyl-d14  | 101    | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Surr: Nitrobenzene-d5  | 62.1   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| Surr: Phenol-d5  | 44.5   | 12.3-120        |      | %REC  | 194690  | 1               | 08/11/2014 17:38 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-09D-20140805-01  |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 11:45:00 AM |
| <b>Lab ID:</b> 1408474-010     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:09 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |
| Barium                        | 3.05   | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:10 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-011

Client Sample ID: DUP-02-20140805-01  
 Collection Date: 8/5/2014  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 370    | 50              |      | ug/L  | 194591  | 10              | 08/09/2014 15:48 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 19:12 | GK      |
| Ethylbenzene   | 160    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 19:12 | GK      |
| Toluene  | 5.9    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 19:12 | GK      |
| Xylenes, Total   | 65     | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 19:12 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 93.6   | 66.2-120        |      | %REC  | 194591  | 10              | 08/09/2014 15:48 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 97.6   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 19:12 | GK      |
| Surr: Dibromofluoromethane                                     | 99     | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 19:12 | GK      |
| Surr: Dibromofluoromethane                                     | 99.5   | 79.5-121        |      | %REC  | 194591  | 10              | 08/09/2014 15:48 | GK      |
| Surr: Toluene-d8   | 100    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 19:12 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 194591  | 10              | 08/09/2014 15:48 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.14   | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 19:52 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 19:52 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 19:52 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 19:52 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 19:52 | YH      |
| Surr: 4-Terphenyl-d14  | 61     | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 19:52 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Acenaphthene   | 33     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Acenaphthylene   | 14     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Fluorene   | 42     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Naphthalene  | 870    | 100             |      | ug/L  | 194690  | 10              | 08/13/2014 03:02 | YH      |
| Phenanthrene   | 23     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 94     | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Surr: 2-Fluorobiphenyl   | 80.2   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Surr: 2-Fluorophenol   | 56.5   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Surr: 4-Terphenyl-d14  | 86.7   | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 18:04 | YH      |
| Surr: Nitrobenzene-d5  | 68.7   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 18:04 | 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:** 18-Aug-14

|                                |   |
|--------------------------------|---|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> DUP-02-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014            |
| <b>Lab ID:</b> 1408474-011     | <b>Matrix:</b> Groundwater                  |

| Analyses  | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> |        |                 |      |       | <b>(SW3510C)</b> |                 |                  |         |
| Surr: Phenol-d5                                 | 43     | 12.3-120        |      | %REC  | 194690           | 1               | 08/11/2014 18:04 | YH      |
| <b>Mercury, Total SW7470A</b>                   |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury   | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:11 | CG      |
| <b>Cyanide SW9014</b>                           |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                                  | 0.037  | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>                    |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony  | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | JL      |
| Arsenic   | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | JL      |
| Barium  | 1.63   | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | JL      |
| Beryllium                                       | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | JL      |
| Cadmium   | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | JL      |
| Chromium  | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | JL      |
| Copper  | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | JL      |
| Lead  | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | JL      |
| Nickel  | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | JL      |
| Zinc  | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:14 | 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

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-012

Client Sample ID: DUP-01-20140805-01  
 Collection Date: 8/5/2014  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 86     | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 19:40 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 19:40 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 19:40 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 19:40 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 19:40 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 91.7   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 19:40 | GK      |
| Surr: Dibromofluoromethane                                     | 98.2   | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 19:40 | GK      |
| Surr: Toluene-d8   | 101    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 19:40 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 20:18 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 20:18 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 20:18 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 20:18 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 20:18 | YH      |
| Surr: 4-Terphenyl-d14  | 84.1   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 20:18 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Naphthalene  | 120    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 87.9   | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Surr: 2-Fluorobiphenyl   | 80.2   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Surr: 2-Fluorophenol   | 63.8   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Surr: 4-Terphenyl-d14  | 79.9   | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Surr: Nitrobenzene-d5  | 65     | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| Surr: Phenol-d5  | 48.2   | 12.3-120        |      | %REC  | 194690  | 1               | 08/11/2014 18:31 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |   |
|--------------------------------|---|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> DUP-01-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014            |
| <b>Lab ID:</b> 1408474-012     | <b>Matrix:</b> Groundwater                  |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:13 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |
| Barium                        | 3.08   | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:18 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-013

Client Sample ID: MW-115D-20140805-01  
 Collection Date: 8/5/2014 2:30:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:08 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:08 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:08 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:08 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:08 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 91.5   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 20:08 | GK      |
| Surr: Dibromofluoromethane                                     | 101    | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 20:08 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 20:08 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 20:43 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 20:43 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 20:43 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 20:43 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 20:43 | YH      |
| Surr: 4-Terphenyl-d14  | 76.9   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 20:43 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 85     | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Surr: 2-Fluorobiphenyl   | 84.8   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Surr: 2-Fluorophenol   | 67.1   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Surr: 4-Terphenyl-d14  | 89.6   | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Surr: Nitrobenzene-d5  | 74.1   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| Surr: Phenol-d5  | 46.9   | 12.3-120        |      | %REC  | 194690  | 1               | 08/11/2014 18:57 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-115D-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 2:30:00 PM  |
| <b>Lab ID:</b> 1408474-013     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:15 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |
| Barium                        | 1.80   | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |
| Zinc                          | 0.0228 | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:23 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-014

Client Sample ID: MW-12DD-20140805-01  
 Collection Date: 8/5/2014 2:15:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 140    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:36 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:36 | GK      |
| Ethylbenzene   | 28     | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:36 | GK      |
| Toluene  | 5.8    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:36 | GK      |
| Xylenes, Total   | 21     | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 20:36 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 94.3   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 20:36 | GK      |
| Surr: Dibromofluoromethane                                     | 98.8   | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 20:36 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 20:36 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 21:09 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 21:09 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 21:09 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 21:09 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 21:09 | YH      |
| Surr: 4-Terphenyl-d14  | 78.7   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 21:09 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Naphthalene  | 62     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 99.8   | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Surr: 2-Fluorobiphenyl   | 88.5   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Surr: 2-Fluorophenol   | 64.5   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Surr: 4-Terphenyl-d14  | 94     | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Surr: Nitrobenzene-d5  | 74     | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| Surr: Phenol-d5  | 61.2   | 12.3-120        |      | %REC  | 194690  | 1               | 08/11/2014 19:24 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-12DD-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014 2:15:00 PM  |
| <b>Lab ID:</b> 1408474-014     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:17 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | 0.012  | 0.010           |      | mg/L  | 194594           | 1               | 08/07/2014 15:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |
| Barium                        | 0.0921 | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |
| Zinc                          | 0.0627 | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:27 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-015

Client Sample ID: MW-207D-20140805-01  
 Collection Date: 8/5/2014  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:04 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:04 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:04 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:04 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:04 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 90.9   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 21:04 | GK      |
| Surr: Dibromofluoromethane                                     | 101    | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 21:04 | GK      |
| Surr: Toluene-d8   | 104    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 21:04 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 21:34 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 21:34 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 21:34 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 21:34 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 21:34 | YH      |
| Surr: 4-Terphenyl-d14  | 81.8   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 21:34 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 93     | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Surr: 2-Fluorobiphenyl   | 84     | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Surr: 2-Fluorophenol   | 67.4   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Surr: 4-Terphenyl-d14  | 86.7   | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Surr: Nitrobenzene-d5  | 74.4   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 19:51 | YH      |
| Surr: Phenol-d5  | 50.9   | 12.3-120        |      | %REC  | 194690  | 1               | 08/11/2014 19:51 | YH      |

**Mercury, Total SW7470A****(SW7470A)**

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-207D-20140805-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/5/2014             |
| <b>Lab ID:</b> 1408474-015     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:19 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | 0.043  | 0.010           |      | mg/L  | 194654           | 1               | 08/08/2014 11:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |
| Barium                        | 2.95   | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:32 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

|                                |   |
|--------------------------------|---|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-24D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 9:50:00 AM |
| <b>Lab ID:</b> 1408474-016     | <b>Matrix:</b> Groundwater                  |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 15     | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:32 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:32 | GK      |
| Ethylbenzene   | 7.2    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:32 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:32 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 21:32 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 93.8   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 21:32 | GK      |
| Surr: Dibromofluoromethane                                     | 100    | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 21:32 | GK      |
| Surr: Toluene-d8   | 103    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 21:32 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 22:00 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 22:00 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 22:00 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 22:00 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 22:00 | YH      |
| Surr: 4-Terphenyl-d14  | 82.8   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 22:00 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Naphthalene  | 37     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 94.2   | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Surr: 2-Fluorobiphenyl   | 83.8   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Surr: 2-Fluorophenol   | 62.4   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Surr: 4-Terphenyl-d14  | 93.9   | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Surr: Nitrobenzene-d5  | 72     | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| Surr: Phenol-d5  | 46.1   | 12.3-120        |      | %REC  | 194690  | 1               | 08/11/2014 20:17 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |   |
|--------------------------------|---|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-24D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 9:50:00 AM |
| <b>Lab ID:</b> 1408474-016     | <b>Matrix:</b> Groundwater                  |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:21 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194654           | 1               | 08/08/2014 11:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |
| Barium                        | 2.27   | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:36 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-017

Client Sample ID: MW-308D-20140806-01  
 Collection Date: 8/6/2014 9:30:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:00 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:00 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:00 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:00 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:00 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 92.1   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 22:00 | GK      |
| Surr: Dibromofluoromethane                                     | 100    | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 22:00 | GK      |
| Surr: Toluene-d8   | 103    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 22:00 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 22:24 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 22:24 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 22:24 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 22:24 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 22:24 | YH      |
| Surr: 4-Terphenyl-d14  | 76.7   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 22:24 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | 16     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 104    | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Surr: 2-Fluorobiphenyl   | 84.8   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Surr: 2-Fluorophenol   | 64.2   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Surr: 4-Terphenyl-d14  | 101    | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Surr: Nitrobenzene-d5  | 78.3   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| Surr: Phenol-d5  | 50.1   | 12.3-120        |      | %REC  | 194690  | 1               | 08/11/2014 20:44 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-308D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 9:30:00 AM  |
| <b>Lab ID:</b> 1408474-017     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:22 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194654           | 1               | 08/08/2014 11:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | JL      |
| Barium                        | 0.0992 | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | JL      |
| Chromium                      | 0.0268 | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/08/2014 23:40 | 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

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408474-018

Client Sample ID: MW-303D-20140806-01  
 Collection Date: 8/6/2014 10:45:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:28 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:28 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:28 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:28 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194591  | 1               | 08/07/2014 22:28 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 93.4   | 66.2-120        |      | %REC  | 194591  | 1               | 08/07/2014 22:28 | GK      |
| Surr: Dibromofluoromethane                                     | 101    | 79.5-121        |      | %REC  | 194591  | 1               | 08/07/2014 22:28 | GK      |
| Surr: Toluene-d8   | 101    | 77-117          |      | %REC  | 194591  | 1               | 08/07/2014 22:28 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 22:50 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 22:50 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 22:50 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 22:50 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 22:50 | YH      |
| Surr: 4-Terphenyl-d14  | 68.1   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 22:50 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 96.6   | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Surr: 2-Fluorobiphenyl   | 87     | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Surr: 2-Fluorophenol   | 70.1   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Surr: 4-Terphenyl-d14  | 106    | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Surr: Nitrobenzene-d5  | 74.3   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| Surr: Phenol-d5  | 53.3   | 12.3-120        |      | %REC  | 194690  | 1               | 08/11/2014 21:10 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-303D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 10:45:00 AM |
| <b>Lab ID:</b> 1408474-018     | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:24 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194654           | 1               | 08/08/2014 11:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |
| Barium                        | 0.579  | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |
| Zinc                          | 0.0839 | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:00 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> TB-01-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014           |
| <b>Lab ID:</b> 1408474-019     | <b>Matrix:</b> Aqueous                     |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b> |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:17 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:17 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:17 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:17 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:17 | GK      |
| Surr: 4-Bromofluorobenzene                                   | 89.5   | 66.2-120        |      | %REC  | 194659  | 1               | 08/08/2014 18:17 | GK      |
| Surr: Dibromofluoromethane                                   | 102    | 79.5-121        |      | %REC  | 194659  | 1               | 08/08/2014 18:17 | GK      |
| Surr: Toluene-d8   | 104    | 77-117          |      | %REC  | 194659  | 1               | 08/08/2014 18:17 | GK      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 |

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-110D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 11:10:00 AM |
| <b>Lab ID:</b> 1408474-020     | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 480    | 50              |      | ug/L  | 194659  | 10              | 08/09/2014 16:16 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 19:13 | GK      |
| Ethylbenzene   | 620    | 50              |      | ug/L  | 194659  | 10              | 08/09/2014 16:16 | GK      |
| Toluene  | 5.3    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 19:13 | GK      |
| Xylenes, Total   | 60     | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 19:13 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 97.7   | 66.2-120        |      | %REC  | 194659  | 10              | 08/09/2014 16:16 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 100    | 66.2-120        |      | %REC  | 194659  | 1               | 08/08/2014 19:13 | GK      |
| Surr: Dibromofluoromethane                                     | 99.9   | 79.5-121        |      | %REC  | 194659  | 1               | 08/08/2014 19:13 | GK      |
| Surr: Dibromofluoromethane                                     | 98.3   | 79.5-121        |      | %REC  | 194659  | 10              | 08/09/2014 16:16 | GK      |
| Surr: Toluene-d8   | 101    | 77-117          |      | %REC  | 194659  | 1               | 08/08/2014 19:13 | GK      |
| Surr: Toluene-d8   | 100    | 77-117          |      | %REC  | 194659  | 10              | 08/09/2014 16:16 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.40   | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 23:14 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 23:14 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 23:14 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 23:14 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 23:14 | YH      |
| Surr: 4-Terphenyl-d14  | 81.6   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 23:14 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Acenaphthene   | 120    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Fluorene   | 40     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Naphthalene  | 4400   | 1000            |      | ug/L  | 194690  | 100             | 08/13/2014 03:52 | YH      |
| Phenanthrene   | 69     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 105    | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Surr: 2-Fluorobiphenyl   | 93.4   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Surr: 2-Fluorophenol   | 72.4   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Surr: 4-Terphenyl-d14  | 107    | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 21:38 | YH      |
| Surr: Nitrobenzene-d5  | 119    | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 21:38 | YH      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

**Date:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-110D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 11:10:00 AM |
| <b>Lab ID:</b> 1408474-020     | <b>Matrix:</b> Groundwater                   |

| Analyses                                | Result         | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|---|----------------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS</b> | <b>SW8270D</b> |                 |      |       | <b>(SW3510C)</b> |                 |                  |         |
| Surr: Phenol-d5                         | 57.2           | 12.3-120        |      | %REC  | 194690           | 1               | 08/11/2014 21:38 | YH      |
| <b>Mercury, Total</b>                   | <b>SW7470A</b> |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                                 | BRL            | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:26 | CG      |
| <b>Cyanide</b>                          | <b>SW9014</b>  |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                          | 0.024          | 0.010           |      | mg/L  | 194654           | 1               | 08/08/2014 11:00 | PF      |
| <b>METALS, TOTAL</b>                    | <b>SW6010C</b> |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                                | BRL            | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | JL      |
| Arsenic                                 | BRL            | 0.0500          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | JL      |
| Barium                                  | 4.85           | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | JL      |
| Beryllium                               | BRL            | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | JL      |
| Cadmium                                 | BRL            | 0.0050          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | JL      |
| Chromium                                | BRL            | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | JL      |
| Copper                                  | BRL            | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | JL      |
| Lead                                    | BRL            | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | JL      |
| Nickel                                  | 0.110          | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | JL      |
| Zinc                                    | BRL            | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:06 | 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

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-204D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 1:10:00 PM  |
| <b>Lab ID:</b> 1408474-021     | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 310    | 50              |      | ug/L  | 194659  | 10              | 08/09/2014 16:44 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 19:41 | GK      |
| Ethylbenzene   | 260    | 50              |      | ug/L  | 194659  | 10              | 08/09/2014 16:44 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 19:41 | GK      |
| Xylenes, Total   | 30     | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 19:41 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 93.2   | 66.2-120        |      | %REC  | 194659  | 10              | 08/09/2014 16:44 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 99.2   | 66.2-120        |      | %REC  | 194659  | 1               | 08/08/2014 19:41 | GK      |
| Surr: Dibromofluoromethane                                     | 95.5   | 79.5-121        |      | %REC  | 194659  | 10              | 08/09/2014 16:44 | GK      |
| Surr: Dibromofluoromethane                                     | 98.9   | 79.5-121        |      | %REC  | 194659  | 1               | 08/08/2014 19:41 | GK      |
| Surr: Toluene-d8   | 100    | 77-117          |      | %REC  | 194659  | 1               | 08/08/2014 19:41 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 194659  | 10              | 08/09/2014 16:44 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.11   | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 23:40 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 23:40 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 23:40 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/12/2014 23:40 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/12/2014 23:40 | YH      |
| Surr: 4-Terphenyl-d14  | 82.3   | 53.2-145        |      | %REC  | 194657  | 1               | 08/12/2014 23:40 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Acenaphthene   | 66     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Fluorene   | 29     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Naphthalene  | 1500   | 100             |      | ug/L  | 194690  | 10              | 08/13/2014 03:27 | YH      |
| Phenanthrene   | 22     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 101    | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Surr: 2-Fluorobiphenyl   | 85     | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Surr: 2-Fluorophenol   | 62.8   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Surr: 4-Terphenyl-d14  | 105    | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 22:03 | YH      |
| Surr: Nitrobenzene-d5  | 83.4   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 22:03 | YH      |

**Qualifiers:**

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- 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:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-204D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 1:10:00 PM  |
| <b>Lab ID:</b> 1408474-021     | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> |        |                 |      |       | <b>(SW3510C)</b> |                 |                  |         |
| Surr: Phenol-d5                                 | 52.4   | 12.3-120        |      | %REC  | 194690           | 1               | 08/11/2014 22:03 | YH      |
| <b>Mercury, Total SW7470A</b>                   |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury   | BRL    | 0.00020         |      | mg/L  | 194664           | 1               | 08/11/2014 14:32 | CG      |
| <b>Cyanide SW9014</b>                           |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                                  | 0.032  | 0.010           |      | mg/L  | 194654           | 1               | 08/08/2014 11:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>                    |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony  | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |
| Arsenic   | BRL    | 0.0500          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |
| Barium  | 4.56   | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |
| Beryllium                                       | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |
| Cadmium   | BRL    | 0.0050          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |
| Chromium  | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |
| Copper  | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |
| Lead  | BRL    | 0.0100          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |
| Nickel  | 0.0546 | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |
| Zinc  | BRL    | 0.0200          |      | mg/L  | 194631           | 1               | 08/09/2014 00:11 | JL      |

**Qualifiers:**

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- > 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

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-306D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 1:30:00 PM  |
| <b>Lab ID:</b> 1408474-022     | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 1200   | 50              |      | ug/L  | 194659  | 10              | 08/09/2014 17:12 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 20:09 | GK      |
| Ethylbenzene   | 230    | 50              |      | ug/L  | 194659  | 10              | 08/09/2014 17:12 | GK      |
| Toluene  | 60     | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 20:09 | GK      |
| Xylenes, Total   | 190    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 20:09 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 92.6   | 66.2-120        |      | %REC  | 194659  | 10              | 08/09/2014 17:12 | GK      |
| Surr: 4-Bromofluorobenzene                                     | 99.5   | 66.2-120        |      | %REC  | 194659  | 1               | 08/08/2014 20:09 | GK      |
| Surr: Dibromofluoromethane                                     | 96.2   | 79.5-121        |      | %REC  | 194659  | 10              | 08/09/2014 17:12 | GK      |
| Surr: Dibromofluoromethane                                     | 98.3   | 79.5-121        |      | %REC  | 194659  | 1               | 08/08/2014 20:09 | GK      |
| Surr: Toluene-d8   | 98.5   | 77-117          |      | %REC  | 194659  | 1               | 08/08/2014 20:09 | GK      |
| Surr: Toluene-d8   | 102    | 77-117          |      | %REC  | 194659  | 10              | 08/09/2014 17:12 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/13/2014 00:04 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/13/2014 00:04 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/13/2014 00:04 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194657  | 1               | 08/13/2014 00:04 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194657  | 1               | 08/13/2014 00:04 | YH      |
| Surr: 4-Terphenyl-d14  | 76.9   | 53.2-145        |      | %REC  | 194657  | 1               | 08/13/2014 00:04 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| 2-Methylphenol   | 14     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Acenaphthene   | 41     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Fluorene   | 10     | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 98.7   | 51.5-124        |      | %REC  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Surr: 2-Fluorobiphenyl   | 81.6   | 51.7-118        |      | %REC  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Surr: 2-Fluorophenol   | 60.7   | 26-120          |      | %REC  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Surr: 4-Terphenyl-d14  | 99.5   | 45.2-137        |      | %REC  | 194690  | 1               | 08/11/2014 22:30 | YH      |
| Surr: Nitrobenzene-d5  | 72.2   | 42-120          |      | %REC  | 194690  | 1               | 08/11/2014 22:30 | YH      |

**Qualifiers:**

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- Narr See case narrative
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- < Less than Result value
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**Analytical Environmental Services, Inc**

**Date:** 18-Aug-14

|                                |  |
|--------------------------------|--|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-306D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 1:30:00 PM  |
| <b>Lab ID:</b> 1408474-022     | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> |        |                 |      |       | <b>(SW3510C)</b> |                 |                  |         |
| Surr: Phenol-d5                                 | 51.8   | 12.3-120        |      | %REC  | 194690           | 1               | 08/11/2014 22:30 | YH      |
| <b>Mercury, Total SW7470A</b>                   |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury   | BRL    | 0.00020         |      | mg/L  | 194741           | 1               | 08/12/2014 12:19 | CG      |
| <b>Cyanide SW9014</b>                           |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                                  | BRL    | 0.010           |      | mg/L  | 194654           | 1               | 08/08/2014 11:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>                    |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony  | BRL    | 0.0200          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |
| Arsenic   | BRL    | 0.0500          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |
| Barium  | 0.415  | 0.0200          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |
| Beryllium                                       | BRL    | 0.0100          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |
| Cadmium   | BRL    | 0.0050          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |
| Chromium  | 0.0264 | 0.0100          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |
| Copper  | 0.0128 | 0.0100          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |
| Lead  | BRL    | 0.0100          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |
| Nickel  | BRL    | 0.0200          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |
| Zinc  | BRL    | 0.0200          |      | mg/L  | 194585           | 1               | 08/11/2014 20:15 | JL      |

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- 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

|                                |                                     |
|--------------------------------|-------------------------------------|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> TRIP BLANK |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014    |
| <b>Lab ID:</b> 1408474-023     | <b>Matrix:</b> Aqueous              |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b> |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:45 | GK      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:45 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:45 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:45 | GK      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194659  | 1               | 08/08/2014 18:45 | GK      |
| Surr: 4-Bromofluorobenzene                                   | 90.8   | 66.2-120        |      | %REC  | 194659  | 1               | 08/08/2014 18:45 | GK      |
| Surr: Dibromofluoromethane                                   | 99.6   | 79.5-121        |      | %REC  | 194659  | 1               | 08/08/2014 18:45 | GK      |
| Surr: Toluene-d8   | 103    | 77-117          |      | %REC  | 194659  | 1               | 08/08/2014 18:45 | GK      |

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Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM

Work Order Number 1408474

Checklist completed by [Signature] Date 8/10/14

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? (4°C±2)\* Yes  No

Cooler #1 3.1° Cooler #2 3.6° Cooler #3 3.9° Cooler #4 3.8° Cooler#5 3.4 Cooler #6 3.9°

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? <sup>5016</sup> <sub>8/18/14</sub> Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Was TAT marked on the COC? Yes  No

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

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

Water - pH acceptable upon receipt? Yes  No  Not Applicable

Adjusted?  Checked by MS

Sample Condition: Good  Other(Explain)

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

See Case Narrative for resolution of the Non-Conformance.

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

Client: ERM-Southeast  
 Project: AGL Macon  
 Lab Order: 1408474

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date    | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|--------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1408474-001A  | MW-23D-20140804-01  | 8/4/2014 2:30:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-001B  | MW-23D-20140804-01  | 8/4/2014 2:30:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-001B  | MW-23D-20140804-01  | 8/4/2014 2:30:00PM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-001C  | MW-23D-20140804-01  | 8/4/2014 2:30:00PM | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-001D  | MW-23D-20140804-01  | 8/4/2014 2:30:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/07/2014 | 08/11/2014    |
| 1408474-001D  | MW-23D-20140804-01  | 8/4/2014 2:30:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/08/2014 | 08/12/2014    |
| 1408474-002A  | MW-25D-20140804-01  | 8/4/2014 4:00:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-002B  | MW-25D-20140804-01  | 8/4/2014 4:00:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-002B  | MW-25D-20140804-01  | 8/4/2014 4:00:00PM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-002C  | MW-25D-20140804-01  | 8/4/2014 4:00:00PM | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-002D  | MW-25D-20140804-01  | 8/4/2014 4:00:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/07/2014 | 08/11/2014    |
| 1408474-002D  | MW-25D-20140804-01  | 8/4/2014 4:00:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-003A  | MW-300D-20140804-01 | 8/4/2014 4:05:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/08/2014 | 08/08/2014    |
| 1408474-003B  | MW-300D-20140804-01 | 8/4/2014 4:05:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-003B  | MW-300D-20140804-01 | 8/4/2014 4:05:00PM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-003C  | MW-300D-20140804-01 | 8/4/2014 4:05:00PM | Groundwater | Cyanide                             |           | 08/08/2014 | 08/08/2014    |
| 1408474-003D  | MW-300D-20140804-01 | 8/4/2014 4:05:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-003D  | MW-300D-20140804-01 | 8/4/2014 4:05:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/08/2014 | 08/13/2014    |
| 1408474-004A  | MW-304D-20140804-01 | 8/4/2014 6:00:00PM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-004B  | MW-304D-20140804-01 | 8/4/2014 6:00:00PM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-004B  | MW-304D-20140804-01 | 8/4/2014 6:00:00PM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-004C  | MW-304D-20140804-01 | 8/4/2014 6:00:00PM | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-004D  | MW-304D-20140804-01 | 8/4/2014 6:00:00PM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/07/2014 | 08/11/2014    |
| 1408474-004D  | MW-304D-20140804-01 | 8/4/2014 6:00:00PM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/08/2014 | 08/12/2014    |
| 1408474-005A  | MW-206D-20140805-01 | 8/5/2014 8:50:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-005B  | MW-206D-20140805-01 | 8/5/2014 8:50:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-005B  | MW-206D-20140805-01 | 8/5/2014 8:50:00AM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-005C  | MW-206D-20140805-01 | 8/5/2014 8:50:00AM | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-005D  | MW-206D-20140805-01 | 8/5/2014 8:50:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/07/2014 | 08/11/2014    |

Client: ERM-Southeast  
 Project: AGL Macon  
 Lab Order: 1408474

## Dates Report

| Lab Sample ID | Client Sample ID     | Collection Date     | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|----------------------|---------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1408474-005D  | MW-206D-20140805-01  | 8/5/2014 8:50:00AM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/08/2014 | 08/12/2014    |
| 1408474-006A  | MW-113D-20140805-01  | 8/5/2014 9:15:00AM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-006B  | MW-113D-20140805-01  | 8/5/2014 9:15:00AM  | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-006B  | MW-113D-20140805-01  | 8/5/2014 9:15:00AM  | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-006C  | MW-113D-20140805-01  | 8/5/2014 9:15:00AM  | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-006D  | MW-113D-20140805-01  | 8/5/2014 9:15:00AM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/07/2014 | 08/11/2014    |
| 1408474-006D  | MW-113D-20140805-01  | 8/5/2014 9:15:00AM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/08/2014 | 08/12/2014    |
| 1408474-007A  | MW-108D-20140805-01  | 8/5/2014 9:50:00AM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-007B  | MW-108D-20140805-01  | 8/5/2014 9:50:00AM  | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-007B  | MW-108D-20140805-01  | 8/5/2014 9:50:00AM  | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-007C  | MW-108D-20140805-01  | 8/5/2014 9:50:00AM  | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-007D  | MW-108D-20140805-01  | 8/5/2014 9:50:00AM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/07/2014 | 08/11/2014    |
| 1408474-007D  | MW-108D-20140805-01  | 8/5/2014 9:50:00AM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/08/2014 | 08/12/2014    |
| 1408474-008A  | MW-112D-20140805-01  | 8/5/2014 10:15:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-008B  | MW-112D-20140805-01  | 8/5/2014 10:15:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-008B  | MW-112D-20140805-01  | 8/5/2014 10:15:00AM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-008C  | MW-112D-20140805-01  | 8/5/2014 10:15:00AM | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-008D  | MW-112D-20140805-01  | 8/5/2014 10:15:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/07/2014 | 08/11/2014    |
| 1408474-008D  | MW-112D-20140805-01  | 8/5/2014 10:15:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/08/2014 | 08/12/2014    |
| 1408474-009A  | MW-12DRR-20140805-01 | 8/5/2014 11:25:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-009B  | MW-12DRR-20140805-01 | 8/5/2014 11:25:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-009B  | MW-12DRR-20140805-01 | 8/5/2014 11:25:00AM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-009C  | MW-12DRR-20140805-01 | 8/5/2014 11:25:00AM | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-009D  | MW-12DRR-20140805-01 | 8/5/2014 11:25:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-009D  | MW-12DRR-20140805-01 | 8/5/2014 11:25:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-009D  | MW-12DRR-20140805-01 | 8/5/2014 11:25:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/13/2014    |
| 1408474-010A  | MW-09D-20140805-01   | 8/5/2014 11:45:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-010B  | MW-09D-20140805-01   | 8/5/2014 11:45:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-010B  | MW-09D-20140805-01   | 8/5/2014 11:45:00AM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |

Client: ERM-Southeast  
 Project: AGL Macon  
 Lab Order: 1408474

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date     | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|---------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1408474-010C  | MW-09D-20140805-01  | 8/5/2014 11:45:00AM | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-010D  | MW-09D-20140805-01  | 8/5/2014 11:45:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-010D  | MW-09D-20140805-01  | 8/5/2014 11:45:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-011A  | DUP-02-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-011A  | DUP-02-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/09/2014    |
| 1408474-011B  | DUP-02-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-011B  | DUP-02-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-011C  | DUP-02-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-011D  | DUP-02-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-011D  | DUP-02-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-011D  | DUP-02-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/13/2014    |
| 1408474-012A  | DUP-01-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-012B  | DUP-01-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-012B  | DUP-01-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-012C  | DUP-01-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-012D  | DUP-01-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-012D  | DUP-01-20140805-01  | 8/5/2014 12:00:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-013A  | MW-115D-20140805-01 | 8/5/2014 2:30:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-013B  | MW-115D-20140805-01 | 8/5/2014 2:30:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-013B  | MW-115D-20140805-01 | 8/5/2014 2:30:00PM  | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-013C  | MW-115D-20140805-01 | 8/5/2014 2:30:00PM  | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-013D  | MW-115D-20140805-01 | 8/5/2014 2:30:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-013D  | MW-115D-20140805-01 | 8/5/2014 2:30:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-014A  | MW-12DD-20140805-01 | 8/5/2014 2:15:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-014B  | MW-12DD-20140805-01 | 8/5/2014 2:15:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-014B  | MW-12DD-20140805-01 | 8/5/2014 2:15:00PM  | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-014C  | MW-12DD-20140805-01 | 8/5/2014 2:15:00PM  | Groundwater | Cyanide                             |           | 08/07/2014 | 08/07/2014    |
| 1408474-014D  | MW-12DD-20140805-01 | 8/5/2014 2:15:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-014D  | MW-12DD-20140805-01 | 8/5/2014 2:15:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |

Client: ERM-Southeast  
 Project: AGL Macon  
 Lab Order: 1408474

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date     | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|---------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1408474-015A  | MW-207D-20140805-01 | 8/5/2014 12:00:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-015B  | MW-207D-20140805-01 | 8/5/2014 12:00:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-015B  | MW-207D-20140805-01 | 8/5/2014 12:00:00AM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-015C  | MW-207D-20140805-01 | 8/5/2014 12:00:00AM | Groundwater | Cyanide                             |           | 08/08/2014 | 08/08/2014    |
| 1408474-015D  | MW-207D-20140805-01 | 8/5/2014 12:00:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-015D  | MW-207D-20140805-01 | 8/5/2014 12:00:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-016A  | MW-24D-20140806-01  | 8/6/2014 9:50:00AM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-016B  | MW-24D-20140806-01  | 8/6/2014 9:50:00AM  | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-016B  | MW-24D-20140806-01  | 8/6/2014 9:50:00AM  | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-016C  | MW-24D-20140806-01  | 8/6/2014 9:50:00AM  | Groundwater | Cyanide                             |           | 08/08/2014 | 08/08/2014    |
| 1408474-016D  | MW-24D-20140806-01  | 8/6/2014 9:50:00AM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-016D  | MW-24D-20140806-01  | 8/6/2014 9:50:00AM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-017A  | MW-308D-20140806-01 | 8/6/2014 9:30:00AM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-017B  | MW-308D-20140806-01 | 8/6/2014 9:30:00AM  | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/08/2014    |
| 1408474-017B  | MW-308D-20140806-01 | 8/6/2014 9:30:00AM  | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-017C  | MW-308D-20140806-01 | 8/6/2014 9:30:00AM  | Groundwater | Cyanide                             |           | 08/08/2014 | 08/08/2014    |
| 1408474-017D  | MW-308D-20140806-01 | 8/6/2014 9:30:00AM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-017D  | MW-308D-20140806-01 | 8/6/2014 9:30:00AM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-018A  | MW-303D-20140806-01 | 8/6/2014 10:45:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/07/2014 | 08/07/2014    |
| 1408474-018B  | MW-303D-20140806-01 | 8/6/2014 10:45:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/09/2014    |
| 1408474-018B  | MW-303D-20140806-01 | 8/6/2014 10:45:00AM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-018C  | MW-303D-20140806-01 | 8/6/2014 10:45:00AM | Groundwater | Cyanide                             |           | 08/08/2014 | 08/08/2014    |
| 1408474-018D  | MW-303D-20140806-01 | 8/6/2014 10:45:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-018D  | MW-303D-20140806-01 | 8/6/2014 10:45:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-019A  | TB-01-20140806-01   | 8/6/2014 12:00:00AM | Aqueous     | Volatile Organic Compounds by GC/MS |           | 08/08/2014 | 08/08/2014    |
| 1408474-020A  | MW-110D-20140806-01 | 8/6/2014 11:10:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/08/2014 | 08/08/2014    |
| 1408474-020A  | MW-110D-20140806-01 | 8/6/2014 11:10:00AM | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/08/2014 | 08/09/2014    |
| 1408474-020B  | MW-110D-20140806-01 | 8/6/2014 11:10:00AM | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/09/2014    |
| 1408474-020B  | MW-110D-20140806-01 | 8/6/2014 11:10:00AM | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |

Client: ERM-Southeast  
 Project: AGL Macon  
 Lab Order: 1408474

## Dates Report

| Lab Sample ID | Client Sample ID    | Collection Date     | Matrix      | Test Name                           | TCLP Date | Prep Date  | Analysis Date |
|---------------|---------------------|---------------------|-------------|-------------------------------------|-----------|------------|---------------|
| 1408474-020C  | MW-110D-20140806-01 | 8/6/2014 11:10:00AM | Groundwater | Cyanide                             |           | 08/08/2014 | 08/08/2014    |
| 1408474-020D  | MW-110D-20140806-01 | 8/6/2014 11:10:00AM | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-020D  | MW-110D-20140806-01 | 8/6/2014 11:10:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-020D  | MW-110D-20140806-01 | 8/6/2014 11:10:00AM | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/13/2014    |
| 1408474-021A  | MW-204D-20140806-01 | 8/6/2014 1:10:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/08/2014 | 08/08/2014    |
| 1408474-021A  | MW-204D-20140806-01 | 8/6/2014 1:10:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/08/2014 | 08/09/2014    |
| 1408474-021B  | MW-204D-20140806-01 | 8/6/2014 1:10:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/09/2014    |
| 1408474-021B  | MW-204D-20140806-01 | 8/6/2014 1:10:00PM  | Groundwater | TOTAL MERCURY                       |           | 08/11/2014 | 08/11/2014    |
| 1408474-021C  | MW-204D-20140806-01 | 8/6/2014 1:10:00PM  | Groundwater | Cyanide                             |           | 08/08/2014 | 08/08/2014    |
| 1408474-021D  | MW-204D-20140806-01 | 8/6/2014 1:10:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/12/2014    |
| 1408474-021D  | MW-204D-20140806-01 | 8/6/2014 1:10:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-021D  | MW-204D-20140806-01 | 8/6/2014 1:10:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/13/2014    |
| 1408474-022A  | MW-306D-20140806-01 | 8/6/2014 1:30:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/08/2014 | 08/08/2014    |
| 1408474-022A  | MW-306D-20140806-01 | 8/6/2014 1:30:00PM  | Groundwater | Volatile Organic Compounds by GC/MS |           | 08/08/2014 | 08/09/2014    |
| 1408474-022B  | MW-306D-20140806-01 | 8/6/2014 1:30:00PM  | Groundwater | TOTAL METALS BY ICP                 |           | 08/08/2014 | 08/11/2014    |
| 1408474-022B  | MW-306D-20140806-01 | 8/6/2014 1:30:00PM  | Groundwater | TOTAL MERCURY                       |           | 08/12/2014 | 08/12/2014    |
| 1408474-022C  | MW-306D-20140806-01 | 8/6/2014 1:30:00PM  | Groundwater | Cyanide                             |           | 08/08/2014 | 08/08/2014    |
| 1408474-022D  | MW-306D-20140806-01 | 8/6/2014 1:30:00PM  | Groundwater | Polynuclear Aromatic Hydrocarbons   |           | 08/08/2014 | 08/13/2014    |
| 1408474-022D  | MW-306D-20140806-01 | 8/6/2014 1:30:00PM  | Groundwater | Semivolatile Org. Comp. by GC/MS    |           | 08/11/2014 | 08/11/2014    |
| 1408474-023A  | TRIP BLANK          | 8/6/2014 12:00:00AM | Aqueous     | Volatile Organic Compounds by GC/MS |           | 08/08/2014 | 08/08/2014    |

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Workorder: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194585

| Sample ID: <b>MB-194585</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273400</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194585</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769232</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194585</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273400</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194585</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769229</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |  |     |    |     |  |  |  |  |
|-----------|-------|--------|-------|--|-----|----|-----|--|--|--|--|
| Antimony  | 1.066 | 0.0200 | 1.000 |  | 107 | 80 | 120 |  |  |  |  |
| Arsenic   | 1.036 | 0.0500 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Barium    | 1.052 | 0.0200 | 1.000 |  | 105 | 80 | 120 |  |  |  |  |
| Beryllium | 1.033 | 0.0100 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |
| Cadmium   | 1.042 | 0.0050 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Chromium  | 1.041 | 0.0100 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Copper    | 1.040 | 0.0100 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Lead      | 1.038 | 0.0100 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Nickel    | 1.036 | 0.0200 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Zinc      | 1.032 | 0.0200 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Workorder: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194585

| Sample ID: <b>1408386-001AMS</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273400</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194585</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769248</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |  |  |  |   |
|-----------|--------|--------|-------|----------|------|----|-----|--|--|--|---|
| Antimony  | 1.033  | 0.0200 | 1.000 |          | 103  | 75 | 125 |  |  |  |   |
| Arsenic   | 1.011  | 0.0500 | 1.000 |          | 101  | 75 | 125 |  |  |  |   |
| Barium    | 2.690  | 0.0200 | 1.000 | 1.698    | 99.2 | 75 | 125 |  |  |  |   |
| Beryllium | 1.002  | 0.0100 | 1.000 | 0.004025 | 99.8 | 75 | 125 |  |  |  |   |
| Cadmium   | 1.010  | 0.0050 | 1.000 | 0.001412 | 101  | 75 | 125 |  |  |  |   |
| Chromium  | 0.9931 | 0.0100 | 1.000 |          | 99.3 | 75 | 125 |  |  |  |   |
| Copper    | 1.047  | 0.0100 | 1.000 | 0.04229  | 100  | 75 | 125 |  |  |  |   |
| Lead      | 0.9865 | 0.0100 | 1.000 | 0.001457 | 98.5 | 75 | 125 |  |  |  |   |
| Nickel    | 1.042  | 0.0200 | 1.000 | 0.06531  | 97.6 | 75 | 125 |  |  |  |   |
| Zinc      | 48.16  | 0.0200 | 1.000 | 48.09    | 7.58 | 75 | 125 |  |  |  | S |

| Sample ID: <b>1408386-001AMSD</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273400</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194585</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769252</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |        |       |    |   |
|-----------|--------|--------|-------|----------|------|----|-----|--------|-------|----|---|
| Antimony  | 1.027  | 0.0200 | 1.000 |          | 103  | 75 | 125 | 1.033  | 0.657 | 20 |   |
| Arsenic   | 1.003  | 0.0500 | 1.000 |          | 100  | 75 | 125 | 1.011  | 0.780 | 20 |   |
| Barium    | 2.686  | 0.0200 | 1.000 | 1.698    | 98.8 | 75 | 125 | 2.690  | 0.140 | 20 |   |
| Beryllium | 0.9948 | 0.0100 | 1.000 | 0.004025 | 99.1 | 75 | 125 | 1.002  | 0.751 | 20 |   |
| Cadmium   | 1.004  | 0.0050 | 1.000 | 0.001412 | 100  | 75 | 125 | 1.010  | 0.559 | 20 |   |
| Chromium  | 0.9865 | 0.0100 | 1.000 |          | 98.6 | 75 | 125 | 0.9931 | 0.666 | 20 |   |
| Copper    | 1.044  | 0.0100 | 1.000 | 0.04229  | 100  | 75 | 125 | 1.047  | 0.260 | 20 |   |
| Lead      | 0.9806 | 0.0100 | 1.000 | 0.001457 | 97.9 | 75 | 125 | 0.9865 | 0.601 | 20 |   |
| Nickel    | 1.033  | 0.0200 | 1.000 | 0.06531  | 96.8 | 75 | 125 | 1.042  | 0.811 | 20 |   |
| Zinc      | 48.14  | 0.0200 | 1.000 | 48.09    | 5.18 | 75 | 125 | 48.16  | 0.050 | 20 | S |

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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:** 1408474

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194591**

| Sample ID: <b>MB-194591</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273219</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194591</b> | Analysis Date: <b>08/07/2014</b> | Seq No: <b>5765271</b> |      |           |            |             |      |           |      |
| 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 | 45.70 | 0   | 50.00 |  | 91.4 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 49.24 | 0   | 50.00 |  | 98.5 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 51.00 | 0   | 50.00 |  | 102  | 77   | 117 |  |  |  |  |

| Sample ID: <b>LCS-194591</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273219</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194591</b> | Analysis Date: <b>08/07/2014</b> | Seq No: <b>5765715</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 47.69 | 5.0 | 50.00 |  | 95.4 | 74.2 | 129 |  |  |  |  |
| Toluene                    | 51.18 | 5.0 | 50.00 |  | 102  | 74.2 | 129 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 45.83 | 0   | 50.00 |  | 91.7 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 49.31 | 0   | 50.00 |  | 98.6 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 51.09 | 0   | 50.00 |  | 102  | 77   | 117 |  |  |  |  |

| Sample ID: <b>1408474-002AMS</b> | Client ID: <b>MW-25D-20140804-01</b>                         | Units: <b>ug/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273219</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194591</b> | Analysis Date: <b>08/07/2014</b> | Seq No: <b>5766693</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 48.29 | 5.0 | 50.00 |  | 96.6 | 70.2 | 138 |  |  |  |  |
| Toluene                    | 52.71 | 5.0 | 50.00 |  | 105  | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 44.65 | 0   | 50.00 |  | 89.3 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 51.14 | 0   | 50.00 |  | 102  | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 51.63 | 0   | 50.00 |  | 103  | 77   | 117 |  |  |  |  |

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194591

|                            |   |                 |                           |                 |
|----------------------------|---|-----------------|---------------------------|-----------------|
| Sample ID: 1408474-002AMSD | Client ID: MW-25D-20140804-01                         | Units: ug/L     | Prep Date: 08/07/2014     | Run No: 273219  |
| SampleType: MSD            | TestCode: Volatile Organic Compounds by GC/MS SW8260B | BatchID: 194591 | Analysis Date: 08/07/2014 | Seq No: 5766694 |

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Benzene                    | 45.88  | 5.0       | 50.00     |             | 91.8 | 70.2      | 138        | 48.29       | 5.12 | 20        |      |
| Toluene                    | 50.08  | 5.0       | 50.00     |             | 100  | 70        | 139        | 52.71       | 5.12 | 20        |      |
| Surr: 4-Bromofluorobenzene | 45.85  | 0         | 50.00     |             | 91.7 | 66.2      | 120        | 44.65       | 0    | 0         |      |
| Surr: Dibromofluoromethane | 49.34  | 0         | 50.00     |             | 98.7 | 79.5      | 121        | 51.14       | 0    | 0         |      |
| Surr: Toluene-d8           | 51.14  | 0         | 50.00     |             | 102  | 77        | 117        | 51.63       | 0    | 0         |      |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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:** 1408474

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194592**

| Sample ID: <b>MB-194592</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273462</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194592</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5770898</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Benzo(a)pyrene         | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Benzo(b)fluoranthene   | BRL   | 0.10  |       |  |      |      |     |  |  |  |  |
| Dibenz(a,h)anthracene  | BRL   | 0.10  |       |  |      |      |     |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.696 | 0     | 2.000 |  | 84.8 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCS-194592</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273462</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194592</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5770903</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 1.890 | 0.050 | 2.000 |  | 94.5 | 62.8 | 132 |  |  |  |  |
| Benzo(a)pyrene         | 1.779 | 0.050 | 2.000 |  | 88.9 | 56.4 | 123 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.821 | 0.10  | 2.000 |  | 91.0 | 69.2 | 132 |  |  |  |  |
| Dibenz(a,h)anthracene  | 2.032 | 0.10  | 2.000 |  | 102  | 49.3 | 134 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 2.055 | 0.050 | 2.000 |  | 103  | 48.3 | 137 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.515 | 0     | 2.000 |  | 75.8 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>1408474-002DMS</b> | Client ID: <b>MW-25D-20140804-01</b>                           | Units: <b>ug/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273602</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194592</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5773910</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.181 | 0.050 | 2.000 |  | 109  | 51.4 | 142 |  |  |  |  |
| Benzo(a)pyrene         | 1.841 | 0.050 | 2.000 |  | 92.0 | 48.3 | 126 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.878 | 0.10  | 2.000 |  | 93.9 | 49.9 | 134 |  |  |  |  |
| Dibenz(a,h)anthracene  | 2.295 | 0.10  | 2.000 |  | 115  | 41.8 | 121 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 2.249 | 0.050 | 2.000 |  | 112  | 42   | 129 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.557 | 0     | 2.000 |  | 77.9 | 53.2 | 145 |  |  |  |  |

**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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194592

|                            |   |                 |                           |                 |
|----------------------------|---|-----------------|---------------------------|-----------------|
| Sample ID: 1408474-002DMSD | Client ID: MW-25D-20140804-01                           | Units: ug/L     | Prep Date: 08/07/2014     | Run No: 273602  |
| SampleType: MSD            | TestCode: SIM Polynuclear Aromatic Hydrocarbons SW8270D | BatchID: 194592 | Analysis Date: 08/13/2014 | Seq No: 5773912 |

| Analyte                | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Benz(a)anthracene      | 2.127  | 0.050     | 2.000     |             | 106  | 51.4      | 142        | 2.181       | 2.51 | 48.1      |      |
| Benzo(a)pyrene         | 1.810  | 0.050     | 2.000     |             | 90.5 | 48.3      | 126        | 1.841       | 1.69 | 53.5      |      |
| Benzo(b)fluoranthene   | 1.850  | 0.10      | 2.000     |             | 92.5 | 49.9      | 134        | 1.878       | 1.51 | 51.1      |      |
| Dibenz(a,h)anthracene  | 2.230  | 0.10      | 2.000     |             | 111  | 41.8      | 121        | 2.295       | 2.90 | 54.2      |      |
| Indeno(1,2,3-cd)pyrene | 1.787  | 0.050     | 2.000     |             | 89.4 | 42        | 129        | 2.249       | 22.9 | 44.6      |      |
| Surr: 4-Terphenyl-d14  | 1.653  | 0         | 2.000     |             | 82.7 | 53.2      | 145        | 1.557       | 0    | 0         |      |

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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:** 1408474

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194601**

| Sample ID: <b>MB-194601</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273564</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194601</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5773147</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 88.10 | 0  | 100.0 |  | 88.1 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 42.34 | 0  | 50.00 |  | 84.7 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 63.38 | 0  | 100.0 |  | 63.4 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 48.04 | 0  | 50.00 |  | 96.1 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 42.05 | 0  | 50.00 |  | 84.1 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 41.35 | 0  | 100.0 |  | 41.4 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-194601</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273564</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194601</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5773156</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 111.0 | 10 | 100.0 |  | 111  | 67.7 | 122 |  |  |  |  |
| Phenol       | 42.95 | 10 | 100.0 |  | 43.0 | 24.6 | 120 |  |  |  |  |

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194601

|                              |   |                        |                                  |                        |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>LCS-194601</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273564</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194601</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5773156</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Pyrene                     | 105.0 | 10 | 100.0 |  | 105  | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 111.7 | 0  | 100.0 |  | 112  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 56.67 | 0  | 50.00 |  | 113  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 70.33 | 0  | 100.0 |  | 70.3 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 59.43 | 0  | 50.00 |  | 119  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 50.03 | 0  | 50.00 |  | 100  | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 47.28 | 0  | 100.0 |  | 47.3 | 12.3 | 120 |  |  |  |  |

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408474-003DMS</b> | Client ID: <b>MW-300D-20140804-01</b>                     | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273651</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194601</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5775219</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 84.62 | 10 | 100.0 |  | 84.6 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 54.54 | 10 | 100.0 |  | 54.5 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 77.18 | 10 | 100.0 |  | 77.2 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 83.30 | 0  | 100.0 |  | 83.3 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 38.79 | 0  | 50.00 |  | 77.6 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 66.42 | 0  | 100.0 |  | 66.4 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 40.21 | 0  | 50.00 |  | 80.4 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 37.56 | 0  | 50.00 |  | 75.1 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 53.50 | 0  | 100.0 |  | 53.5 | 12.3 | 120 |  |  |  |  |

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408474-003DMSD</b> | Client ID: <b>MW-300D-20140804-01</b>                     | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273651</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194601</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5775227</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |      |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene | 79.61 | 10 | 100.0 |  | 79.6 | 51.9 | 120 | 84.62 | 6.10 | 24.9 |  |
| Phenol       | 48.88 | 10 | 100.0 |  | 48.9 | 30.5 | 120 | 54.54 | 10.9 | 34.4 |  |

**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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194601

|                            |  |                 |                           |                 |
|----------------------------|--|-----------------|---------------------------|-----------------|
| Sample ID: 1408474-003DMSD | Client ID: MW-300D-20140804-01                     | Units: ug/L     | Prep Date: 08/08/2014     | Run No: 273651  |
| SampleType: MSD            | TestCode: Semivolatile Org. Comp. by GC/MS SW8270D | BatchID: 194601 | Analysis Date: 08/13/2014 | Seq No: 5775227 |

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Pyrene                     | 75.02  | 10        | 100.0     |             | 75.0 | 50.6      | 120        | 77.18       | 2.84 | 26.7      |      |
| Surr: 2,4,6-Tribromophenol | 76.41  | 0         | 100.0     |             | 76.4 | 51.5      | 124        | 83.30       | 0    | 0         |      |
| Surr: 2-Fluorobiphenyl     | 36.85  | 0         | 50.00     |             | 73.7 | 51.7      | 118        | 38.79       | 0    | 0         |      |
| Surr: 2-Fluorophenol       | 58.39  | 0         | 100.0     |             | 58.4 | 26        | 120        | 66.42       | 0    | 0         |      |
| Surr: 4-Terphenyl-d14      | 40.09  | 0         | 50.00     |             | 80.2 | 45.2      | 137        | 40.21       | 0    | 0         |      |
| Surr: Nitrobenzene-d5      | 34.70  | 0         | 50.00     |             | 69.4 | 42        | 120        | 37.56       | 0    | 0         |      |
| Surr: Phenol-d5            | 49.19  | 0         | 100.0     |             | 49.2 | 12.3      | 120        | 53.50       | 0    | 0         |      |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194631

| Sample ID: <b>MB-194631</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273426</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194631</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769819</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194631</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273426</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194631</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769818</b> |      |           |            |             |      |           |      |
| 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 | 80 | 120 |  |  |  |  |
| Arsenic   | 1.029 | 0.0500 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |
| Barium    | 1.043 | 0.0200 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Beryllium | 1.028 | 0.0100 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |
| Cadmium   | 1.033 | 0.0050 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |
| Chromium  | 1.034 | 0.0100 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |
| Copper    | 1.044 | 0.0100 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Lead      | 1.030 | 0.0100 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |
| Nickel    | 1.028 | 0.0200 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |
| Zinc      | 1.023 | 0.0200 | 1.000 |  | 102 | 80 | 120 |  |  |  |  |

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194631

| Sample ID: <b>1408474-002BMS</b> | Client ID: <b>MW-25D-20140804-01</b>   | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273426</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194631</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769822</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |           |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|-----------|------|----|-----|--|--|--|--|
| Antimony  | 1.039  | 0.0200 | 1.000 |           | 104  | 75 | 125 |  |  |  |  |
| Arsenic   | 1.016  | 0.0500 | 1.000 |           | 102  | 75 | 125 |  |  |  |  |
| Barium    | 4.901  | 0.0200 | 1.000 | 3.961     | 94.1 | 75 | 125 |  |  |  |  |
| Beryllium | 1.013  | 0.0100 | 1.000 | 0.003208  | 101  | 75 | 125 |  |  |  |  |
| Cadmium   | 1.016  | 0.0050 | 1.000 | 0.0003026 | 102  | 75 | 125 |  |  |  |  |
| Chromium  | 1.008  | 0.0100 | 1.000 |           | 101  | 75 | 125 |  |  |  |  |
| Copper    | 1.021  | 0.0100 | 1.000 | 0.002293  | 102  | 75 | 125 |  |  |  |  |
| Lead      | 0.9887 | 0.0100 | 1.000 |           | 98.9 | 75 | 125 |  |  |  |  |
| Nickel    | 0.9641 | 0.0200 | 1.000 | 0.008029  | 95.6 | 75 | 125 |  |  |  |  |
| Zinc      | 1.007  | 0.0200 | 1.000 | 0.01984   | 98.7 | 75 | 125 |  |  |  |  |

| Sample ID: <b>1408474-003BMS</b> | Client ID: <b>MW-300D-20140804-01</b>  | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273426</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194631</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769827</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |           |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|-----------|------|----|-----|--|--|--|--|
| Antimony  | 1.014  | 0.0200 | 1.000 |           | 101  | 75 | 125 |  |  |  |  |
| Arsenic   | 1.000  | 0.0500 | 1.000 |           | 100  | 75 | 125 |  |  |  |  |
| Barium    | 2.490  | 0.0200 | 1.000 | 1.518     | 97.2 | 75 | 125 |  |  |  |  |
| Beryllium | 1.010  | 0.0100 | 1.000 | 0.01130   | 99.8 | 75 | 125 |  |  |  |  |
| Cadmium   | 1.006  | 0.0050 | 1.000 | 0.0005722 | 101  | 75 | 125 |  |  |  |  |
| Chromium  | 1.004  | 0.0100 | 1.000 |           | 100  | 75 | 125 |  |  |  |  |
| Copper    | 1.003  | 0.0100 | 1.000 |           | 100  | 75 | 125 |  |  |  |  |
| Lead      | 0.9831 | 0.0100 | 1.000 |           | 98.3 | 75 | 125 |  |  |  |  |
| Nickel    | 0.9762 | 0.0200 | 1.000 | 0.02505   | 95.1 | 75 | 125 |  |  |  |  |
| Zinc      | 1.065  | 0.0200 | 1.000 | 0.08835   | 97.7 | 75 | 125 |  |  |  |  |

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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:** 1408474

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194631**

|                                   |  |                        |                                  |                        |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|
| Sample ID: <b>1408474-002BMSD</b> | Client ID: <b>MW-25D-20140804-01</b>   | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273426</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194631</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769823</b> |

| Analyte   | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|-----------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Antimony  | 1.026  | 0.0200    | 1.000     |             | 103  | 75        | 125        | 1.039       | 1.28 | 20        |      |
| Arsenic   | 0.9918 | 0.0500    | 1.000     |             | 99.2 | 75        | 125        | 1.016       | 2.42 | 20        |      |
| Barium    | 4.770  | 0.0200    | 1.000     | 3.961       | 81.0 | 75        | 125        | 4.901       | 2.71 | 20        |      |
| Beryllium | 0.9865 | 0.0100    | 1.000     | 0.003208    | 98.3 | 75        | 125        | 1.013       | 2.64 | 20        |      |
| Cadmium   | 0.9909 | 0.0050    | 1.000     | 0.0003026   | 99.1 | 75        | 125        | 1.016       | 2.54 | 20        |      |
| Chromium  | 0.9886 | 0.0100    | 1.000     |             | 98.9 | 75        | 125        | 1.008       | 1.97 | 20        |      |
| Copper    | 0.9969 | 0.0100    | 1.000     | 0.002293    | 99.5 | 75        | 125        | 1.021       | 2.38 | 20        |      |
| Lead      | 0.9658 | 0.0100    | 1.000     |             | 96.6 | 75        | 125        | 0.9887      | 2.35 | 20        |      |
| Nickel    | 0.9428 | 0.0200    | 1.000     | 0.008029    | 93.5 | 75        | 125        | 0.9641      | 2.23 | 20        |      |
| Zinc      | 0.9785 | 0.0200    | 1.000     | 0.01984     | 95.9 | 75        | 125        | 1.007       | 2.87 | 20        |      |

|                                   |  |                        |                                  |                        |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|
| Sample ID: <b>1408474-003BMSD</b> | Client ID: <b>MW-300D-20140804-01</b>  | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273426</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194631</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769830</b> |

| Analyte   | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD  | RPD Limit | Qual |
|-----------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|-------|-----------|------|
| Antimony  | 1.037  | 0.0200    | 1.000     |             | 104  | 75        | 125        | 1.014       | 2.25  | 20        |      |
| Arsenic   | 1.011  | 0.0500    | 1.000     |             | 101  | 75        | 125        | 1.000       | 1.06  | 20        |      |
| Barium    | 2.527  | 0.0200    | 1.000     | 1.518       | 101  | 75        | 125        | 2.490       | 1.46  | 20        |      |
| Beryllium | 1.021  | 0.0100    | 1.000     | 0.01130     | 101  | 75        | 125        | 1.010       | 1.11  | 20        |      |
| Cadmium   | 1.014  | 0.0050    | 1.000     | 0.0005722   | 101  | 75        | 125        | 1.006       | 0.835 | 20        |      |
| Chromium  | 1.015  | 0.0100    | 1.000     |             | 101  | 75        | 125        | 1.004       | 1.13  | 20        |      |
| Copper    | 1.018  | 0.0100    | 1.000     |             | 102  | 75        | 125        | 1.003       | 1.45  | 20        |      |
| Lead      | 0.9928 | 0.0100    | 1.000     |             | 99.3 | 75        | 125        | 0.9831      | 0.975 | 20        |      |
| Nickel    | 0.9793 | 0.0200    | 1.000     | 0.02505     | 95.4 | 75        | 125        | 0.9762      | 0.320 | 20        |      |
| Zinc      | 1.077  | 0.0200    | 1.000     | 0.08835     | 98.8 | 75        | 125        | 1.065       | 1.05  | 20        |      |

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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:** 1408474

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194654**

|                             |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-194654</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273316</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>194654</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5767533</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194654</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273316</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>194654</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5767534</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2299                      0.010                      0.2500                      92.0                      85                      115

|                                  |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408474-003CMS</b> | Client ID: <b>MW-300D-20140804-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273316</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>194654</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5767545</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2036                      0.010                      0.2500                      81.4                      70                      130

|                                   |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408474-003CMSD</b> | Client ID: <b>MW-300D-20140804-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273316</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>194654</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5767547</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2036                      0.010                      0.2500                      81.4                      70                      130                      0.2036                      0                      20

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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:** 1408474

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194657**

| Sample ID: <b>MB-194657</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273602</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194657</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5773870</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Benzo(a)pyrene         | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Benzo(b)fluoranthene   | BRL   | 0.10  |       |  |      |      |     |  |  |  |  |
| Dibenz(a,h)anthracene  | BRL   | 0.10  |       |  |      |      |     |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.617 | 0     | 2.000 |  | 80.8 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCS-194657</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273602</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194657</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5773871</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.271 | 0.050 | 2.000 |  | 114  | 62.8 | 132 |  |  |  |  |
| Benzo(a)pyrene         | 1.898 | 0.050 | 2.000 |  | 94.9 | 56.4 | 123 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.942 | 0.10  | 2.000 |  | 97.1 | 69.2 | 132 |  |  |  |  |
| Dibenz(a,h)anthracene  | 2.180 | 0.10  | 2.000 |  | 109  | 49.3 | 134 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.733 | 0.050 | 2.000 |  | 86.6 | 48.3 | 137 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.499 | 0     | 2.000 |  | 74.9 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>1408474-003DMS</b> | Client ID: <b>MW-300D-20140804-01</b>                          | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273602</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194657</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5773907</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |          |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|----------|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.138 | 0.050 | 2.000 | 0.007990 | 106  | 51.4 | 142 |  |  |  |  |
| Benzo(a)pyrene         | 1.841 | 0.050 | 2.000 | 0.01293  | 91.4 | 48.3 | 126 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.862 | 0.10  | 2.000 |          | 93.1 | 49.9 | 134 |  |  |  |  |
| Dibenz(a,h)anthracene  | 2.328 | 0.10  | 2.000 | 0.02601  | 115  | 41.8 | 121 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.813 | 0.050 | 2.000 | 0.02320  | 89.5 | 42   | 129 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.522 | 0     | 2.000 |          | 76.1 | 53.2 | 145 |  |  |  |  |

**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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194657

Sample ID: 1408474-003DMSD Client ID: MW-300D-20140804-01 Units: ug/L Prep Date: 08/08/2014 Run No: 273602  
 SampleType: MSD TestCode: SIM Polynuclear Aromatic Hydrocarbons SW8270D BatchID: 194657 Analysis Date: 08/13/2014 Seq No: 5773909

| Analyte                | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Benz(a)anthracene      | 1.993  | 0.050     | 2.000     | 0.007990    | 99.3 | 51.4      | 142        | 2.138       | 6.99 | 48.1      |      |
| Benzo(a)pyrene         | 1.702  | 0.050     | 2.000     | 0.01293     | 84.4 | 48.3      | 126        | 1.841       | 7.86 | 53.5      |      |
| Benzo(b)fluoranthene   | 1.720  | 0.10      | 2.000     |             | 86.0 | 49.9      | 134        | 1.862       | 7.96 | 51.1      |      |
| Dibenz(a,h)anthracene  | 2.142  | 0.10      | 2.000     | 0.02601     | 106  | 41.8      | 121        | 2.328       | 8.32 | 54.2      |      |
| Indeno(1,2,3-cd)pyrene | 2.070  | 0.050     | 2.000     | 0.02320     | 102  | 42        | 129        | 1.813       | 13.2 | 44.6      |      |
| Surr: 4-Terphenyl-d14  | 1.401  | 0         | 2.000     |             | 70.0 | 53.2      | 145        | 1.522       | 0    | 0         |      |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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:** 1408474

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194659**

| Sample ID: <b>MB-194659</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273307</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194659</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5768300</b> |      |           |            |             |      |           |      |
| 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 | 45.49 | 0   | 50.00 |  | 91.0 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 51.00 | 0   | 50.00 |  | 102  | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 51.21 | 0   | 50.00 |  | 102  | 77   | 117 |  |  |  |  |

| Sample ID: <b>LCS-194659</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273307</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194659</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5768341</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 50.02 | 5.0 | 50.00 |  | 100  | 74.2 | 129 |  |  |  |  |
| Toluene                    | 52.58 | 5.0 | 50.00 |  | 105  | 74.2 | 129 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 45.77 | 0   | 50.00 |  | 91.5 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 48.71 | 0   | 50.00 |  | 97.4 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 50.29 | 0   | 50.00 |  | 101  | 77   | 117 |  |  |  |  |

| Sample ID: <b>1408474-003AMS</b> | Client ID: <b>MW-300D-20140804-01</b>                        | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273307</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194659</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5768647</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 49.93 | 5.0 | 50.00 |  | 99.9 | 70.2 | 138 |  |  |  |  |
| Toluene                    | 52.33 | 5.0 | 50.00 |  | 105  | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 44.92 | 0   | 50.00 |  | 89.8 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 49.39 | 0   | 50.00 |  | 98.8 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 52.07 | 0   | 50.00 |  | 104  | 77   | 117 |  |  |  |  |

**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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194659

|                            |   |                 |                           |                 |
|----------------------------|---|-----------------|---------------------------|-----------------|
| Sample ID: 1408474-003AMSD | Client ID: MW-300D-20140804-01                        | Units: ug/L     | Prep Date: 08/08/2014     | Run No: 273307  |
| SampleType: MSD            | TestCode: Volatile Organic Compounds by GC/MS SW8260B | BatchID: 194659 | Analysis Date: 08/08/2014 | Seq No: 5768660 |

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Benzene                    | 48.60  | 5.0       | 50.00     |             | 97.2 | 70.2      | 138        | 49.93       | 2.70 | 20        |      |
| Toluene                    | 51.38  | 5.0       | 50.00     |             | 103  | 70        | 139        | 52.33       | 1.83 | 20        |      |
| Surr: 4-Bromofluorobenzene | 44.99  | 0         | 50.00     |             | 90.0 | 66.2      | 120        | 44.92       | 0    | 0         |      |
| Surr: Dibromofluoromethane | 49.97  | 0         | 50.00     |             | 99.9 | 79.5      | 121        | 49.39       | 0    | 0         |      |
| Surr: Toluene-d8           | 50.71  | 0         | 50.00     |             | 101  | 77        | 117        | 52.07       | 0    | 0         |      |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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:** 1408474

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194664**

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-194664</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273382</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194664</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5769876</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194664</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273382</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194664</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5769879</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.004759 0.00020 0.0050 95.2 80 120

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408474-002BMS</b> | Client ID: <b>MW-25D-20140804-01</b>    | Units: <b>mg/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273382</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194664</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5769883</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005025 0.00020 0.0050 101 70 130

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408474-003BMS</b> | Client ID: <b>MW-300D-20140804-01</b>   | Units: <b>mg/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273382</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194664</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5769900</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.004845 0.00020 0.0050 96.9 70 130

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408474-002BMSD</b> | Client ID: <b>MW-25D-20140804-01</b>    | Units: <b>mg/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273382</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194664</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5769886</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005117 0.00020 0.0050 102 70 130 0.005025 1.80 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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194664

|                            |                                  |                 |                           |                 |
|----------------------------|----------------------------------|-----------------|---------------------------|-----------------|
| Sample ID: 1408474-003BMSD | Client ID: MW-300D-20140804-01   | Units: mg/L     | Prep Date: 08/11/2014     | Run No: 273382  |
| SampleType: MSD            | TestCode: Mercury, Total SW7470A | BatchID: 194664 | Analysis Date: 08/11/2014 | Seq No: 5769905 |

| Analyte | Result   | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD  | RPD Limit | Qual |
|---------|----------|-----------|-----------|-------------|------|-----------|------------|-------------|-------|-----------|------|
| Mercury | 0.004874 | 0.00020   | 0.0050    |             | 97.5 | 70        | 130        | 0.004845    | 0.584 | 20        |      |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194690

| Sample ID: <b>MB-194690</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5771508</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 95.03 | 0  | 100.0 |  | 95.0 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 48.47 | 0  | 50.00 |  | 96.9 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 63.60 | 0  | 100.0 |  | 63.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 58.17 | 0  | 50.00 |  | 116  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 40.23 | 0  | 50.00 |  | 80.5 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 41.48 | 0  | 100.0 |  | 41.5 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-194690</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5771509</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 110.5 | 10 | 100.0 |  | 111  | 67.7 | 122 |  |  |  |  |
| Phenol       | 49.79 | 10 | 100.0 |  | 49.8 | 24.6 | 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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194690

| Sample ID: <b>LCS-194690</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5771509</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Pyrene                     | 118.4 | 10 | 100.0 |  | 118  | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 116.2 | 0  | 100.0 |  | 116  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 56.88 | 0  | 50.00 |  | 114  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 74.91 | 0  | 100.0 |  | 74.9 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 62.60 | 0  | 50.00 |  | 125  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 50.44 | 0  | 50.00 |  | 101  | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 50.49 | 0  | 100.0 |  | 50.5 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1408474-002DMS</b> | Client ID: <b>MW-25D-20140804-01</b>                      | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5771821</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 88.84 | 10 | 100.0 |  | 88.8 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 57.06 | 10 | 100.0 |  | 57.1 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 94.54 | 10 | 100.0 |  | 94.5 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 98.09 | 0  | 100.0 |  | 98.1 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 42.03 | 0  | 50.00 |  | 84.1 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 67.62 | 0  | 100.0 |  | 67.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 49.32 | 0  | 50.00 |  | 98.6 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 39.89 | 0  | 50.00 |  | 79.8 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 56.73 | 0  | 100.0 |  | 56.7 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1408474-002DMSD</b> | Client ID: <b>MW-25D-20140804-01</b>                      | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>274032</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/19/2014</b> | Seq No: <b>5782809</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |       |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|-------|------|--|
| Acenaphthene | 89.67 | 10 | 100.0 |  | 89.7 | 51.9 | 120 | 88.84 | 0.930 | 24.9 |  |
| Phenol       | 51.69 | 10 | 100.0 |  | 51.7 | 30.5 | 120 | 57.06 | 9.88  | 34.4 |  |

**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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194690

Sample ID: 1408474-002DMSD Client ID: MW-25D-20140804-01 Units: ug/L Prep Date: 08/11/2014 Run No: 274032  
 SampleType: MSD TestCode: Semivolatile Org. Comp. by GC/MS SW8270D BatchID: 194690 Analysis Date: 08/19/2014 Seq No: 5782809

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Pyrene                     | 86.92  | 10        | 100.0     |             | 86.9 | 50.6      | 120        | 94.54       | 8.40 | 26.7      |      |
| Surr: 2,4,6-Tribromophenol | 105.3  | 0         | 100.0     |             | 105  | 51.5      | 124        | 98.09       | 0    | 0         |      |
| Surr: 2-Fluorobiphenyl     | 43.29  | 0         | 50.00     |             | 86.6 | 51.7      | 118        | 42.03       | 0    | 0         |      |
| Surr: 2-Fluorophenol       | 67.62  | 0         | 100.0     |             | 67.6 | 26        | 120        | 67.62       | 0    | 0         |      |
| Surr: 4-Terphenyl-d14      | 49.03  | 0         | 50.00     |             | 98.1 | 45.2      | 137        | 49.32       | 0    | 0         |      |
| Surr: Nitrobenzene-d5      | 39.24  | 0         | 50.00     |             | 78.5 | 42        | 120        | 39.89       | 0    | 0         |      |
| Surr: Phenol-d5            | 51.16  | 0         | 100.0     |             | 51.2 | 12.3      | 120        | 56.73       | 0    | 0         |      |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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: 1408474

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194741

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-194741</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273507</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194741</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5772276</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194741</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273507</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194741</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5772279</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005049 0.00020 0.0050 101 80 120

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408481-001BMS</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273507</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194741</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5772285</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005067 0.00020 0.0050 101 70 130

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408481-001BMSD</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273507</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194741</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5772288</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005166 0.00020 0.0050 103 70 130 0.005067 1.93 20

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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.**

August 18, 2014

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

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

RE: AGL Macon

Dear Nic Vrey:

Order No: 1408481

Analytical Environmental Services, Inc. received 1 samples on 8/6/2014 4:35:00 PM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

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

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

Mirzeta Kararic  
Project Manager



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: 1408487

Date: 8/6/14 Page 1 of 1

COMPANY: ERM ADDRESS: 3200 Windy Hill Rd SE  
Suite 17000  
Atlanta, GA 30339

PHONE: (678) 486 2700 FAX: \_\_\_\_\_

SAMPLED BY: J. Mullooly SIGNATURE: [Signature]

| #  | SAMPLE ID          | SAMPLED |       | Grab | Composite | Matrix (See codes) | PRESERVATION (See codes) |     | REMARKS | No # of Containers |
|----|--------------------|---------|-------|------|-----------|--------------------|--------------------------|-----|---------|--------------------|
|    |                    | DATE    | TIME  |      |           |                    |                          |     |         |                    |
| 1  | NW-050-20740506-01 | 8/6/14  | 08:50 | X    |           | GW                 | WET                      | WET |         |                    |
| 2  |                    |         |       |      |           |                    |                          |     |         |                    |
| 3  |                    |         |       |      |           |                    |                          |     |         |                    |
| 4  |                    |         |       |      |           |                    |                          |     |         |                    |
| 5  |                    |         |       |      |           |                    |                          |     |         |                    |
| 6  |                    |         |       |      |           |                    |                          |     |         |                    |
| 7  |                    |         |       |      |           |                    |                          |     |         |                    |
| 8  |                    |         |       |      |           |                    |                          |     |         |                    |
| 9  |                    |         |       |      |           |                    |                          |     |         |                    |
| 10 |                    |         |       |      |           |                    |                          |     |         |                    |
| 11 |                    |         |       |      |           |                    |                          |     |         |                    |
| 12 |                    |         |       |      |           |                    |                          |     |         |                    |
| 13 |                    |         |       |      |           |                    |                          |     |         |                    |
| 14 |                    |         |       |      |           |                    |                          |     |         |                    |

RELINQUISHED BY: [Signature] DATE/TIME: 8/6/14 4:00

RECEIVED BY: U.A. DATE/TIME: 8/6/14 4:00

PROJECT NAME: AIL Macon

PROJECT #: 0230715

SITE ADDRESS: Walnut St. Macon, GA

SEND REPORT TO: NIC.Vreg@ERM.com

INVOICE TO: \_\_\_\_\_ (IF DIFFERENT FROM ABOVE)

SHIPMENT METHOD: OUT / / VIA: \_\_\_\_\_

IN / / VIA: \_\_\_\_\_

CLIENT: FedEx UPS MAIL COURIER

GREYHOUND OTHER: \_\_\_\_\_

SPECIAL INSTRUCTIONS/COMMENTS: \_\_\_\_\_

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

QUOTE #: \_\_\_\_\_ PO#: \_\_\_\_\_

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.

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

TYPE 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

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Lab ID: 1408481-001

Client Sample ID: MW-08D-20140806-01  
 Collection Date: 8/6/2014 8:50:00 AM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b>   |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L             | 194659  | 1               | 08/09/2014 15:20 | GK      |
| Carbon disulfide                                     | BRL    | 5.0             |      | ug/L             | 194659  | 1               | 08/09/2014 15:20 | GK      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L             | 194659  | 1               | 08/09/2014 15:20 | GK      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 194659  | 1               | 08/09/2014 15:20 | GK      |
| Xylenes, Total                                       | BRL    | 5.0             |      | ug/L             | 194659  | 1               | 08/09/2014 15:20 | GK      |
| Surr: 4-Bromofluorobenzene                           | 91.2   | 66.2-120        |      | %REC             | 194659  | 1               | 08/09/2014 15:20 | GK      |
| Surr: Dibromofluoromethane                           | 100    | 79.5-121        |      | %REC             | 194659  | 1               | 08/09/2014 15:20 | GK      |
| Surr: Toluene-d8                                     | 104    | 77-117          |      | %REC             | 194659  | 1               | 08/09/2014 15:20 | GK      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| Benz(a)anthracene                                    | BRL    | 0.050           |      | ug/L             | 194657  | 1               | 08/13/2014 00:30 | YH      |
| Benzo(b)fluoranthene                                 | BRL    | 0.10            |      | ug/L             | 194657  | 1               | 08/13/2014 00:30 | YH      |
| Benzo(a)pyrene                                       | BRL    | 0.050           |      | ug/L             | 194657  | 1               | 08/13/2014 00:30 | YH      |
| Indeno(1,2,3-cd)pyrene                               | BRL    | 0.050           |      | ug/L             | 194657  | 1               | 08/13/2014 00:30 | YH      |
| Dibenz(a,h)anthracene                                | BRL    | 0.10            |      | ug/L             | 194657  | 1               | 08/13/2014 00:30 | YH      |
| Surr: 4-Terphenyl-d14                                | 73.4   | 53.2-145        |      | %REC             | 194657  | 1               | 08/13/2014 00:30 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>      |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| 2,4-Dimethylphenol                                   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| 2-Methylphenol                                       | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| 3,4-Methylphenol                                     | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Acenaphthylene                                       | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Benzo(g,h,i)perylene                                 | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Benzo(k)fluoranthene                                 | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Phenol   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Surr: 2,4,6-Tribromophenol                           | 91.6   | 51.5-124        |      | %REC             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Surr: 2-Fluorobiphenyl                               | 82.5   | 51.7-118        |      | %REC             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Surr: 2-Fluorophenol                                 | 64.6   | 26-120          |      | %REC             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Surr: 4-Terphenyl-d14                                | 89.7   | 45.2-137        |      | %REC             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Surr: Nitrobenzene-d5                                | 72     | 42-120          |      | %REC             | 194690  | 1               | 08/11/2014 22:56 | YH      |
| Surr: Phenol-d5                                      | 49.8   | 12.3-120        |      | %REC             | 194690  | 1               | 08/11/2014 22:56 | YH      |

**Mercury, Total SW7470A****(SW7470A)**

**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:** 18-Aug-14

|                                |   |
|--------------------------------|---|
| <b>Client:</b> ERM-Southeast   | <b>Client Sample ID:</b> MW-08D-20140806-01 |
| <b>Project Name:</b> AGL Macon | <b>Collection Date:</b> 8/6/2014 8:50:00 AM |
| <b>Lab ID:</b> 1408481-001     | <b>Matrix:</b> Groundwater                  |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194741           | 1               | 08/12/2014 12:11 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | 0.012  | 0.010           |      | mg/L  | 194654           | 1               | 08/08/2014 11:00 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |
| Barium                        | 0.979  | 0.0200          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194585           | 1               | 08/11/2014 20:23 | JL      |

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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 ENR

Work Order Number 1408481

Checklist completed by [Signature] Date 8/6/19

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? (4°C±2)\* Yes  No

Cooler #1 39 Cooler #2 \_\_\_\_\_ Cooler #3 \_\_\_\_\_ Cooler #4 \_\_\_\_\_ Cooler#5 \_\_\_\_\_ Cooler #6 \_\_\_\_\_

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Was TAT marked on the COC? Yes  No

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

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

Water - pH acceptable upon receipt? Yes  No  Not Applicable

Adjusted? \_\_\_\_\_ Checked by \_\_\_\_\_

Sample Condition: Good  Other(Explain) \_\_\_\_\_

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

See Case Narrative for resolution of the Non-Conformance.

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

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Workorder: 1408481

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194585

| Sample ID: <b>MB-194585</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273400</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194585</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769232</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194585</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273400</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194585</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769229</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |       |        |       |  |     |    |     |  |  |  |  |
|-----------|-------|--------|-------|--|-----|----|-----|--|--|--|--|
| Antimony  | 1.066 | 0.0200 | 1.000 |  | 107 | 80 | 120 |  |  |  |  |
| Arsenic   | 1.036 | 0.0500 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Barium    | 1.052 | 0.0200 | 1.000 |  | 105 | 80 | 120 |  |  |  |  |
| Beryllium | 1.033 | 0.0100 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |
| Cadmium   | 1.042 | 0.0050 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Chromium  | 1.041 | 0.0100 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Copper    | 1.040 | 0.0100 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Lead      | 1.038 | 0.0100 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Nickel    | 1.036 | 0.0200 | 1.000 |  | 104 | 80 | 120 |  |  |  |  |
| Zinc      | 1.032 | 0.0200 | 1.000 |  | 103 | 80 | 120 |  |  |  |  |

|                    |  |   |  |
|--------------------|--|---|--|
| <b>Qualifiers:</b> | > 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: 1408481

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194585

| Sample ID: <b>1408386-001AMS</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273400</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194585</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769248</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |  |  |  |   |
|-----------|--------|--------|-------|----------|------|----|-----|--|--|--|---|
| Antimony  | 1.033  | 0.0200 | 1.000 |          | 103  | 75 | 125 |  |  |  |   |
| Arsenic   | 1.011  | 0.0500 | 1.000 |          | 101  | 75 | 125 |  |  |  |   |
| Barium    | 2.690  | 0.0200 | 1.000 | 1.698    | 99.2 | 75 | 125 |  |  |  |   |
| Beryllium | 1.002  | 0.0100 | 1.000 | 0.004025 | 99.8 | 75 | 125 |  |  |  |   |
| Cadmium   | 1.010  | 0.0050 | 1.000 | 0.001412 | 101  | 75 | 125 |  |  |  |   |
| Chromium  | 0.9931 | 0.0100 | 1.000 |          | 99.3 | 75 | 125 |  |  |  |   |
| Copper    | 1.047  | 0.0100 | 1.000 | 0.04229  | 100  | 75 | 125 |  |  |  |   |
| Lead      | 0.9865 | 0.0100 | 1.000 | 0.001457 | 98.5 | 75 | 125 |  |  |  |   |
| Nickel    | 1.042  | 0.0200 | 1.000 | 0.06531  | 97.6 | 75 | 125 |  |  |  |   |
| Zinc      | 48.16  | 0.0200 | 1.000 | 48.09    | 7.58 | 75 | 125 |  |  |  | S |

| Sample ID: <b>1408386-001AMSD</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/07/2014</b>     | Run No: <b>273400</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194585</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5769252</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |        |       |    |   |
|-----------|--------|--------|-------|----------|------|----|-----|--------|-------|----|---|
| Antimony  | 1.027  | 0.0200 | 1.000 |          | 103  | 75 | 125 | 1.033  | 0.657 | 20 |   |
| Arsenic   | 1.003  | 0.0500 | 1.000 |          | 100  | 75 | 125 | 1.011  | 0.780 | 20 |   |
| Barium    | 2.686  | 0.0200 | 1.000 | 1.698    | 98.8 | 75 | 125 | 2.690  | 0.140 | 20 |   |
| Beryllium | 0.9948 | 0.0100 | 1.000 | 0.004025 | 99.1 | 75 | 125 | 1.002  | 0.751 | 20 |   |
| Cadmium   | 1.004  | 0.0050 | 1.000 | 0.001412 | 100  | 75 | 125 | 1.010  | 0.559 | 20 |   |
| Chromium  | 0.9865 | 0.0100 | 1.000 |          | 98.6 | 75 | 125 | 0.9931 | 0.666 | 20 |   |
| Copper    | 1.044  | 0.0100 | 1.000 | 0.04229  | 100  | 75 | 125 | 1.047  | 0.260 | 20 |   |
| Lead      | 0.9806 | 0.0100 | 1.000 | 0.001457 | 97.9 | 75 | 125 | 0.9865 | 0.601 | 20 |   |
| Nickel    | 1.033  | 0.0200 | 1.000 | 0.06531  | 96.8 | 75 | 125 | 1.042  | 0.811 | 20 |   |
| Zinc      | 48.14  | 0.0200 | 1.000 | 48.09    | 5.18 | 75 | 125 | 48.16  | 0.050 | 20 | S |

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

Client: ERM-Southeast  
 Project Name: AGL Macon  
 Workorder: 1408481

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194654

|                             |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-194654</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273316</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>194654</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5767533</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194654</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273316</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>194654</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5767534</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2299                      0.010                      0.2500                      92.0                      85                      115

|                                  |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408474-003CMS</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273316</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>194654</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5767545</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2036                      0.010                      0.2500                      81.4                      70                      130

|                                   |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408474-003CMSD</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273316</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>194654</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5767547</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2036                      0.010                      0.2500                      81.4                      70                      130                      0.2036                      0                      20

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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:** 1408481

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194657**

| Sample ID: <b>MB-194657</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273602</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194657</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5773870</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Benzo(a)pyrene         | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Benzo(b)fluoranthene   | BRL   | 0.10  |       |  |      |      |     |  |  |  |  |
| Dibenz(a,h)anthracene  | BRL   | 0.10  |       |  |      |      |     |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | BRL   | 0.050 |       |  |      |      |     |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.617 | 0     | 2.000 |  | 80.8 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCS-194657</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273602</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194657</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5773871</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |  |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.271 | 0.050 | 2.000 |  | 114  | 62.8 | 132 |  |  |  |  |
| Benzo(a)pyrene         | 1.898 | 0.050 | 2.000 |  | 94.9 | 56.4 | 123 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.942 | 0.10  | 2.000 |  | 97.1 | 69.2 | 132 |  |  |  |  |
| Dibenz(a,h)anthracene  | 2.180 | 0.10  | 2.000 |  | 109  | 49.3 | 134 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.733 | 0.050 | 2.000 |  | 86.6 | 48.3 | 137 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.499 | 0     | 2.000 |  | 74.9 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>1408474-003DMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273602</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194657</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5773907</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |          |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|----------|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 2.138 | 0.050 | 2.000 | 0.007990 | 106  | 51.4 | 142 |  |  |  |  |
| Benzo(a)pyrene         | 1.841 | 0.050 | 2.000 | 0.01293  | 91.4 | 48.3 | 126 |  |  |  |  |
| Benzo(b)fluoranthene   | 1.862 | 0.10  | 2.000 |          | 93.1 | 49.9 | 134 |  |  |  |  |
| Dibenz(a,h)anthracene  | 2.328 | 0.10  | 2.000 | 0.02601  | 115  | 41.8 | 121 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.813 | 0.050 | 2.000 | 0.02320  | 89.5 | 42   | 129 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.522 | 0     | 2.000 |          | 76.1 | 53.2 | 145 |  |  |  |  |

**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: 1408481

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194657

| Sample ID: <b>1408474-003DMSD</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273602</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194657</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5773909</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |          |      |      |     |       |      |      |  |
|------------------------|-------|-------|-------|----------|------|------|-----|-------|------|------|--|
| Benz(a)anthracene      | 1.993 | 0.050 | 2.000 | 0.007990 | 99.3 | 51.4 | 142 | 2.138 | 6.99 | 48.1 |  |
| Benzo(a)pyrene         | 1.702 | 0.050 | 2.000 | 0.01293  | 84.4 | 48.3 | 126 | 1.841 | 7.86 | 53.5 |  |
| Benzo(b)fluoranthene   | 1.720 | 0.10  | 2.000 |          | 86.0 | 49.9 | 134 | 1.862 | 7.96 | 51.1 |  |
| Dibenz(a,h)anthracene  | 2.142 | 0.10  | 2.000 | 0.02601  | 106  | 41.8 | 121 | 2.328 | 8.32 | 54.2 |  |
| Indeno(1,2,3-cd)pyrene | 2.070 | 0.050 | 2.000 | 0.02320  | 102  | 42   | 129 | 1.813 | 13.2 | 44.6 |  |
| Surr: 4-Terphenyl-d14  | 1.401 | 0     | 2.000 |          | 70.0 | 53.2 | 145 | 1.522 | 0    | 0    |  |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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:** 1408481

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194659**

| Sample ID: <b>MB-194659</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273307</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194659</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5768300</b> |      |           |            |             |      |           |      |
| 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 | 45.49 | 0   | 50.00 |  | 91.0 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 51.00 | 0   | 50.00 |  | 102  | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 51.21 | 0   | 50.00 |  | 102  | 77   | 117 |  |  |  |  |

| Sample ID: <b>LCS-194659</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273307</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194659</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5768341</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 50.02 | 5.0 | 50.00 |  | 100  | 74.2 | 129 |  |  |  |  |
| Toluene                    | 52.58 | 5.0 | 50.00 |  | 105  | 74.2 | 129 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 45.77 | 0   | 50.00 |  | 91.5 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 48.71 | 0   | 50.00 |  | 97.4 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 50.29 | 0   | 50.00 |  | 101  | 77   | 117 |  |  |  |  |

| Sample ID: <b>1408474-003AMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/08/2014</b>     | Run No: <b>273307</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194659</b> | Analysis Date: <b>08/08/2014</b> | Seq No: <b>5768647</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 49.93 | 5.0 | 50.00 |  | 99.9 | 70.2 | 138 |  |  |  |  |
| Toluene                    | 52.33 | 5.0 | 50.00 |  | 105  | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 44.92 | 0   | 50.00 |  | 89.8 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 49.39 | 0   | 50.00 |  | 98.8 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 52.07 | 0   | 50.00 |  | 104  | 77   | 117 |  |  |  |  |

**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: 1408481

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194659

| Sample ID: 1408474-003AMSD | Client ID:  | Units: ug/L     | Prep Date: 08/08/2014     | Run No: 273307  |      |           |            |             |      |           |      |
|----------------------------|---|-----------------|---------------------------|-----------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: MSD            | TestCode: Volatile Organic Compounds by GC/MS SW8260B | BatchID: 194659 | Analysis Date: 08/08/2014 | Seq No: 5768660 |      |           |            |             |      |           |      |
| Analyte                    | Result  | RPT Limit       | SPK value                 | SPK Ref Val     | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |       |      |    |  |
|----------------------------|-------|-----|-------|--|------|------|-----|-------|------|----|--|
| Benzene                    | 48.60 | 5.0 | 50.00 |  | 97.2 | 70.2 | 138 | 49.93 | 2.70 | 20 |  |
| Toluene                    | 51.38 | 5.0 | 50.00 |  | 103  | 70   | 139 | 52.33 | 1.83 | 20 |  |
| Surr: 4-Bromofluorobenzene | 44.99 | 0   | 50.00 |  | 90.0 | 66.2 | 120 | 44.92 | 0    | 0  |  |
| Surr: Dibromofluoromethane | 49.97 | 0   | 50.00 |  | 99.9 | 79.5 | 121 | 49.39 | 0    | 0  |  |
| Surr: Toluene-d8           | 50.71 | 0   | 50.00 |  | 101  | 77   | 117 | 52.07 | 0    | 0  |  |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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: 1408481

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194690

| Sample ID: <b>MB-194690</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5771508</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 95.03 | 0  | 100.0 |  | 95.0 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 48.47 | 0  | 50.00 |  | 96.9 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 63.60 | 0  | 100.0 |  | 63.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 58.17 | 0  | 50.00 |  | 116  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 40.23 | 0  | 50.00 |  | 80.5 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 41.48 | 0  | 100.0 |  | 41.5 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-194690</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5771509</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 110.5 | 10 | 100.0 |  | 111  | 67.7 | 122 |  |  |  |  |
| Phenol       | 49.79 | 10 | 100.0 |  | 49.8 | 24.6 | 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: 1408481

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194690

| Sample ID: <b>LCS-194690</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5771509</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Pyrene                     | 118.4 | 10 | 100.0 |  | 118  | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 116.2 | 0  | 100.0 |  | 116  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 56.88 | 0  | 50.00 |  | 114  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 74.91 | 0  | 100.0 |  | 74.9 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 62.60 | 0  | 50.00 |  | 125  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 50.44 | 0  | 50.00 |  | 101  | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 50.49 | 0  | 100.0 |  | 50.5 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1408474-002DMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5771821</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 88.84 | 10 | 100.0 |  | 88.8 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 57.06 | 10 | 100.0 |  | 57.1 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 94.54 | 10 | 100.0 |  | 94.5 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 98.09 | 0  | 100.0 |  | 98.1 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 42.03 | 0  | 50.00 |  | 84.1 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 67.62 | 0  | 100.0 |  | 67.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 49.32 | 0  | 50.00 |  | 98.6 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 39.89 | 0  | 50.00 |  | 79.8 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 56.73 | 0  | 100.0 |  | 56.7 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1408474-002DMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>274032</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/19/2014</b> | Seq No: <b>5782809</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |       |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|-------|------|--|
| Acenaphthene | 89.67 | 10 | 100.0 |  | 89.7 | 51.9 | 120 | 88.84 | 0.930 | 24.9 |  |
| Phenol       | 51.69 | 10 | 100.0 |  | 51.7 | 30.5 | 120 | 57.06 | 9.88  | 34.4 |  |

**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: 1408481

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194690

| Sample ID: <b>1408474-002DMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>274032</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/19/2014</b> | Seq No: <b>5782809</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |       |      |      |  |
|----------------------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Pyrene                     | 86.92 | 10 | 100.0 |  | 86.9 | 50.6 | 120 | 94.54 | 8.40 | 26.7 |  |
| Surr: 2,4,6-Tribromophenol | 105.3 | 0  | 100.0 |  | 105  | 51.5 | 124 | 98.09 | 0    | 0    |  |
| Surr: 2-Fluorobiphenyl     | 43.29 | 0  | 50.00 |  | 86.6 | 51.7 | 118 | 42.03 | 0    | 0    |  |
| Surr: 2-Fluorophenol       | 67.62 | 0  | 100.0 |  | 67.6 | 26   | 120 | 67.62 | 0    | 0    |  |
| Surr: 4-Terphenyl-d14      | 49.03 | 0  | 50.00 |  | 98.1 | 45.2 | 137 | 49.32 | 0    | 0    |  |
| Surr: Nitrobenzene-d5      | 39.24 | 0  | 50.00 |  | 78.5 | 42   | 120 | 39.89 | 0    | 0    |  |
| Surr: Phenol-d5            | 51.16 | 0  | 100.0 |  | 51.2 | 12.3 | 120 | 56.73 | 0    | 0    |  |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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: 1408481

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194741

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-194741</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273507</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194741</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5772276</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194741</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273507</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194741</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5772279</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005049 0.00020 0.0050 101 80 120

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408481-001BMS</b> | Client ID: <b>MW-08D-20140806-01</b>    | Units: <b>mg/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273507</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194741</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5772285</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005067 0.00020 0.0050 101 70 130

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408481-001BMSD</b> | Client ID: <b>MW-08D-20140806-01</b>    | Units: <b>mg/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273507</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194741</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5772288</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005166 0.00020 0.0050 103 70 130 0.005067 1.93 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



August 19, 2014

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

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

RE: AGLC Macon

Dear Nic Verv:

Order No: 1408489

Analytical Environmental Services, Inc. received 11 samples on 8/8/2014 9:05:00 AM for the analyses presented in following report.

No problems were encountered during the analyses. Additionally, all results for the associated Quality Control samples were within EPA and/or AES established limits. Any discrepancies associated with the analyses contained herein will be noted and submitted in the form of a project Case Narrative.

AES' certifications are as follows:

- NELAC/Florida Certification number E87582 for analysis of Environmental Water, soil/hazardous waste, and Drinking Water Microbiology, effective 07/01/14-06/30/15.
- AIHA-LAP, LLC Laboratory ID: 100671 for Industrial Hygiene samples (Organics, Inorganics), Environmental Lead (Paint, Soil, Dust Wipes, Air), and Environmental Microbiology (Fungal) Direct Examination, effective until 09/01/15.

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

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

Mirzeta Kararic  
Project Manager



# 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: 1408489

Date: 8/7/14 Page 1 of 1

| #  | SAMPLE ID            | DATE   | TIME | Grab | Composite | Matrix (See codes) | ANALYSIS REQUESTED |      |         |                  | REMARKS | No # of Containers |  |
|----|----------------------|--------|------|------|-----------|--------------------|--------------------|------|---------|------------------|---------|--------------------|--|
|    |                      |        |      |      |           |                    | 8270               | 8260 | Cyanide | Metals & Mercury |         |                    |  |
| 1  | MW-307D-20140806-01  | 8/6/14 | 1445 | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 2  | MW-205D-20140806-01  | "      | 1600 | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 3  | MW-205DD-20140806-01 | "      | 1740 | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 4  | Dup-03-20140806-01   | "      | -    | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 5  | MW-305D-20140807-01  | 8/7/14 | 1045 | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 6  | MW-200DR-20140807-01 | "      | 1200 | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 7  | MW-301D-20140807-01  | "      | 1315 | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 8  | MW-302DD-20140807-01 | "      | 1100 | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 9  | MW-302D-20140807-01  | "      | 1245 | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 10 | MW-111D-20140807-01  | "      | 1415 | ✓    |           | GW                 |                    |      |         |                  |         |                    |  |
| 11 | TB-01                | "      | -    |      |           | W                  |                    |      |         |                  |         |                    |  |
| 12 | Temp Blanks          | "      | -    |      |           | W                  |                    |      |         |                  |         |                    |  |
| 13 |                      |        |      |      |           |                    |                    |      |         |                  |         |                    |  |
| 14 |                      |        |      |      |           |                    |                    |      |         |                  |         |                    |  |

|                            |  |
|----------------------------|--|
| COMPANY: <u>ERM</u>        | ADDRESS: <u>3200 Windy Hill Road Suite 1500W Atlanta, GA 30339</u> |
| PHONE: <u>678-486-2700</u> | FAX: _____   |
| SAMPLED BY: <u>A Kelly</u> | SIGNATURE: <u>[Signature]</u>                                      |

|                                     |                                  |
|-------------------------------------|----------------------------------|
| RELINQUISHED BY: <u>[Signature]</u> | DATE/TIME: <u>08/08/14 09:05</u> |
| RECEIVED BY: <u>[Signature]</u>     | DATE/TIME: <u>8/8/14 9:05</u>    |

|   |                                   |
|---|-----------------------------------|
| PROJECT NAME: <u>AGLC Mason</u>           | PROJECT INFORMATION               |
| PROJECT #: <u>0230715</u>                 | Turnaround Time Request           |
| SITE ADDRESS: <u>Walnut St. Mason, GA</u> | Standard 5 Business Days          |
| SEND REPORT TO: <u>Nic.Vry @ em.com</u>   | 2 Business Day Rush               |
| INVOICE TO: _____                         | Next Business Day Rush            |
| (IF DIFFERENT FROM ABOVE)                 | Same Day Rush (auth req)          |
| QUOTE #: _____                            | Other                             |
| PO#: _____                                | STATE PROGRAM (if any): _____     |
|   | E-mail? Y/N: _____ Fax? Y/N _____ |
|   | DATA PACKAGE: I II III IV         |

|                                |   |
|--------------------------------|---|
| SPECIAL INSTRUCTIONS/COMMENTS: | SHIPMENT METHOD                           |
|                                | OUT / / VIA:                              |
|                                | IN / / VIA:                               |
|                                | CLIENT: <u>Greyhound</u> UPS MAIL COURIER |
|                                | 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 SB = 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 SM+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

**Client:** ERM-Southeast  
**Project:** AGLC Macon  
**Lab ID:** 1408489

**Case Narrative**

Volatiles Organic Compounds Analysis by Method 8260B:

Due to sample matrix, samples 1408489-002A, & -005A required dilution during preparation and/or analysis resulting in elevated reporting limits.

Semi-Volatile Organics Analysis by Method 8270D:

Percent recovery for the surrogate spiking compound 2,4,6 Tribromophenol on QC sample LCS-194871 was outside control limits biased high. All other surrogate recoveries were within control limits.

PAH Analysis by Method 8270D SIM:

Due to sample matrix, sample 1408489-005D required dilution during preparation and/or analysis resulting in elevated reporting limits.

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1408489-001

Client Sample ID: MW-307D-20140806-01  
 Collection Date: 8/6/2014 2:45:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b>   |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L             | 194895  | 1               | 08/14/2014 04:10 | NP      |
| Carbon disulfide                                     | BRL    | 5.0             |      | ug/L             | 194895  | 1               | 08/14/2014 04:10 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L             | 194895  | 1               | 08/14/2014 04:10 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L             | 194895  | 1               | 08/14/2014 04:10 | NP      |
| Xylenes, Total                                       | BRL    | 5.0             |      | ug/L             | 194895  | 1               | 08/14/2014 04:10 | NP      |
| Surr: 4-Bromofluorobenzene                           | 86.1   | 66.2-120        |      | %REC             | 194895  | 1               | 08/14/2014 04:10 | NP      |
| Surr: Dibromofluoromethane                           | 104    | 79.5-121        |      | %REC             | 194895  | 1               | 08/14/2014 04:10 | NP      |
| Surr: Toluene-d8                                     | 102    | 77-117          |      | %REC             | 194895  | 1               | 08/14/2014 04:10 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| Benz(a)anthracene                                    | BRL    | 0.050           |      | ug/L             | 194761  | 1               | 08/15/2014 11:44 | YH      |
| Benzo(b)fluoranthene                                 | BRL    | 0.10            |      | ug/L             | 194761  | 1               | 08/15/2014 11:44 | YH      |
| Benzo(a)pyrene                                       | BRL    | 0.050           |      | ug/L             | 194761  | 1               | 08/15/2014 11:44 | YH      |
| Indeno(1,2,3-cd)pyrene                               | BRL    | 0.050           |      | ug/L             | 194761  | 1               | 08/15/2014 11:44 | YH      |
| Dibenz(a,h)anthracene                                | BRL    | 0.10            |      | ug/L             | 194761  | 1               | 08/15/2014 11:44 | YH      |
| Surr: 4-Terphenyl-d14                                | 98.9   | 53.2-145        |      | %REC             | 194761  | 1               | 08/15/2014 11:44 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>      |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| 2,4-Dimethylphenol                                   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| 2-Methylphenol                                       | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| 3,4-Methylphenol                                     | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Acenaphthylene                                       | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Benzo(g,h,i)perylene                                 | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Benzo(k)fluoranthene                                 | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Naphthalene  | 11     | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Phenol   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Surr: 2,4,6-Tribromophenol                           | 101    | 51.5-124        |      | %REC             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Surr: 2-Fluorobiphenyl                               | 89.1   | 51.7-118        |      | %REC             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Surr: 2-Fluorophenol                                 | 71.1   | 26-120          |      | %REC             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Surr: 4-Terphenyl-d14                                | 88.8   | 45.2-137        |      | %REC             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Surr: Nitrobenzene-d5                                | 78.3   | 42-120          |      | %REC             | 194690  | 1               | 08/12/2014 09:44 | YH      |
| Surr: Phenol-d5                                      | 54     | 12.3-120        |      | %REC             | 194690  | 1               | 08/12/2014 09:44 | YH      |

**Mercury, Total SW7470A****(SW7470A)**

**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:** 20-Aug-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-307D-20140806-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/6/2014 2:45:00 PM  |
| <b>Lab ID:</b> 1408489-001      | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:37 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | JL      |
| Barium                        | 1.55   | 0.0200          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | JL      |
| Chromium                      | 0.0783 | 0.0100          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/13/2014 23:48 | 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

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-205D-20140806-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/6/2014 4:00:00 PM  |
| <b>Lab ID:</b> 1408489-002      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 6700   | 250             |      | ug/L  | 194895  | 50              | 08/14/2014 14:00 | NP      |
| Carbon disulfide   | BRL    | 50              |      | ug/L  | 194895  | 10              | 08/14/2014 02:56 | NP      |
| Ethylbenzene   | 1200   | 50              |      | ug/L  | 194895  | 10              | 08/14/2014 02:56 | NP      |
| Toluene  | BRL    | 50              |      | ug/L  | 194895  | 10              | 08/14/2014 02:56 | NP      |
| Xylenes, Total   | 720    | 50              |      | ug/L  | 194895  | 10              | 08/14/2014 02:56 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 87.7   | 66.2-120        |      | %REC  | 194895  | 50              | 08/14/2014 14:00 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 90     | 66.2-120        |      | %REC  | 194895  | 10              | 08/14/2014 02:56 | NP      |
| Surr: Dibromofluoromethane                                     | 98.9   | 79.5-121        |      | %REC  | 194895  | 50              | 08/14/2014 14:00 | NP      |
| Surr: Dibromofluoromethane                                     | 97.2   | 79.5-121        |      | %REC  | 194895  | 10              | 08/14/2014 02:56 | NP      |
| Surr: Toluene-d8   | 98.7   | 77-117          |      | %REC  | 194895  | 50              | 08/14/2014 14:00 | NP      |
| Surr: Toluene-d8   | 98.9   | 77-117          |      | %REC  | 194895  | 10              | 08/14/2014 02:56 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 12:09 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 12:09 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 12:09 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 12:09 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 12:09 | YH      |
| Surr: 4-Terphenyl-d14  | 82.9   | 53.2-145        |      | %REC  | 194761  | 1               | 08/15/2014 12:09 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Acenaphthene   | 200    | 100             |      | ug/L  | 194690  | 10              | 08/14/2014 22:48 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Fluorene   | 47     | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Naphthalene  | 6000   | 1000            |      | ug/L  | 194690  | 100             | 08/14/2014 22:22 | YH      |
| Phenanthrene   | 44     | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Phenol   | 18     | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 104    | 51.5-124        |      | %REC  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Surr: 2-Fluorobiphenyl   | 90.8   | 51.7-118        |      | %REC  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Surr: 2-Fluorophenol   | 71.4   | 26-120          |      | %REC  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Surr: 4-Terphenyl-d14  | 102    | 45.2-137        |      | %REC  | 194690  | 1               | 08/12/2014 17:39 | YH      |
| Surr: Nitrobenzene-d5  | 132    | 42-120          | S    | %REC  | 194690  | 1               | 08/12/2014 17:39 | 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:** 20-Aug-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-205D-20140806-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/6/2014 4:00:00 PM  |
| <b>Lab ID:</b> 1408489-002      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> |        |                 |      |       | <b>(SW3510C)</b> |                 |                  |         |
| Surr: Phenol-d5                                 | 58.2   | 12.3-120        |      | %REC  | 194690           | 1               | 08/12/2014 17:39 | YH      |
| <b>Mercury, Total SW7470A</b>                   |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury   | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:21 | CG      |
| <b>Cyanide SW9014</b>                           |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                                  | 0.020  | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>                    |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony  | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | JL      |
| Arsenic   | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | JL      |
| Barium  | 3.02   | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | JL      |
| Beryllium                                       | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | JL      |
| Cadmium   | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | JL      |
| Chromium  | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | JL      |
| Copper  | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | JL      |
| Lead  | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | JL      |
| Nickel  | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | JL      |
| Zinc  | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:08 | 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1408489-003

Client Sample ID: MW-205DD-20140806-01  
 Collection Date: 8/6/2014 5:40:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 04:35 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 04:35 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 04:35 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 04:35 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 04:35 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 83.3   | 66.2-120        |      | %REC  | 194895  | 1               | 08/14/2014 04:35 | NP      |
| Surr: Dibromofluoromethane                                     | 102    | 79.5-121        |      | %REC  | 194895  | 1               | 08/14/2014 04:35 | NP      |
| Surr: Toluene-d8   | 100    | 77-117          |      | %REC  | 194895  | 1               | 08/14/2014 04:35 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 12:34 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 12:34 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 12:34 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 12:34 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 12:34 | YH      |
| Surr: 4-Terphenyl-d14  | 72.3   | 53.2-145        |      | %REC  | 194761  | 1               | 08/15/2014 12:34 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 93.8   | 51.5-124        |      | %REC  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Surr: 2-Fluorobiphenyl   | 81     | 51.7-118        |      | %REC  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Surr: 2-Fluorophenol   | 66.6   | 26-120          |      | %REC  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Surr: 4-Terphenyl-d14  | 97.9   | 45.2-137        |      | %REC  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Surr: Nitrobenzene-d5  | 72.8   | 42-120          |      | %REC  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| Surr: Phenol-d5  | 53.9   | 12.3-120        |      | %REC  | 194690  | 1               | 08/12/2014 18:06 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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: 20-Aug-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-205DD-20140806-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/6/2014 5:40:00 PM   |
| <b>Lab ID:</b> 1408489-003      | <b>Matrix:</b> Groundwater                    |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:39 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |
| Barium                        | 0.0229 | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |
| Zinc                          | 0.0238 | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:12 | JL      |

**Qualifiers:**

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- BRL Below reporting limit
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- 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:** 20-Aug-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> DUP-03-20140806-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/6/2014            |
| <b>Lab ID:</b> 1408489-004      | <b>Matrix:</b> Groundwater                  |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 06:13 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 06:13 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 06:13 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 06:13 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 06:13 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 86     | 66.2-120        |      | %REC  | 194895  | 1               | 08/14/2014 06:13 | NP      |
| Surr: Dibromofluoromethane                                     | 102    | 79.5-121        |      | %REC  | 194895  | 1               | 08/14/2014 06:13 | NP      |
| Surr: Toluene-d8   | 100    | 77-117          |      | %REC  | 194895  | 1               | 08/14/2014 06:13 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 12:59 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 12:59 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 12:59 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 12:59 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 12:59 | YH      |
| Surr: 4-Terphenyl-d14  | 73.2   | 53.2-145        |      | %REC  | 194761  | 1               | 08/15/2014 12:59 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 94.8   | 51.5-124        |      | %REC  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Surr: 2-Fluorobiphenyl   | 82.9   | 51.7-118        |      | %REC  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Surr: 2-Fluorophenol   | 65.1   | 26-120          |      | %REC  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Surr: 4-Terphenyl-d14  | 104    | 45.2-137        |      | %REC  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Surr: Nitrobenzene-d5  | 76.9   | 42-120          |      | %REC  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| Surr: Phenol-d5  | 50.7   | 12.3-120        |      | %REC  | 194690  | 1               | 08/12/2014 00:42 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 20-Aug-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> DUP-03-20140806-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/6/2014            |
| <b>Lab ID:</b> 1408489-004      | <b>Matrix:</b> Groundwater                  |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:41 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |
| Barium                        | 0.0212 | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |
| Zinc                          | 0.0228 | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:15 | JL      |

**Qualifiers:**

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- 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: 20-Aug-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-305D-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 10:45:00 AM |
| <b>Lab ID:</b> 1408489-005      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units            | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|------------------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B</b>   |        |                 |      | <b>(SW5030B)</b> |         |                 |                  |         |
| Benzene  | 9300   | 500             |      | ug/L             | 194895  | 100             | 08/14/2014 02:08 | NP      |
| Carbon disulfide                                     | BRL    | 500             |      | ug/L             | 194895  | 100             | 08/14/2014 02:08 | NP      |
| Ethylbenzene   | BRL    | 500             |      | ug/L             | 194895  | 100             | 08/14/2014 02:08 | NP      |
| Toluene  | 3900   | 500             |      | ug/L             | 194895  | 100             | 08/14/2014 02:08 | NP      |
| Xylenes, Total                                       | BRL    | 500             |      | ug/L             | 194895  | 100             | 08/14/2014 02:08 | NP      |
| Surr: 4-Bromofluorobenzene                           | 86.4   | 66.2-120        |      | %REC             | 194895  | 100             | 08/14/2014 02:08 | NP      |
| Surr: Dibromofluoromethane                           | 101    | 79.5-121        |      | %REC             | 194895  | 100             | 08/14/2014 02:08 | NP      |
| Surr: Toluene-d8                                     | 99.4   | 77-117          |      | %REC             | 194895  | 100             | 08/14/2014 02:08 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| Benz(a)anthracene                                    | 2.6    | 0.10            |      | ug/L             | 194761  | 1               | 08/15/2014 13:25 | YH      |
| Benzo(b)fluoranthene                                 | 1.6    | 0.20            |      | ug/L             | 194761  | 1               | 08/15/2014 13:25 | YH      |
| Benzo(a)pyrene                                       | 1.9    | 0.10            |      | ug/L             | 194761  | 1               | 08/15/2014 13:25 | YH      |
| Indeno(1,2,3-cd)pyrene                               | 0.56   | 0.10            |      | ug/L             | 194761  | 1               | 08/15/2014 13:25 | YH      |
| Dibenz(a,h)anthracene                                | BRL    | 0.20            |      | ug/L             | 194761  | 1               | 08/15/2014 13:25 | YH      |
| Surr: 4-Terphenyl-d14                                | 160    | 53.2-145        | S    | %REC             | 194761  | 1               | 08/15/2014 13:25 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b>      |        |                 |      | <b>(SW3510C)</b> |         |                 |                  |         |
| 2,4-Dimethylphenol                                   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| 2-Methylphenol                                       | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| 3,4-Methylphenol                                     | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Acenaphthylene                                       | 79     | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Benzo(g,h,i)perylene                                 | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Benzo(k)fluoranthene                                 | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Fluorene   | 24     | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Naphthalene  | 1100   | 100             |      | ug/L             | 194690  | 10              | 08/13/2014 04:18 | YH      |
| Phenanthrene   | 39     | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Phenol   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Surr: 2,4,6-Tribromophenol                           | 114    | 51.5-124        |      | %REC             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Surr: 2-Fluorobiphenyl                               | 89.2   | 51.7-118        |      | %REC             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Surr: 2-Fluorophenol                                 | 69.9   | 26-120          |      | %REC             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Surr: 4-Terphenyl-d14                                | 98.4   | 45.2-137        |      | %REC             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Surr: Nitrobenzene-d5                                | 90.6   | 42-120          |      | %REC             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| Surr: Phenol-d5                                      | 58.6   | 12.3-120        |      | %REC             | 194690  | 1               | 08/12/2014 01:08 | YH      |
| <b>Mercury, Total SW7470A</b>                        |        |                 |      | <b>(SW7470A)</b> |         |                 |                  |         |

**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:** 20-Aug-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-305D-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 10:45:00 AM |
| <b>Lab ID:</b> 1408489-005      | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:43 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | BRL    | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |
| Barium                        | 0.136  | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |
| Chromium                      | 0.0112 | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:19 | JL      |

**Qualifiers:**

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- BRL Below reporting limit
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- N Analyte not NELAC certified
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- > 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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1408489-006

Client Sample ID: MW-200DR-20140807-01  
 Collection Date: 8/7/2014 12:00:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 19     | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:00 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:00 | NP      |
| Ethylbenzene   | 8.1    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:00 | NP      |
| Toluene  | 16     | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:00 | NP      |
| Xylenes, Total   | 7.2    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:00 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 87.1   | 66.2-120        |      | %REC  | 194895  | 1               | 08/14/2014 05:00 | NP      |
| Surr: Dibromofluoromethane                                     | 98.8   | 79.5-121        |      | %REC  | 194895  | 1               | 08/14/2014 05:00 | NP      |
| Surr: Toluene-d8   | 99.5   | 77-117          |      | %REC  | 194895  | 1               | 08/14/2014 05:00 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.052  | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 13:50 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 13:50 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 13:50 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 13:50 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 13:50 | YH      |
| Surr: 4-Terphenyl-d14  | 81.3   | 53.2-145        |      | %REC  | 194761  | 1               | 08/15/2014 13:50 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Acenaphthene   | 14     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Fluorene   | 10     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 109    | 51.5-124        |      | %REC  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Surr: 2-Fluorobiphenyl   | 90.1   | 51.7-118        |      | %REC  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Surr: 2-Fluorophenol   | 75.1   | 26-120          |      | %REC  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Surr: 4-Terphenyl-d14  | 113    | 45.2-137        |      | %REC  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Surr: Nitrobenzene-d5  | 82.3   | 42-120          |      | %REC  | 194871  | 1               | 08/14/2014 16:13 | YH      |
| Surr: Phenol-d5  | 59.2   | 12.3-120        |      | %REC  | 194871  | 1               | 08/14/2014 16:13 | YH      |

**Mercury, Total SW7470A****(SW7470A)**

**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

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- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

**Analytical Environmental Services, Inc**

**Date:** 20-Aug-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-200DR-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 12:00:00 PM  |
| <b>Lab ID:</b> 1408489-006      | <b>Matrix:</b> Groundwater                    |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:45 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | 0.021  | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | JL      |
| Barium                        | 0.938  | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:23 | 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

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-301D-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 1:15:00 PM  |
| <b>Lab ID:</b> 1408489-007      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 6.0    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:24 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:24 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:24 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:24 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:24 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 85.6   | 66.2-120        |      | %REC  | 194895  | 1               | 08/14/2014 05:24 | NP      |
| Surr: Dibromofluoromethane                                     | 102    | 79.5-121        |      | %REC  | 194895  | 1               | 08/14/2014 05:24 | NP      |
| Surr: Toluene-d8   | 99.3   | 77-117          |      | %REC  | 194895  | 1               | 08/14/2014 05:24 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 14:14 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 14:14 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 14:14 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 14:14 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 14:14 | YH      |
| Surr: 4-Terphenyl-d14  | 80     | 53.2-145        |      | %REC  | 194761  | 1               | 08/15/2014 14:14 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Naphthalene  | 120    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 102    | 51.5-124        |      | %REC  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Surr: 2-Fluorobiphenyl   | 85.7   | 51.7-118        |      | %REC  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Surr: 2-Fluorophenol   | 71     | 26-120          |      | %REC  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Surr: 4-Terphenyl-d14  | 96.6   | 45.2-137        |      | %REC  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Surr: Nitrobenzene-d5  | 75     | 42-120          |      | %REC  | 194871  | 1               | 08/14/2014 14:54 | YH      |
| Surr: Phenol-d5  | 55.5   | 12.3-120        |      | %REC  | 194871  | 1               | 08/14/2014 14:54 | YH      |

**Mercury, Total SW7470A (SW7470A)**

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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:** 20-Aug-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-301D-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 1:15:00 PM  |
| <b>Lab ID:</b> 1408489-007      | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:47 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | 0.106  | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | JL      |
| Barium                        | 0.851  | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:34 | 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: 20-Aug-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-302DD-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 11:00:00 AM  |
| <b>Lab ID:</b> 1408489-008      | <b>Matrix:</b> Groundwater                    |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 7.6    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:49 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:49 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:49 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:49 | NP      |
| Xylenes, Total   | 7.2    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 05:49 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 87     | 66.2-120        |      | %REC  | 194895  | 1               | 08/14/2014 05:49 | NP      |
| Surr: Dibromofluoromethane                                     | 101    | 79.5-121        |      | %REC  | 194895  | 1               | 08/14/2014 05:49 | NP      |
| Surr: Toluene-d8   | 98.7   | 77-117          |      | %REC  | 194895  | 1               | 08/14/2014 05:49 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 14:40 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 14:40 | YH      |
| Benzo(a)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 14:40 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 14:40 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 14:40 | YH      |
| Surr: 4-Terphenyl-d14  | 72.9   | 53.2-145        |      | %REC  | 194761  | 1               | 08/15/2014 14:40 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Naphthalene  | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 103    | 51.5-124        |      | %REC  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Surr: 2-Fluorobiphenyl   | 83.9   | 51.7-118        |      | %REC  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Surr: 2-Fluorophenol   | 57.8   | 26-120          |      | %REC  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Surr: 4-Terphenyl-d14  | 101    | 45.2-137        |      | %REC  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Surr: Nitrobenzene-d5  | 70.4   | 42-120          |      | %REC  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| Surr: Phenol-d5  | 48.5   | 12.3-120        |      | %REC  | 194871  | 1               | 08/14/2014 15:21 | YH      |
| <b>Mercury, Total SW7470A (SW7470A)</b>                        |        |                 |      |       |         |                 |                  |         |

**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:** 20-Aug-14

|                                 |   |
|---------------------------------|---|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-302DD-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 11:00:00 AM  |
| <b>Lab ID:</b> 1408489-008      | <b>Matrix:</b> Groundwater                    |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:49 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | 0.069  | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | JL      |
| Barium                        | 0.654  | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:38 | 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:** 20-Aug-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-302D-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 12:45:00 PM |
| <b>Lab ID:</b> 1408489-009      | <b>Matrix:</b> Groundwater                   |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 16:58 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 16:58 | NP      |
| Ethylbenzene   | 32     | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 16:58 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 16:58 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 16:58 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 87.7   | 66.2-120        |      | %REC  | 194895  | 1               | 08/14/2014 16:58 | NP      |
| Surr: Dibromofluoromethane                                     | 103    | 79.5-121        |      | %REC  | 194895  | 1               | 08/14/2014 16:58 | NP      |
| Surr: Toluene-d8   | 99.5   | 77-117          |      | %REC  | 194895  | 1               | 08/14/2014 16:58 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 0.069  | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 15:05 | YH      |
| Benzo(b)fluoranthene   | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 15:05 | YH      |
| Benzo(a)pyrene   | 0.053  | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 15:05 | YH      |
| Indeno(1,2,3-cd)pyrene   | BRL    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 15:05 | YH      |
| Dibenz(a,h)anthracene  | BRL    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 15:05 | YH      |
| Surr: 4-Terphenyl-d14  | 72.4   | 53.2-145        |      | %REC  | 194761  | 1               | 08/15/2014 15:05 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Acenaphthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Acenaphthylene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Anthracene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Fluoranthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Fluorene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Naphthalene  | 130    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Phenanthrene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Phenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Pyrene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 101    | 51.5-124        |      | %REC  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Surr: 2-Fluorobiphenyl   | 85.9   | 51.7-118        |      | %REC  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Surr: 2-Fluorophenol   | 71.1   | 26-120          |      | %REC  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Surr: 4-Terphenyl-d14  | 109    | 45.2-137        |      | %REC  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Surr: Nitrobenzene-d5  | 76.7   | 42-120          |      | %REC  | 194871  | 1               | 08/14/2014 16:40 | YH      |
| Surr: Phenol-d5  | 54.4   | 12.3-120        |      | %REC  | 194871  | 1               | 08/14/2014 16:40 | YH      |

**Mercury, Total SW7470A**

**(SW7470A)**

|                    |  |  |
|--------------------|--|--|
| <b>Qualifiers:</b> | * 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:** 20-Aug-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-302D-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 12:45:00 PM |
| <b>Lab ID:</b> 1408489-009      | <b>Matrix:</b> Groundwater                   |

| Analyses                      | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|-------------------------------|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Mercury, Total SW7470A</b> |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury                       | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:51 | CG      |
| <b>Cyanide SW9014</b>         |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                | 0.189  | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>  |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony                      | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |
| Arsenic                       | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |
| Barium                        | 0.0715 | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |
| Beryllium                     | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |
| Cadmium                       | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |
| Chromium                      | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |
| Copper                        | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |
| Lead                          | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |
| Nickel                        | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |
| Zinc                          | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:42 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Lab ID: 1408489-010

Client Sample ID: MW-111D-20140807-01  
 Collection Date: 8/7/2014 2:15:00 PM  
 Matrix: Groundwater

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b>   |        |                 |      |       |         |                 |                  |         |
| Benzene  | 2700   | 100             |      | ug/L  | 194895  | 20              | 08/14/2014 15:37 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 14:24 | NP      |
| Ethylbenzene   | 930    | 100             |      | ug/L  | 194895  | 20              | 08/14/2014 15:37 | NP      |
| Toluene  | 1200   | 100             |      | ug/L  | 194895  | 20              | 08/14/2014 15:37 | NP      |
| Xylenes, Total   | 670    | 100             |      | ug/L  | 194895  | 20              | 08/14/2014 15:37 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 95.6   | 66.2-120        |      | %REC  | 194895  | 1               | 08/14/2014 14:24 | NP      |
| Surr: 4-Bromofluorobenzene                                     | 90     | 66.2-120        |      | %REC  | 194895  | 20              | 08/14/2014 15:37 | NP      |
| Surr: Dibromofluoromethane                                     | 95.9   | 79.5-121        |      | %REC  | 194895  | 1               | 08/14/2014 14:24 | NP      |
| Surr: Dibromofluoromethane                                     | 99.4   | 79.5-121        |      | %REC  | 194895  | 20              | 08/14/2014 15:37 | NP      |
| Surr: Toluene-d8   | 99.1   | 77-117          |      | %REC  | 194895  | 20              | 08/14/2014 15:37 | NP      |
| Surr: Toluene-d8   | 98.3   | 77-117          |      | %REC  | 194895  | 1               | 08/14/2014 14:24 | NP      |
| <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D (SW3510C)</b> |        |                 |      |       |         |                 |                  |         |
| Benz(a)anthracene  | 2.0    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 15:31 | YH      |
| Benzo(b)fluoranthene   | 1.2    | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 15:31 | YH      |
| Benzo(a)pyrene   | 1.4    | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 15:31 | YH      |
| Indeno(1,2,3-cd)pyrene   | 0.62   | 0.050           |      | ug/L  | 194761  | 1               | 08/15/2014 15:31 | YH      |
| Dibenz(a,h)anthracene  | 0.13   | 0.10            |      | ug/L  | 194761  | 1               | 08/15/2014 15:31 | YH      |
| Surr: 4-Terphenyl-d14  | 76.1   | 53.2-145        |      | %REC  | 194761  | 1               | 08/15/2014 15:31 | YH      |
| <b>Semivolatile Org. Comp. by GC/MS SW8270D (SW3510C)</b>      |        |                 |      |       |         |                 |                  |         |
| 2,4-Dimethylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| 2-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| 3,4-Methylphenol   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Acenaphthene   | 59     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Acenaphthylene   | 70     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Anthracene   | 14     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Benzo(g,h,i)perylene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Benzo(k)fluoranthene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Chrysene   | BRL    | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Fluoranthene   | 16     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Fluorene   | 64     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Naphthalene  | 3000   | 1000            |      | ug/L  | 194871  | 100             | 08/15/2014 15:28 | YH      |
| Phenanthrene   | 92     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Phenol   | 11     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Pyrene   | 20     | 10              |      | ug/L  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Surr: 2,4,6-Tribromophenol                                     | 107    | 51.5-124        |      | %REC  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Surr: 2-Fluorobiphenyl   | 89.8   | 51.7-118        |      | %REC  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Surr: 2-Fluorophenol   | 68.5   | 26-120          |      | %REC  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Surr: 4-Terphenyl-d14  | 99.6   | 45.2-137        |      | %REC  | 194871  | 1               | 08/14/2014 17:06 | YH      |
| Surr: Nitrobenzene-d5  | 108    | 42-120          |      | %REC  | 194871  | 1               | 08/14/2014 17:06 | 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:** 20-Aug-14

|                                 |  |
|---------------------------------|--|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> MW-111D-20140807-01 |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/7/2014 2:15:00 PM  |
| <b>Lab ID:</b> 1408489-010      | <b>Matrix:</b> Groundwater                   |

| Analyses  | Result | Reporting Limit | Qual | Units | BatchID          | Dilution Factor | Date Analyzed    | Analyst |
|---|--------|-----------------|------|-------|------------------|-----------------|------------------|---------|
| <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> |        |                 |      |       | <b>(SW3510C)</b> |                 |                  |         |
| Surr: Phenol-d5                                 | 58.8   | 12.3-120        |      | %REC  | 194871           | 1               | 08/14/2014 17:06 | YH      |
| <b>Mercury, Total SW7470A</b>                   |        |                 |      |       | <b>(SW7470A)</b> |                 |                  |         |
| Mercury   | BRL    | 0.00020         |      | mg/L  | 194855           | 1               | 08/14/2014 14:53 | CG      |
| <b>Cyanide SW9014</b>                           |        |                 |      |       | <b>(SW9010C)</b> |                 |                  |         |
| Cyanide, Total                                  | 0.010  | 0.010           |      | mg/L  | 194739           | 1               | 08/13/2014 11:17 | PF      |
| <b>METALS, TOTAL SW6010C</b>                    |        |                 |      |       | <b>(SW3010A)</b> |                 |                  |         |
| Antimony  | BRL    | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |
| Arsenic   | BRL    | 0.0500          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |
| Barium  | 0.910  | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |
| Beryllium                                       | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |
| Cadmium   | BRL    | 0.0050          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |
| Chromium  | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |
| Copper  | 0.0110 | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |
| Lead  | BRL    | 0.0100          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |
| Nickel  | 0.0267 | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |
| Zinc  | 0.0258 | 0.0200          |      | mg/L  | 194825           | 1               | 08/14/2014 00:46 | JL      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

|                                 |                                  |
|---------------------------------|----------------------------------|
| <b>Client:</b> ERM-Southeast    | <b>Client Sample ID:</b> TB-01   |
| <b>Project Name:</b> AGLC Macon | <b>Collection Date:</b> 8/8/2014 |
| <b>Lab ID:</b> 1408489-011      | <b>Matrix:</b> Aqueous           |

| Analyses   | Result | Reporting Limit | Qual | Units | BatchID | Dilution Factor | Date Analyzed    | Analyst |
|--|--------|-----------------|------|-------|---------|-----------------|------------------|---------|
| <b>Volatile Organic Compounds by GC/MS SW8260B (SW5030B)</b> |        |                 |      |       |         |                 |                  |         |
| Benzene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 03:45 | NP      |
| Carbon disulfide   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 03:45 | NP      |
| Ethylbenzene   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 03:45 | NP      |
| Toluene  | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 03:45 | NP      |
| Xylenes, Total   | BRL    | 5.0             |      | ug/L  | 194895  | 1               | 08/14/2014 03:45 | NP      |
| Surr: 4-Bromofluorobenzene                                   | 84     | 66.2-120        |      | %REC  | 194895  | 1               | 08/14/2014 03:45 | NP      |
| Surr: Dibromofluoromethane                                   | 102    | 79.5-121        |      | %REC  | 194895  | 1               | 08/14/2014 03:45 | NP      |
| Surr: Toluene-d8   | 99.9   | 77-117          |      | %REC  | 194895  | 1               | 08/14/2014 03:45 | NP      |

**Qualifiers:**

- \* Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value

- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value
- J Estimated value detected below Reporting Limit

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client ERM

Work Order Number 1408489

Checklist completed by [Signature] Date 8/8/14  
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? (4°C±2)\* Yes  No

Cooler #1 31° Cooler #2 3.9° Cooler #3 3.8 Cooler #4 \_\_\_\_\_ Cooler#5 \_\_\_\_\_ Cooler #6 \_\_\_\_\_

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Was TAT marked on the COC? Yes  No

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

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

Water - pH acceptable upon receipt? Yes  No  Not Applicable

Sample Condition: Good  Adjusted? \_\_\_\_\_ Other(Explain) \_\_\_\_\_  
Checked by MJ

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

See Case Narrative for resolution of the Non-Conformance.

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194690

| Sample ID: <b>MB-194690</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5771508</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 95.03 | 0  | 100.0 |  | 95.0 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 48.47 | 0  | 50.00 |  | 96.9 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 63.60 | 0  | 100.0 |  | 63.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 58.17 | 0  | 50.00 |  | 116  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 40.23 | 0  | 50.00 |  | 80.5 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 41.48 | 0  | 100.0 |  | 41.5 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-194690</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5771509</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |     |      |     |  |  |  |  |
|--------------|-------|----|-------|--|-----|------|-----|--|--|--|--|
| Acenaphthene | 110.5 | 10 | 100.0 |  | 111 | 67.7 | 122 |  |  |  |  |
|--------------|-------|----|-------|--|-----|------|-----|--|--|--|--|

**Qualifiers:**

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1408489

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194690**

| Sample ID: <b>LCS-194690</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/11/2014</b> | Seq No: <b>5771509</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Phenol                     | 49.79 | 10 | 100.0 |  | 49.8 | 24.6 | 120 |  |  |  |  |
| Pyrene                     | 118.4 | 10 | 100.0 |  | 118  | 68.3 | 123 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 116.2 | 0  | 100.0 |  | 116  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 56.88 | 0  | 50.00 |  | 114  | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 74.91 | 0  | 100.0 |  | 74.9 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 62.60 | 0  | 50.00 |  | 125  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 50.44 | 0  | 50.00 |  | 101  | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 50.49 | 0  | 100.0 |  | 50.5 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1408474-002DMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273501</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/12/2014</b> | Seq No: <b>5771821</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 88.84 | 10 | 100.0 |  | 88.8 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 57.06 | 10 | 100.0 |  | 57.1 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 94.54 | 10 | 100.0 |  | 94.5 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 98.09 | 0  | 100.0 |  | 98.1 | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 42.03 | 0  | 50.00 |  | 84.1 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 67.62 | 0  | 100.0 |  | 67.6 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 49.32 | 0  | 50.00 |  | 98.6 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 39.89 | 0  | 50.00 |  | 79.8 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 56.73 | 0  | 100.0 |  | 56.7 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1408474-002DMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>274032</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/19/2014</b> | Seq No: <b>5782809</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |       |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|-------|------|--|
| Acenaphthene | 89.67 | 10 | 100.0 |  | 89.7 | 51.9 | 120 | 88.84 | 0.930 | 24.9 |  |
|--------------|-------|----|-------|--|------|------|-----|-------|-------|------|--|

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194690

| Sample ID: <b>1408474-002DMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>274032</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194690</b> | Analysis Date: <b>08/19/2014</b> | Seq No: <b>5782809</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |       |      |      |  |
|----------------------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Phenol                     | 51.69 | 10 | 100.0 |  | 51.7 | 30.5 | 120 | 57.06 | 9.88 | 34.4 |  |
| Pyrene                     | 86.92 | 10 | 100.0 |  | 86.9 | 50.6 | 120 | 94.54 | 8.40 | 26.7 |  |
| Surr: 2,4,6-Tribromophenol | 105.3 | 0  | 100.0 |  | 105  | 51.5 | 124 | 98.09 | 0    | 0    |  |
| Surr: 2-Fluorobiphenyl     | 43.29 | 0  | 50.00 |  | 86.6 | 51.7 | 118 | 42.03 | 0    | 0    |  |
| Surr: 2-Fluorophenol       | 67.62 | 0  | 100.0 |  | 67.6 | 26   | 120 | 67.62 | 0    | 0    |  |
| Surr: 4-Terphenyl-d14      | 49.03 | 0  | 50.00 |  | 98.1 | 45.2 | 137 | 49.32 | 0    | 0    |  |
| Surr: Nitrobenzene-d5      | 39.24 | 0  | 50.00 |  | 78.5 | 42   | 120 | 39.89 | 0    | 0    |  |
| Surr: Phenol-d5            | 51.16 | 0  | 100.0 |  | 51.2 | 12.3 | 120 | 56.73 | 0    | 0    |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194739

|                             |                                 |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-194739</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273638</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>194739</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5774776</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194739</b> | Client ID:                      | Units: <b>mg/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273638</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Cyanide SW9014</b> | BatchID: <b>194739</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5774777</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                          | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2496                      0.010                      0.2500                      99.8                      85                      115

|                                  |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408489-001CMS</b> | Client ID: <b>MW-307D-20140806-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273638</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>194739</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5774794</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.1679                      0.010                      0.2500                      0.003300                      65.8                      70                      130                      S

|                                   |                                       |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---------------------------------------|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408489-001CMSD</b> | Client ID: <b>MW-307D-20140806-01</b> | Units: <b>mg/L</b>     | Prep Date: <b>08/11/2014</b>     | Run No: <b>273638</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Cyanide SW9014</b>       | BatchID: <b>194739</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5774796</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Cyanide, Total                      0.2008                      0.010                      0.2500                      0.003300                      79.0                      70                      130                      0.1679                      17.8                      20

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1408489

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194761**

| Sample ID: <b>MB-194761</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273859</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194761</b> | Analysis Date: <b>08/15/2014</b> | Seq No: <b>5779640</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |        |       |       |  |      |      |     |  |  |  |  |
|------------------------|--------|-------|-------|--|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | BRL    | 0.025 |       |  |      |      |     |  |  |  |  |
| Benzo(a)pyrene         | BRL    | 0.025 |       |  |      |      |     |  |  |  |  |
| Benzo(b)fluoranthene   | BRL    | 0.050 |       |  |      |      |     |  |  |  |  |
| Dibenz(a,h)anthracene  | BRL    | 0.050 |       |  |      |      |     |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | BRL    | 0.025 |       |  |      |      |     |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 0.7853 | 0     | 1.000 |  | 78.5 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>LCS-194761</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273859</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194761</b> | Analysis Date: <b>08/15/2014</b> | Seq No: <b>5779918</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |        |       |       |         |      |      |     |  |  |  |  |
|------------------------|--------|-------|-------|---------|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 1.124  | 0.025 | 1.000 | 0.01873 | 111  | 62.8 | 132 |  |  |  |  |
| Benzo(a)pyrene         | 1.001  | 0.025 | 1.000 | 0.02246 | 97.8 | 56.4 | 123 |  |  |  |  |
| Benzo(b)fluoranthene   | 0.9804 | 0.050 | 1.000 | 0.02356 | 95.7 | 69.2 | 132 |  |  |  |  |
| Dibenz(a,h)anthracene  | 1.139  | 0.050 | 1.000 | 0.04634 | 109  | 49.3 | 134 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 1.130  | 0.025 | 1.000 | 0.02348 | 111  | 48.3 | 137 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 0.8161 | 0     | 1.000 |         | 81.6 | 53.2 | 145 |  |  |  |  |

| Sample ID: <b>1408489-010DMS</b> | Client ID: <b>MW-111D-20140807-01</b>                          | Units: <b>ug/L</b>     | Prep Date: <b>08/12/2014</b>     | Run No: <b>273859</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>SIM Polynuclear Aromatic Hydrocarbons SW8270D</b> | BatchID: <b>194761</b> | Analysis Date: <b>08/15/2014</b> | Seq No: <b>5784257</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                        |       |       |       |        |      |      |     |  |  |  |  |
|------------------------|-------|-------|-------|--------|------|------|-----|--|--|--|--|
| Benz(a)anthracene      | 4.739 | 0.050 | 2.000 | 1.968  | 139  | 51.4 | 142 |  |  |  |  |
| Benzo(a)pyrene         | 3.814 | 0.050 | 2.000 | 1.445  | 118  | 48.3 | 126 |  |  |  |  |
| Benzo(b)fluoranthene   | 3.422 | 0.10  | 2.000 | 1.242  | 109  | 49.9 | 134 |  |  |  |  |
| Dibenz(a,h)anthracene  | 2.344 | 0.10  | 2.000 | 0.1320 | 111  | 41.8 | 121 |  |  |  |  |
| Indeno(1,2,3-cd)pyrene | 3.010 | 0.050 | 2.000 | 0.6202 | 119  | 42   | 129 |  |  |  |  |
| Surr: 4-Terphenyl-d14  | 1.532 | 0     | 2.000 |        | 76.6 | 53.2 | 145 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194761

Sample ID: 1408489-010DMSD Client ID: MW-111D-20140807-01 Units: ug/L Prep Date: 08/12/2014 Run No: 273859  
 SampleType: MSD TestCode: SIM Polynuclear Aromatic Hydrocarbons SW8270D BatchID: 194761 Analysis Date: 08/15/2014 Seq No: 5784259

| Analyte                | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Benz(a)anthracene      | 3.997  | 0.050     | 2.000     | 1.968       | 101  | 51.4      | 142        | 4.739       | 17.0 | 48.1      |      |
| Benzo(a)pyrene         | 3.072  | 0.050     | 2.000     | 1.445       | 81.3 | 48.3      | 126        | 3.814       | 21.5 | 53.5      |      |
| Benzo(b)fluoranthene   | 2.978  | 0.10      | 2.000     | 1.242       | 86.8 | 49.9      | 134        | 3.422       | 13.9 | 51.1      |      |
| Dibenz(a,h)anthracene  | 1.982  | 0.10      | 2.000     | 0.1320      | 92.5 | 41.8      | 121        | 2.344       | 16.8 | 54.2      |      |
| Indeno(1,2,3-cd)pyrene | 2.501  | 0.050     | 2.000     | 0.6202      | 94.0 | 42        | 129        | 3.010       | 18.5 | 44.6      |      |
| Surr: 4-Terphenyl-d14  | 1.394  | 0         | 2.000     |             | 69.7 | 53.2      | 145        | 1.532       | 0    | 0         |      |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194825

| Sample ID: <b>MB-194825</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/13/2014</b>     | Run No: <b>273729</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194825</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5776739</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194825</b> | Client ID:                             | Units: <b>mg/L</b>     | Prep Date: <b>08/13/2014</b>     | Run No: <b>273729</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194825</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5776738</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |  |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|--|------|----|-----|--|--|--|--|
| Antimony  | 0.9976 | 0.0200 | 1.000 |  | 99.8 | 80 | 120 |  |  |  |  |
| Arsenic   | 0.9780 | 0.0500 | 1.000 |  | 97.8 | 80 | 120 |  |  |  |  |
| Barium    | 0.9894 | 0.0200 | 1.000 |  | 98.9 | 80 | 120 |  |  |  |  |
| Beryllium | 0.9933 | 0.0100 | 1.000 |  | 99.3 | 80 | 120 |  |  |  |  |
| Cadmium   | 0.9961 | 0.0050 | 1.000 |  | 99.6 | 80 | 120 |  |  |  |  |
| Chromium  | 0.9828 | 0.0100 | 1.000 |  | 98.3 | 80 | 120 |  |  |  |  |
| Copper    | 1.007  | 0.0100 | 1.000 |  | 101  | 80 | 120 |  |  |  |  |
| Lead      | 0.9652 | 0.0100 | 1.000 |  | 96.5 | 80 | 120 |  |  |  |  |
| Nickel    | 0.9753 | 0.0200 | 1.000 |  | 97.5 | 80 | 120 |  |  |  |  |
| Zinc      | 0.9516 | 0.0200 | 1.000 |  | 95.2 | 80 | 120 |  |  |  |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194825

| Sample ID: <b>1408489-001BMS</b> | Client ID: <b>MW-307D-20140806-01</b>  | Units: <b>mg/L</b>     | Prep Date: <b>08/13/2014</b>     | Run No: <b>273729</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194825</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5776744</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |  |  |  |  |
|-----------|--------|--------|-------|----------|------|----|-----|--|--|--|--|
| Antimony  | 0.9629 | 0.0200 | 1.000 |          | 96.3 | 75 | 125 |  |  |  |  |
| Arsenic   | 0.9567 | 0.0500 | 1.000 |          | 95.7 | 75 | 125 |  |  |  |  |
| Barium    | 2.447  | 0.0200 | 1.000 | 1.552    | 89.5 | 75 | 125 |  |  |  |  |
| Beryllium | 0.9009 | 0.0100 | 1.000 |          | 90.1 | 75 | 125 |  |  |  |  |
| Cadmium   | 0.9465 | 0.0050 | 1.000 |          | 94.7 | 75 | 125 |  |  |  |  |
| Chromium  | 0.9539 | 0.0100 | 1.000 | 0.07833  | 87.6 | 75 | 125 |  |  |  |  |
| Copper    | 0.9606 | 0.0100 | 1.000 | 0.006891 | 95.4 | 75 | 125 |  |  |  |  |
| Lead      | 0.8292 | 0.0100 | 1.000 | 0.001848 | 82.7 | 75 | 125 |  |  |  |  |
| Nickel    | 0.8553 | 0.0200 | 1.000 | 0.003948 | 85.1 | 75 | 125 |  |  |  |  |
| Zinc      | 0.8414 | 0.0200 | 1.000 |          | 84.1 | 75 | 125 |  |  |  |  |

| Sample ID: <b>1408489-001BMSD</b> | Client ID: <b>MW-307D-20140806-01</b>  | Units: <b>mg/L</b>     | Prep Date: <b>08/13/2014</b>     | Run No: <b>273729</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>METALS, TOTAL SW6010C</b> | BatchID: <b>194825</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5776747</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                 | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|           |        |        |       |          |      |    |     |        |      |    |  |
|-----------|--------|--------|-------|----------|------|----|-----|--------|------|----|--|
| Antimony  | 0.9309 | 0.0200 | 1.000 |          | 93.1 | 75 | 125 | 0.9629 | 3.38 | 20 |  |
| Arsenic   | 0.9293 | 0.0500 | 1.000 |          | 92.9 | 75 | 125 | 0.9567 | 2.91 | 20 |  |
| Barium    | 2.331  | 0.0200 | 1.000 | 1.552    | 77.8 | 75 | 125 | 2.447  | 4.88 | 20 |  |
| Beryllium | 0.8758 | 0.0100 | 1.000 |          | 87.6 | 75 | 125 | 0.9009 | 2.83 | 20 |  |
| Cadmium   | 0.9165 | 0.0050 | 1.000 |          | 91.6 | 75 | 125 | 0.9465 | 3.23 | 20 |  |
| Chromium  | 0.9255 | 0.0100 | 1.000 | 0.07833  | 84.7 | 75 | 125 | 0.9539 | 3.01 | 20 |  |
| Copper    | 0.9292 | 0.0100 | 1.000 | 0.006891 | 92.2 | 75 | 125 | 0.9606 | 3.32 | 20 |  |
| Lead      | 0.8045 | 0.0100 | 1.000 | 0.001848 | 80.3 | 75 | 125 | 0.8292 | 3.03 | 20 |  |
| Nickel    | 0.8297 | 0.0200 | 1.000 | 0.003948 | 82.6 | 75 | 125 | 0.8553 | 3.04 | 20 |  |
| Zinc      | 0.8194 | 0.0200 | 1.000 |          | 81.9 | 75 | 125 | 0.8414 | 2.66 | 20 |  |

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194855

|                             |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>MB-194855</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273698</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MBLK</b>     | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194855</b> | Analysis Date: <b>08/14/2014</b> | Seq No: <b>5777169</b> |      |           |            |             |      |           |      |
| 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: <b>LCS-194855</b> | Client ID:                              | Units: <b>mg/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273698</b>  |      |           |            |             |      |           |      |
| SampleType: <b>LCS</b>       | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194855</b> | Analysis Date: <b>08/14/2014</b> | Seq No: <b>5777170</b> |      |           |            |             |      |           |      |
| Analyte                      | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.005481 0.00020 0.0050 110 80 120

|                                  |   |                        |                                  |                        |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408489-002BMS</b> | Client ID: <b>MW-205D-20140806-01</b>   | Units: <b>mg/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273698</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MS</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194855</b> | Analysis Date: <b>08/14/2014</b> | Seq No: <b>5777175</b> |      |           |            |             |      |           |      |
| Analyte                          | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.003642 0.00020 0.0050 72.8 70 130

|                                   |   |                        |                                  |                        |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| Sample ID: <b>1408489-002BMSD</b> | Client ID: <b>MW-205D-20140806-01</b>   | Units: <b>mg/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273698</b>  |      |           |            |             |      |           |      |
| SampleType: <b>MSD</b>            | TestCode: <b>Mercury, Total SW7470A</b> | BatchID: <b>194855</b> | Analysis Date: <b>08/14/2014</b> | Seq No: <b>5777178</b> |      |           |            |             |      |           |      |
| Analyte                           | Result                                  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

Mercury 0.003647 0.00020 0.0050 72.9 70 130 0.003642 0.133 20

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194871

| Sample ID: <b>MB-194871</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273761</b>  |      |           |            |             |      |           |      |
|-----------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194871</b> | Analysis Date: <b>08/14/2014</b> | Seq No: <b>5777236</b> |      |           |            |             |      |           |      |
| Analyte                     | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| 2,4-Dimethylphenol         | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 2-Methylphenol             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| 3,4-Methylphenol           | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Acenaphthylene             | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Anthracene                 | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(g,h,i)perylene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Benzo(k)fluoranthene       | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Chrysene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluoranthene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Fluorene                   | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Naphthalene                | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenanthrene               | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Phenol                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Pyrene                     | BRL   | 10 |       |  |      |      |     |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 100.8 | 0  | 100.0 |  | 101  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 45.33 | 0  | 50.00 |  | 90.7 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 53.67 | 0  | 100.0 |  | 53.7 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 52.92 | 0  | 50.00 |  | 106  | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 40.56 | 0  | 50.00 |  | 81.1 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 33.58 | 0  | 100.0 |  | 33.6 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>LCS-194871</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273761</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194871</b> | Analysis Date: <b>08/14/2014</b> | Seq No: <b>5777241</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |  |  |  |  |
|--------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene | 114.1 | 10 | 100.0 |  | 114  | 67.7 | 122 |  |  |  |  |
| Phenol       | 51.12 | 10 | 100.0 |  | 51.1 | 24.6 | 120 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194871

| Sample ID: <b>LCS-194871</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273761</b>  |      |           |            |             |      |           |      |
|------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194871</b> | Analysis Date: <b>08/14/2014</b> | Seq No: <b>5777241</b> |      |           |            |             |      |           |      |
| Analyte                      | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |   |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|---|
| Pyrene                     | 119.6 | 10 | 100.0 |  | 120  | 68.3 | 123 |  |  |  |   |
| Surr: 2,4,6-Tribromophenol | 131.1 | 0  | 100.0 |  | 131  | 51.5 | 124 |  |  |  | S |
| Surr: 2-Fluorobiphenyl     | 58.89 | 0  | 50.00 |  | 118  | 51.7 | 118 |  |  |  |   |
| Surr: 2-Fluorophenol       | 78.14 | 0  | 100.0 |  | 78.1 | 26   | 120 |  |  |  |   |
| Surr: 4-Terphenyl-d14      | 64.82 | 0  | 50.00 |  | 130  | 45.2 | 137 |  |  |  |   |
| Surr: Nitrobenzene-d5      | 53.00 | 0  | 50.00 |  | 106  | 42   | 120 |  |  |  |   |
| Surr: Phenol-d5            | 51.52 | 0  | 100.0 |  | 51.5 | 12.3 | 120 |  |  |  |   |

| Sample ID: <b>1408935-002BMS</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273761</b>  |      |           |            |             |      |           |      |
|----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194871</b> | Analysis Date: <b>08/15/2014</b> | Seq No: <b>5779223</b> |      |           |            |             |      |           |      |
| Analyte                          | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |    |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|----|-------|--|------|------|-----|--|--|--|--|
| Acenaphthene               | 88.50 | 10 | 100.0 |  | 88.5 | 51.9 | 120 |  |  |  |  |
| Phenol                     | 53.05 | 10 | 100.0 |  | 53.0 | 30.5 | 120 |  |  |  |  |
| Pyrene                     | 89.35 | 10 | 100.0 |  | 89.4 | 50.6 | 120 |  |  |  |  |
| Surr: 2,4,6-Tribromophenol | 109.0 | 0  | 100.0 |  | 109  | 51.5 | 124 |  |  |  |  |
| Surr: 2-Fluorobiphenyl     | 45.79 | 0  | 50.00 |  | 91.6 | 51.7 | 118 |  |  |  |  |
| Surr: 2-Fluorophenol       | 74.22 | 0  | 100.0 |  | 74.2 | 26   | 120 |  |  |  |  |
| Surr: 4-Terphenyl-d14      | 49.56 | 0  | 50.00 |  | 99.1 | 45.2 | 137 |  |  |  |  |
| Surr: Nitrobenzene-d5      | 42.59 | 0  | 50.00 |  | 85.2 | 42   | 120 |  |  |  |  |
| Surr: Phenol-d5            | 55.61 | 0  | 100.0 |  | 55.6 | 12.3 | 120 |  |  |  |  |

| Sample ID: <b>1408935-002BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273761</b>  |      |           |            |             |      |           |      |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194871</b> | Analysis Date: <b>08/15/2014</b> | Seq No: <b>5779224</b> |      |           |            |             |      |           |      |
| Analyte                           | Result  | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|              |       |    |       |  |      |      |     |       |      |      |  |
|--------------|-------|----|-------|--|------|------|-----|-------|------|------|--|
| Acenaphthene | 94.91 | 10 | 100.0 |  | 94.9 | 51.9 | 120 | 88.50 | 6.99 | 24.9 |  |
| Phenol       | 57.53 | 10 | 100.0 |  | 57.5 | 30.5 | 120 | 53.05 | 8.10 | 34.4 |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194871

|                                   |   |                        |                                  |                        |
|-----------------------------------|---|------------------------|----------------------------------|------------------------|
| Sample ID: <b>1408935-002BMSD</b> | Client ID:  | Units: <b>ug/L</b>     | Prep Date: <b>08/14/2014</b>     | Run No: <b>273761</b>  |
| SampleType: <b>MSD</b>            | TestCode: <b>Semivolatile Org. Comp. by GC/MS SW8270D</b> | BatchID: <b>194871</b> | Analysis Date: <b>08/15/2014</b> | Seq No: <b>5779224</b> |

| Analyte                    | Result | RPT Limit | SPK value | SPK Ref Val | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----------|-----------|-------------|------|-----------|------------|-------------|------|-----------|------|
| Pyrene                     | 94.28  | 10        | 100.0     |             | 94.3 | 50.6      | 120        | 89.35       | 5.37 | 26.7      |      |
| Surr: 2,4,6-Tribromophenol | 112.4  | 0         | 100.0     |             | 112  | 51.5      | 124        | 109.0       | 0    | 0         |      |
| Surr: 2-Fluorobiphenyl     | 47.29  | 0         | 50.00     |             | 94.6 | 51.7      | 118        | 45.79       | 0    | 0         |      |
| Surr: 2-Fluorophenol       | 76.29  | 0         | 100.0     |             | 76.3 | 26        | 120        | 74.22       | 0    | 0         |      |
| Surr: 4-Terphenyl-d14      | 50.01  | 0         | 50.00     |             | 100  | 45.2      | 137        | 49.56       | 0    | 0         |      |
| Surr: Nitrobenzene-d5      | 42.15  | 0         | 50.00     |             | 84.3 | 42        | 120        | 42.59       | 0    | 0         |      |
| Surr: Phenol-d5            | 60.38  | 0         | 100.0     |             | 60.4 | 12.3      | 120        | 55.61       | 0    | 0         |      |

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

**Client:** ERM-Southeast  
**Project Name:** AGLC Macon  
**Workorder:** 1408489

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 194895**

| Sample ID: <b>MB-194895</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/13/2014</b>     | Run No: <b>273690</b>  |      |           |            |             |      |           |      |
|-----------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MBLK</b>     | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194895</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5776324</b> |      |           |            |             |      |           |      |
| Analyte                     | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Carbon disulfide           | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Ethylbenzene               | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Toluene                    | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Xylenes, Total             | BRL   | 5.0 |       |  |      |      |     |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 42.58 | 0   | 50.00 |  | 85.2 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 50.20 | 0   | 50.00 |  | 100  | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 49.60 | 0   | 50.00 |  | 99.2 | 77   | 117 |  |  |  |  |

| Sample ID: <b>LCS-194895</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/13/2014</b>     | Run No: <b>273690</b>  |      |           |            |             |      |           |      |
|------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>LCS</b>       | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194895</b> | Analysis Date: <b>08/13/2014</b> | Seq No: <b>5776323</b> |      |           |            |             |      |           |      |
| Analyte                      | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 49.60 | 5.0 | 50.00 |  | 99.2 | 74.2 | 129 |  |  |  |  |
| Toluene                    | 47.92 | 5.0 | 50.00 |  | 95.8 | 74.2 | 129 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 43.08 | 0   | 50.00 |  | 86.2 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 49.65 | 0   | 50.00 |  | 99.3 | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 49.42 | 0   | 50.00 |  | 98.8 | 77   | 117 |  |  |  |  |

| Sample ID: <b>1408875-004AMS</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/13/2014</b>     | Run No: <b>273690</b>  |      |           |            |             |      |           |      |
|----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MS</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194895</b> | Analysis Date: <b>08/14/2014</b> | Seq No: <b>5776326</b> |      |           |            |             |      |           |      |
| Analyte                          | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

|                            |       |     |       |  |      |      |     |  |  |  |  |
|----------------------------|-------|-----|-------|--|------|------|-----|--|--|--|--|
| Benzene                    | 55.54 | 5.0 | 50.00 |  | 111  | 70.2 | 138 |  |  |  |  |
| Toluene                    | 55.43 | 5.0 | 50.00 |  | 111  | 70   | 139 |  |  |  |  |
| Surr: 4-Bromofluorobenzene | 42.26 | 0   | 50.00 |  | 84.5 | 66.2 | 120 |  |  |  |  |
| Surr: Dibromofluoromethane | 50.96 | 0   | 50.00 |  | 102  | 79.5 | 121 |  |  |  |  |
| Surr: Toluene-d8           | 50.59 | 0   | 50.00 |  | 101  | 77   | 117 |  |  |  |  |

**Qualifiers:**

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

Client: ERM-Southeast  
 Project Name: AGLC Macon  
 Workorder: 1408489

**ANALYTICAL QC SUMMARY REPORT**

BatchID: 194895

| Sample ID: <b>1408875-004AMSD</b> | Client ID:   | Units: <b>ug/L</b>     | Prep Date: <b>08/13/2014</b>     | Run No: <b>273690</b>  |      |           |            |             |      |           |      |
|-----------------------------------|--|------------------------|----------------------------------|------------------------|------|-----------|------------|-------------|------|-----------|------|
| SampleType: <b>MSD</b>            | TestCode: <b>Volatile Organic Compounds by GC/MS SW8260B</b> | BatchID: <b>194895</b> | Analysis Date: <b>08/14/2014</b> | Seq No: <b>5776327</b> |      |           |            |             |      |           |      |
| Analyte                           | Result   | RPT Limit              | SPK value                        | SPK Ref Val            | %REC | Low Limit | High Limit | RPD Ref Val | %RPD | RPD Limit | Qual |

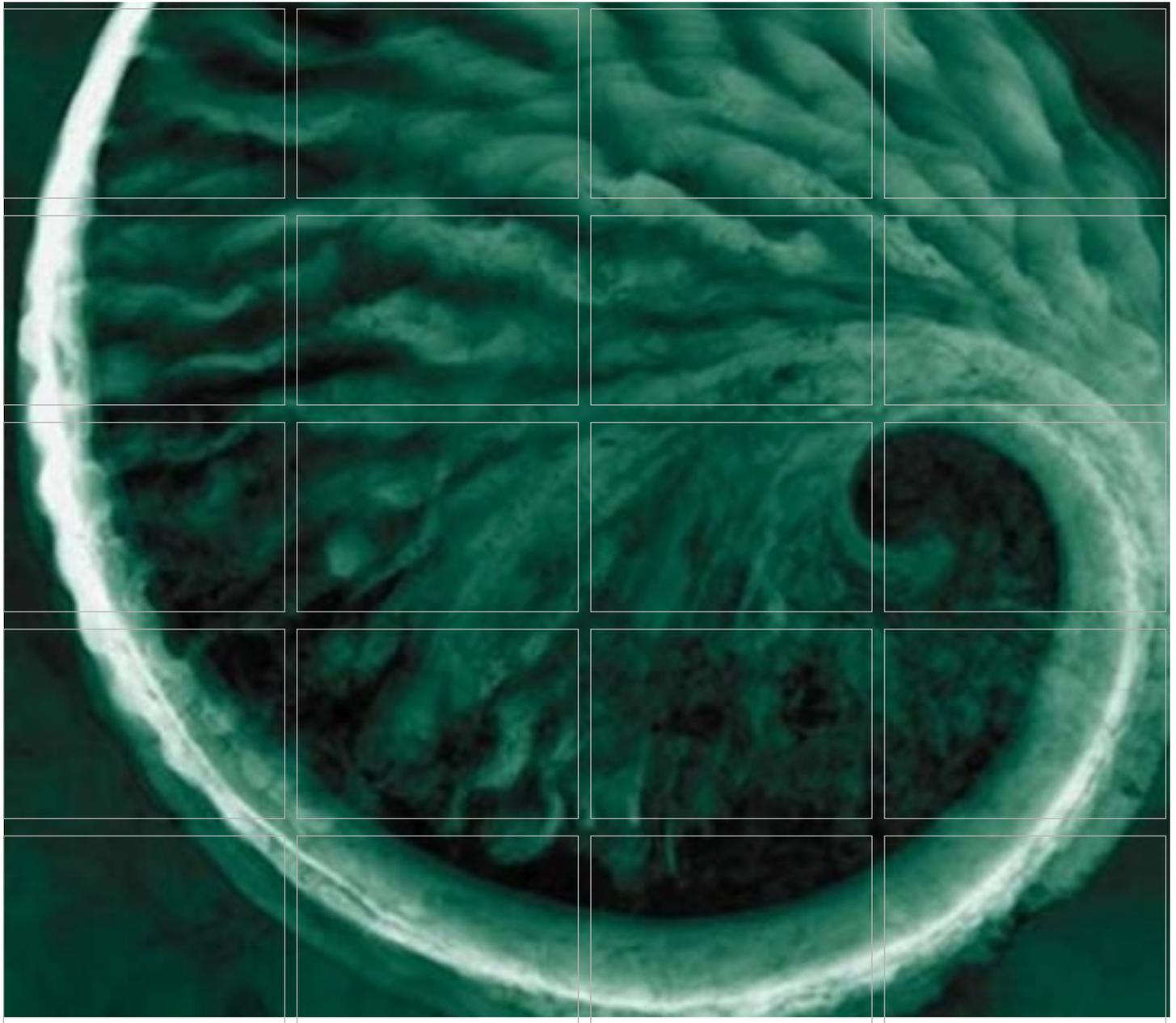
|                            |       |     |       |  |      |      |     |       |      |    |  |
|----------------------------|-------|-----|-------|--|------|------|-----|-------|------|----|--|
| Benzene                    | 53.78 | 5.0 | 50.00 |  | 108  | 70.2 | 138 | 55.54 | 3.22 | 20 |  |
| Toluene                    | 52.85 | 5.0 | 50.00 |  | 106  | 70   | 139 | 55.43 | 4.77 | 20 |  |
| Surr: 4-Bromofluorobenzene | 42.55 | 0   | 50.00 |  | 85.1 | 66.2 | 120 | 42.26 | 0    | 0  |  |
| Surr: Dibromofluoromethane | 49.61 | 0   | 50.00 |  | 99.2 | 79.5 | 121 | 50.96 | 0    | 0  |  |
| Surr: Toluene-d8           | 49.46 | 0   | 50.00 |  | 98.9 | 77   | 117 | 50.59 | 0    | 0  |  |

|                    |         |  |   |   |   |  |
|--------------------|---------|--|---|---|---|--|
| <b>Qualifiers:</b> | >       | 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 |   |  |

**DNAPL Investigation Work Plan**  
*Appendix G*

*Project No. 0176740*  
*Atlanta Gas Light Company*

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



## **DNAPL Investigation Work Plan**

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

October 2014

[www.erm.com](http://www.erm.com)

Atlanta Gas Light Company

# DNAPL Investigation Work Plan

Former Manufactured Gas  
Plant Site  
Macon, Georgia HSI #10511

October 2014

ERM Project No. 0176740



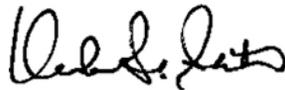
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Nic Vrey  
Project Geologist



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Mark Fleri  
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Hunter S. Sartain  
Principal

**Environmental Resources Management**

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(678) 486-2700  
[www.erm.com](http://www.erm.com)

## **TABLE OF CONTENTS**

|            |  |          |
|------------|--|----------|
| <b>1.0</b> | <b>INTRODUCTION</b>  | <b>1</b> |
| <b>2.0</b> | <b>BACKGROUND</b>  | <b>2</b> |
| <b>3.0</b> | <b>PRE-MOBILIZATION ACTIVITIES</b>                               | <b>3</b> |
| <b>3.1</b> | <b>AIR KNIFING</b>   | <b>4</b> |
| <b>3.2</b> | <b>VEGETATION CLEARANCE</b>                                      | <b>4</b> |
| <b>4.0</b> | <b>DRILLING ACTIVITIES</b>                                       | <b>5</b> |
| <b>4.1</b> | <b>EXPLORATORY BORINGS</b>                                       | <b>5</b> |
| <b>4.2</b> | <b>SUMP WELL INSTALLATIONS</b>                                   | <b>6</b> |
| <b>5.0</b> | <b>EQUIPMENT DECONTAMINATION AND INVESTIGATION DERIVED WASTE</b> | <b>7</b> |
| <b>6.0</b> | <b>SCHEDULING OF ON-SITE WORK ACTIVITIES</b>                     | <b>8</b> |

**TABLE OF CONTENTS *continued***

**FIGURES**

- 1 TOPOGRAPHIC SITE LOCATION MAP
- 2 PROPOSED DNAP INVESTIGATION BORING LOCATIONS

**APPENDICES**

- A PRE-CONSTRUCTION SITE MAP
- B PROPOSED SUMP WELL CONSTRUCTION DIAGRAM

Environmental Resources Management (ERM) has prepared this Work Plan for on-site investigation activities at the former Manufactured Gas Plant (MGP) site in Macon, Georgia (Site) (see [Figure 1](#)). Investigation procedures are presented in this Work Plan and to be included as part of the Voluntary Remediation and Investigation Plan.

During Phase II bedrock well installations, tar-like material in the form of dense non aqueous phase liquid (DNAPL) was observed in the partially weathered rock (PWR) at the interface with competent rock at MW-305D, located in the western right-of-way (ROW) of Seventh Street (see [Figure 2](#)). The purpose of this investigation is to delineate the extent of DNAPL in the area and, where applicable, install sump wells to recover DNAPL.

The Site is located at 137 Mulberry Street in Macon, Bibb County, Georgia. Historically, the Macon facility operated as a MGP. The Site has been the subject of numerous investigation and corrective actions since the 1980's and will be referred to as the Mulberry Street MGP in this document (this area has also been referred to as the Eastern Portion in previous correspondence).

Investigation activities associated with the Mulberry Street MGP began in 1986. Remediation and corrective action activities have primarily focused on addressing impacted soil and source material in the alluvium via excavation and in-situ stabilization. Historically, source material has intermittently been observed in groundwater monitoring wells installed in the bedrock aquifer. DNAPL has been measured in MW-111D at thicknesses exceeding 0.01 feet during recent semiannual groundwater monitoring events. DNAPL had been observed in MW-111D in 2010 and 2011, and vacuum enhanced fluid recovery (VEFR) event was conducted in this well in February 2011. In September 2013 a VEFR event was also completed to remove DNAPL from MW-111D. VEFR was also used at MW-302D as a trace amount of DNAPL was detected in the well during the August 2013 semiannual event.

Several planning and communication steps will be taken prior to beginning field activities presented in this Work Plan. A Site-Specific *Health and Safety Plan*



SEVENTH ST WESTERN ROW

(HASP) will be prepared to identify the site-specific hazards and the steps that will be taken to mitigate those hazards. The legally-required notice will be given to utility operators via GA 811 and a private utility locator (GPRS) will be contracted to complete a scan of the work areas for buried utilities. GPRS will use a combination of ground penetrating radar (GPR) and radio frequency electromagnetic (EM) utility locating equipment to identify underground utility locations. GPR is an electromagnetic method that detects interfaces between subsurface materials with differing dielectric constants. The EM system is operated by either inducting or conducting

a signal into the underground utility to be traced. A transmitter is placed over and in line with a suspected buried utility, inducing a signal, which propagates along the buried utility and can then be detected.

The boring locations in the western ROW of Seventh Street are located near overhead power lines. The lower elevation power lines are lower voltage lines that provide power to the Smith Door Finishing Business ([Appendix A](#)); whereas, the higher elevation power lines are high powered lines that provide power to a large portion of Macon. Negotiations will need to be made with Brian Smith to temporarily turn off power at the lower lines while drilling the borings in the western ROW. The upper lines will need to be blanketed by Georgia Power. AGLC will be responsible for negotiations with Brian Smith and ERM will arrange to have the upper lines blanketed.

Access to DIB-5 and the nearby contingency boring located west of the Smith Door Finishing Business (see [Figure 2](#)) will need arranged prior to subsurface clearance activities. The property owner is not known at this time and is not listed on the city's GIS database; however, historical figures indicate that the property may belong to Norfolk Southern. A surveyor has been contracted by AGLC to determine property ownership prior to access negotiations.

### 3.1

#### *AIR KNIFING*

The boring locations are proposed in areas where there is limited space to move borings away from marked utilities due to building location, overhead power lines, and a street with high traffic. In order to mitigate concerns of potentially drilling into a mismarked utility, the drilling location will be pre-cleared using air knife vacuum truck service by Cascade Drilling, L.P (Cascade). Vacuum excavation-air knifing equipment consists of an air compressor to dislodge the material and a vacuum unit to remove and store the material for later containerization if needed. The process will not harm underground utilities, and is a safer alternative when working near utilities.

### 3.2

#### *VEGETATION CLEARANCE*

The property west of the Smith Door Finishing Business is heavily vegetated and some vegetation clearance will be needed to allow drilling equipment access to the proposed drilling locations (see figure below). Due to potential inconveniences associated with clearing (e.g. noise), adjacent stakeholders will be notified in advance of clearing schedules.



## 4.0 DRILLING ACTIVITIES

### 4.1 EXPLORATORY BORINGS

As described in Section 1.0, soil investigation activities are being performed for the purpose of detecting the extent of DNAPL remaining in PWR at the interface with rock in the vicinity of MW-305D. A minimum of five soil borings will be advanced down to competent bedrock (Figure 2). An additional four contingency boring may be required as triggered by DNAPL findings described in Figure 2. The locations shown on Figure 2 are approximate, and they may be modified in the field based upon utility locations and/or if physical challenges are encountered. Using sonic technology, the soil borings will be advanced one foot into bedrock, approximately 30 feet bgs. A mini sonic rig will be used to maintain a safe distance from the high powered power lines overhead. Cores will be continuously collected and inspected for evidence of DNAPL.

Sonic Drilling uses both the rotational and downforce of the drill casing to advance the borehole. Sonic uses both an inner core barrel and an outer drill casing to penetrate the substrate. The first step is to advance the inner core barrel 10 feet to 20 feet in front of the drill casing taking the first section of the continuous sample. No fluid, air or mud is used during this coring process allowing the most undisturbed sample possible. Step two is to advance the overriding outer casing over the inner core barrel. Depending on the sub surface conditions, small quantities of potable water may be used to lubricate the outer casing.

In the third step, the inner core barrel, with the continuous sample inside is extracted while the outer drill casing remains allowing the sample to be brought to the surface and extruded into a bag or core box. The remaining casing keeps the bore hole open and minimizes water intrusion into the borehole. Note that the only drill "cuttings" created is the core sample itself. This greatly decreases the amount of Investigation Derived Waste (IDW) created during the drilling process. The process is repeated to the desired depth.

The Sonic advantage is its ability to constantly case the borehole as it advances to the next sample interval. The core barrel advances within the casing thereby obtaining a continuous core sample. The sample is extruded into a liner. The use of sonic technology will greatly reduce the time needed to perform the soil borings and the continuous sample collection will provide greater accuracy in DNAPL detection and characterization.

At a minimum, one sump will be installed adjacent to MW-305D ([Figure 2](#)). In addition, any drilling locations where DNAPL is detected with a quantity that appears to be recoverable will be converted into sump well. Blebs and stringers are not considered to be recoverable. Sump wells will be constructed of 4 inch Sch. 40 PVC surface casing with a five foot screen terminating at the competent bedrock surface. A three foot sump will be installed below the screen into competent bedrock to allow DNAPL to accumulate in the well without introducing the DNAPL into fractures in the competent rock. A proposed sump well construction diagram is included in [Appendix B](#).

## 5.0

### *EQUIPMENT DECONTAMINATION AND INVESTIGATION DERIVED WASTE*

In order to prevent cross-contamination, drilling and sampling equipment will be decontaminated by steam pressure washing or by hand cleaning using a detergent and water mixture, followed by a final distilled water rinse between each borehole/well location. The decontamination pad will be built in a secure area.

The use of sonic technology to investigate for DNAPL should result in low generation of waste. IDW generated during the investigation (e.g., soil cuttings and decontamination fluids) will be placed into the appropriately sized container (e.g., 55-gallon steel drums) and labeled with generator name, description of the contents, and date(s) of generation. Drums will be placed on pallets in an acceptable storage area pending receipt of analytical results and coordination of transportation and off-site disposal at a licensed disposal facility. Personal protective equipment and disposable sampling equipment (e.g., nitrile gloves and acetate liners) will be taken off site daily for disposal.

## 6.0

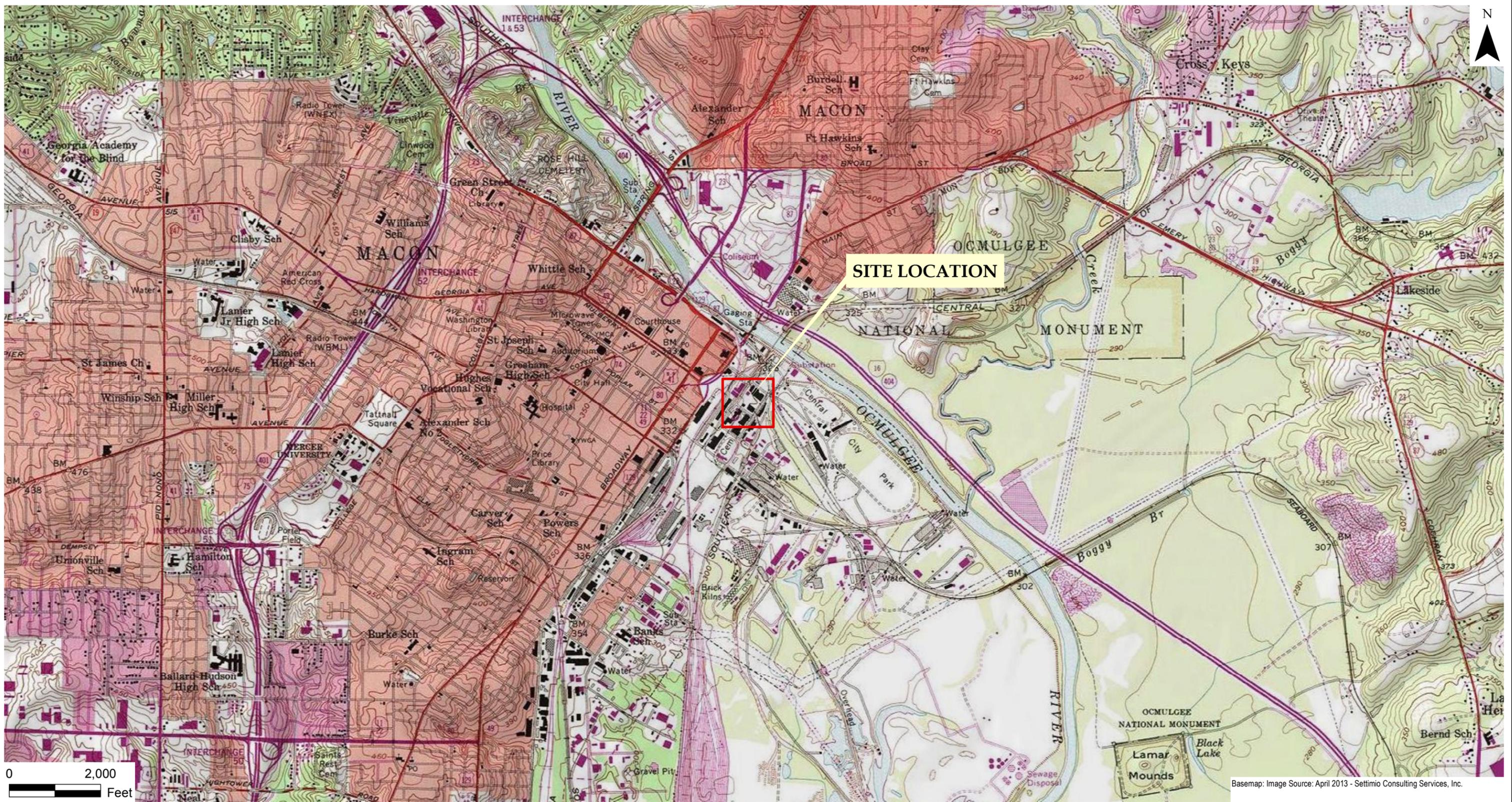
### *SCHEDULING OF ON-SITE WORK ACTIVITIES*

The work is expected to last two weeks. The work day will be 7 AM until 6 PM. Once profiling and manifesting have been completed, IDW will be removed from the Site.

## **Figures**

*October 14, 2014*  
*Project No. 0176740*  
*Atlanta Gas Light Company*

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



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



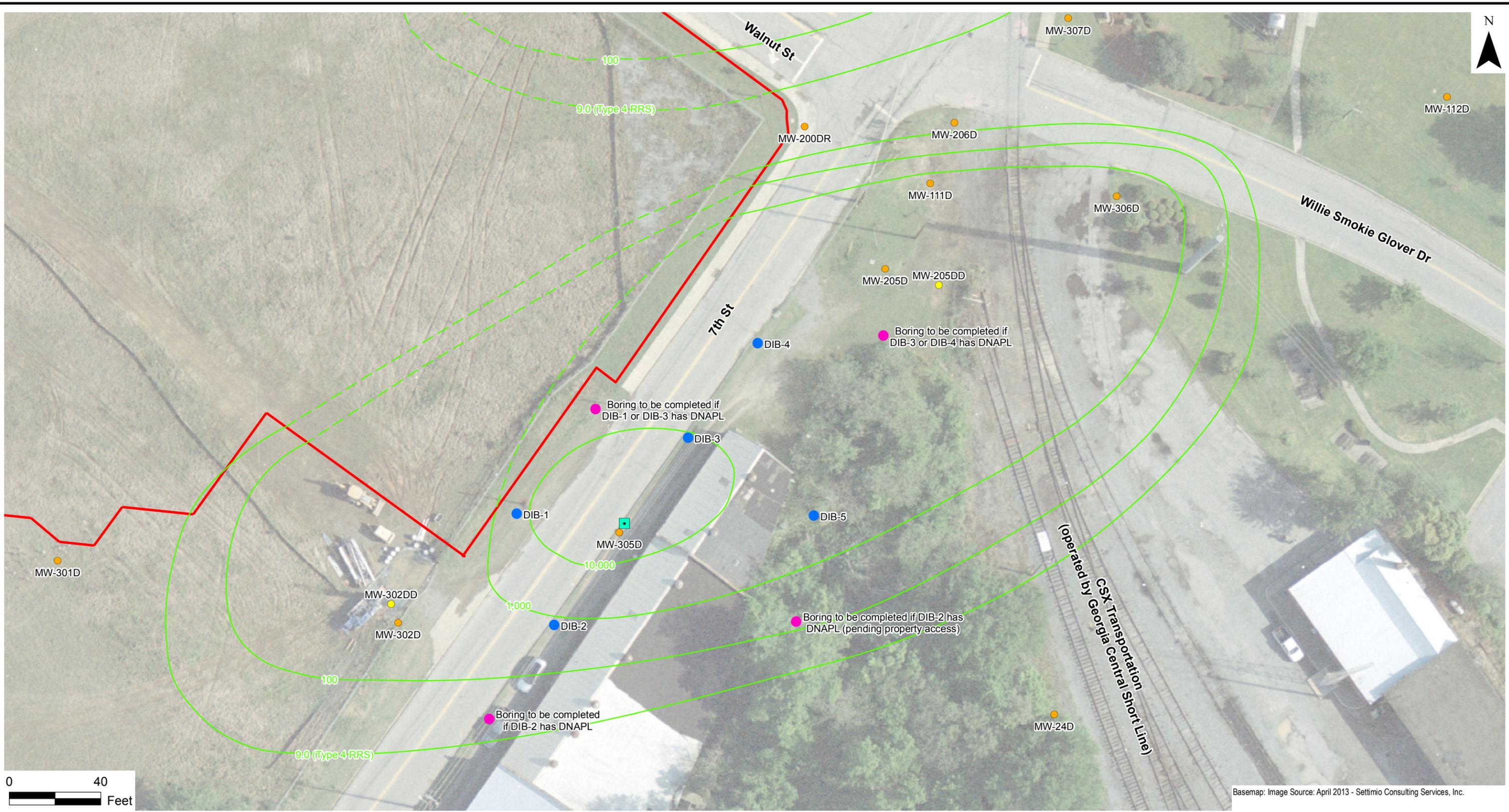
# Environmental Resources Management

|   |            |        |           |           |        |
|---|------------|--------|-----------|-----------|--------|
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| FILE: S:\AGL_Macon\MXD\09 2014 VIRP APPX GVAGLMcn_F1_Topo.mxd |            |        |           |           |        |

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



**FIGURE 1 - TOPOGRAPHIC SITE LOCATION MAP**  
 Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia



# Environmental Resources Management

|  |           |        |           |           |        |
|--|-----------|--------|-----------|-----------|--------|
| DESIGN:  | H Sartain | DRAWN: | S Vizuete | CHKD.:    | N Vrey |
| DATE:  | 10/9/2014 | SCALE: | AS SHOWN  | REVISION: | 0      |
| FILE: S:\AGL\AGL_Macon\MXD\09 2014 VIRP APPX GIAGLMcn_F2_ProplnvBrng.mxd |           |        |           |           |        |

- Proposed DNAPL Recovery Sump
- Proposed DNAPL Investigation Boring
- Proposed Contingency DNAPL Investigation Boring
- Deep Bedrock Well
- Shallow Bedrock Well
- Benzene Isoconcentration Contour *(Dashed where inferred - Under the ISS mass)*
- Existing ISS Area

NOTE:  
BTEX = Benzene, Toluene, EthylBenzene, Xylenes

Deep bedrock wells not included in contouring.

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

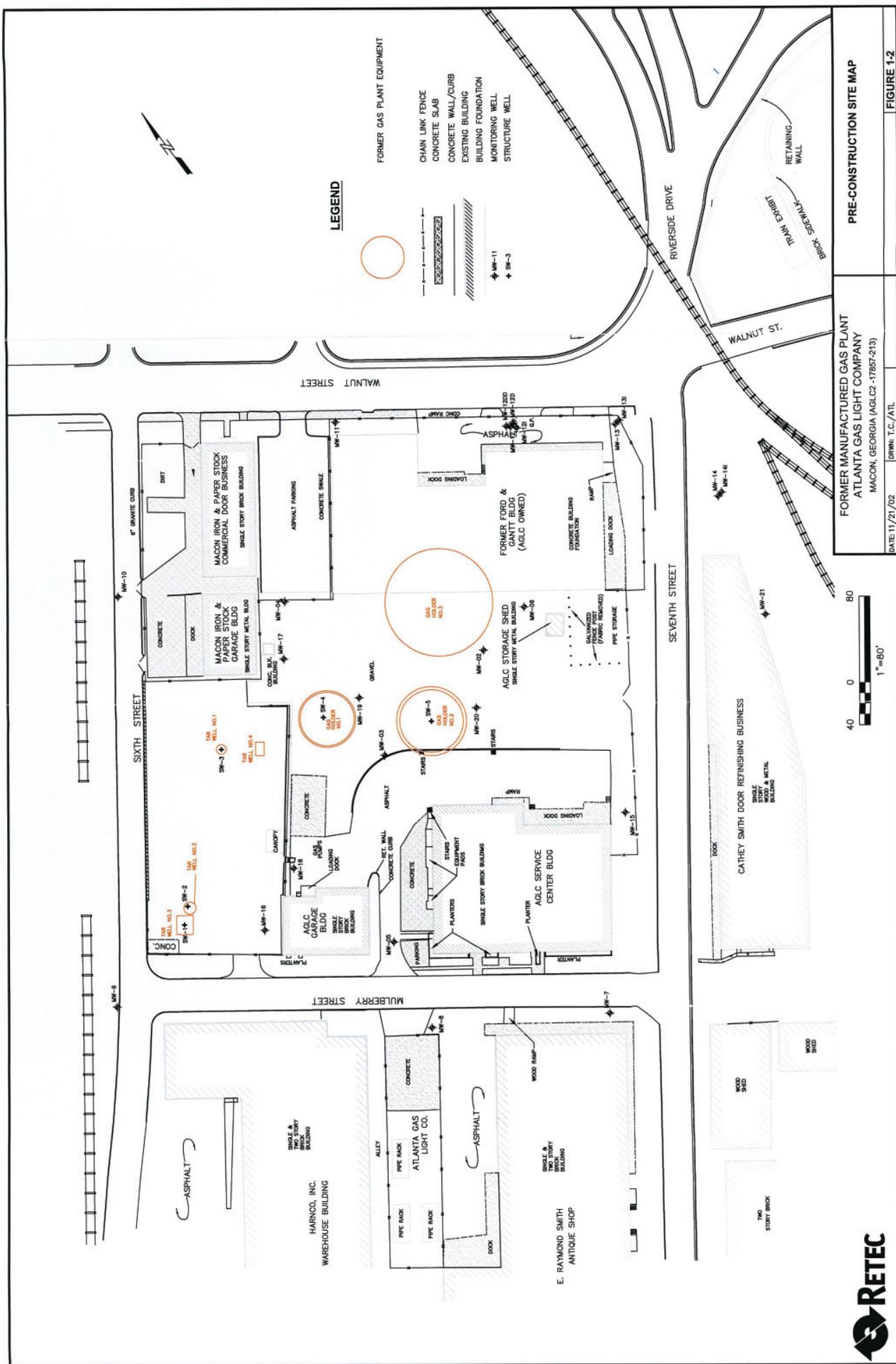
**FIGURE 2 - PROPOSED DNAPL INVESTIGATION BORING LOCATIONS**

Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia

**Pre-Construction Site Map**  
*Appendix A*

*October 14, 2014*  
*Project No. 0176740*  
*Atlanta Gas Light Company*

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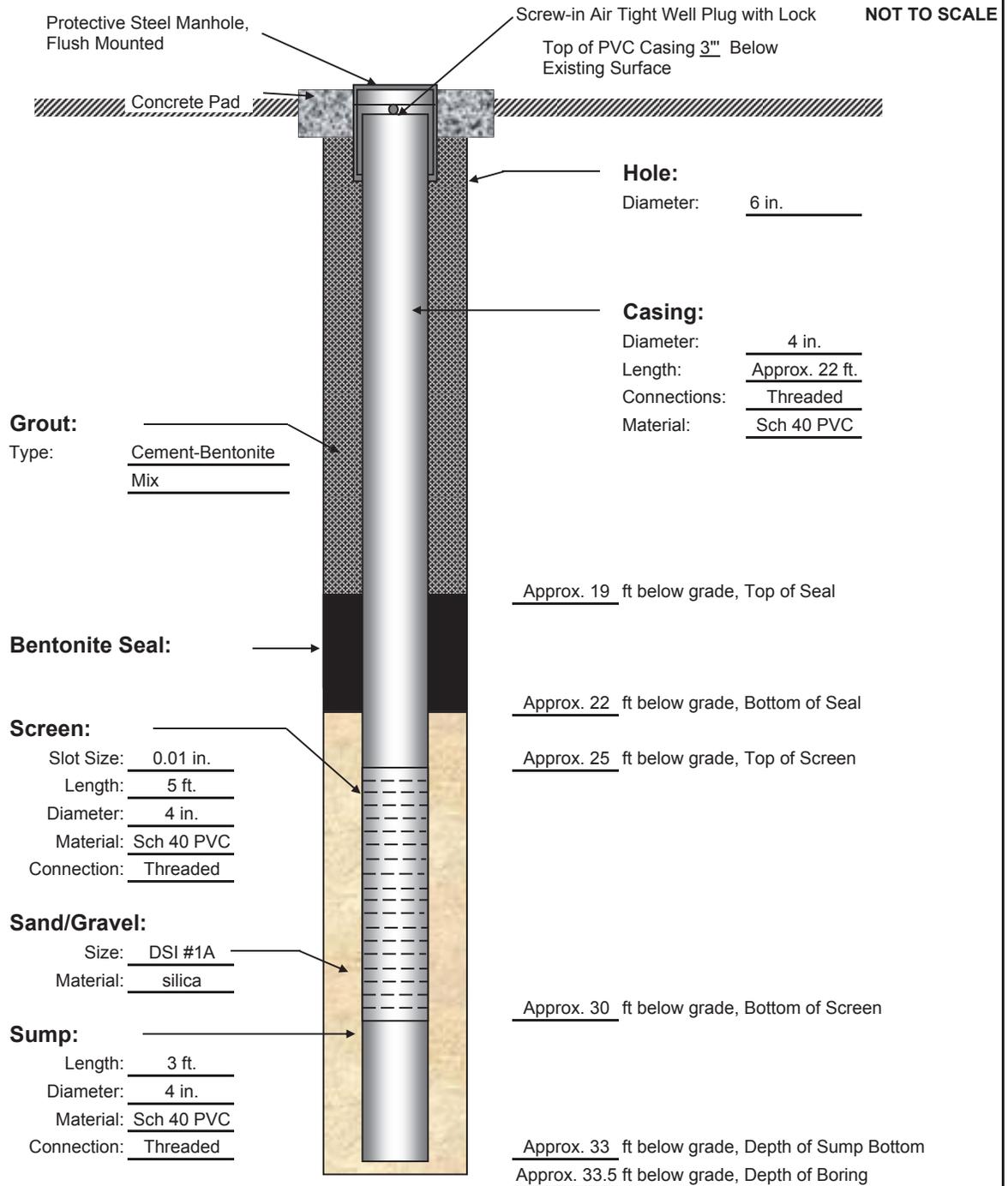
**Proposed Sump Well Construction Diagram**  
*Appendix B*

*October 14, 2014*  
*Project No. 0176740*  
*Atlanta Gas Light Company*

**Environmental Resources Management**  
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Project: AGL-Macon  
 Project No.: \_\_\_\_\_  
 Project Location: Macon, GA  
 Drilling Method: Sonic Rotary

Well/Boring No.: TBD  
 ERM Field Supervisor: \_\_\_\_\_  
 Date(s): \_\_\_\_\_  
 Drilling Contractor: \_\_\_\_\_

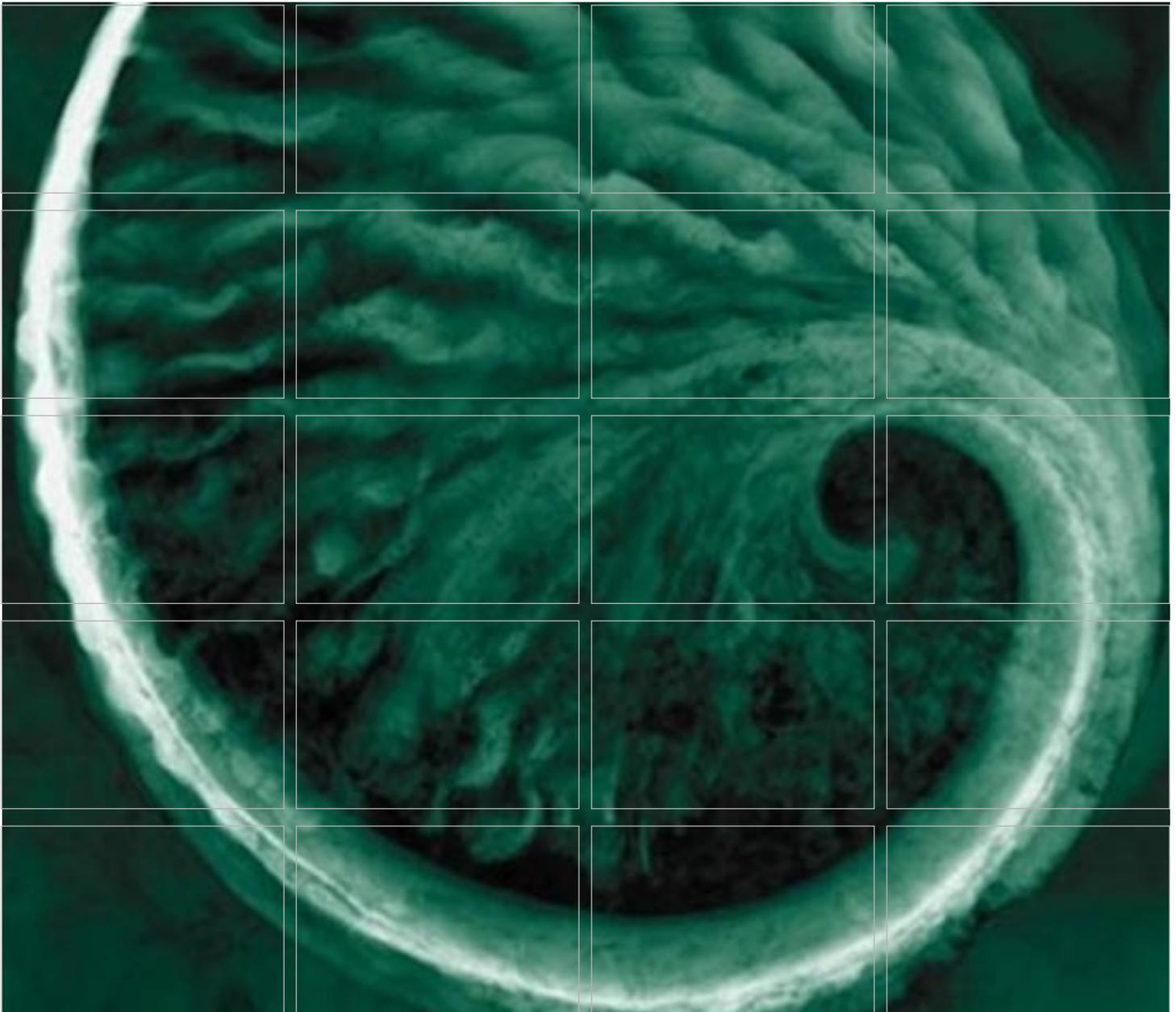


**Comments:** Boring will be advanced through the upper fractured rock zone to an anticipated depth of approximately 25 - 30 ft below grade. If DNAPL is encountered within the fractured rock zone the borehole will be extended into competent rock so that the screen interval straddles the zone where DNAPL was encountered. Appropriate screen length and total depth will be determined during drilling activities based on field observations. If DNAPL is not encountered during drilling the borehole will be abandoned in place with grout using tremie methods.

**Bedrock Groundwater Investigation Plan**  
*Appendix H*

*Project No. 0176740*  
*Atlanta Gas Light Company*

**Environmental Resources Management**  
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# Bedrock Groundwater Investigation Work Plan

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

October 2014

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Atlanta Gas Light Company

# Bedrock Groundwater Investigation Work Plan

Former Manufactured Gas  
Plant Site  
Macon, Georgia HSI #10511

October 2014

ERM Project No. 0176740



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Nic Very  
Project Geologist



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Mark Fleri, P.E.  
Project Manager



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Hunter S. Sartain, P.E.  
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## **TABLE OF CONTENTS**

|            |  |          |
|------------|--|----------|
| <b>1.0</b> | <b>INTRODUCTION</b>  | <b>1</b> |
| <b>2.0</b> | <b>PRE-MOBILIZATION ACTIVITIES</b>                               | <b>2</b> |
| <b>3.0</b> | <b>BEDROCK GROUNDWATER INVESTIGATION</b>                         | <b>3</b> |
|            | <b>3.1 MONITOR WELL INSTALLATION LOCATIONS AND RATIONALE</b>     | <b>3</b> |
|            | <b>3.2 BEDROCK MONITOR WELL INSTALLATIONS</b>                    | <b>3</b> |
|            | <b>3.3 MONITOR WELL DEVELOPMENT</b>                              | <b>3</b> |
| <b>4.0</b> | <b>GROUNDWATER SAMPLING METHOD AND LIST OF ANALYTES</b>          | <b>5</b> |
| <b>5.0</b> | <b>EQUIPMENT DECONTAMINATION AND INVESTIGATION DERIVED WASTE</b> | <b>6</b> |
| <b>6.0</b> | <b>SCHEDULING AND ON-SITE WORK ACTIVITIES</b>                    | <b>7</b> |

*TABLE OF CONTENTS continued*

*FIGURE*

1 TOPOGRAPHIC SITE LOCATION MAP

*APPENDICES*

A GROUNDWATER SAMPLING LOG SHEET

Environmental Resources Management (ERM) has prepared this Work Plan for on-site investigation activities at the former Manufactured Gas Plant (MGP) site in Macon, Georgia (Site) (see [Figure 1](#)). The planned activities described in this Work Plan will support investigations of Site constituents of interest (COI) and groundwater monitoring requirements in accordance with guidelines set forth in the Georgia Voluntary Remediation Program Act (VRPA). This Work Plan is designed to provide additional details of groundwater monitoring well installation and sampling activities as described in the Voluntary Investigation and Remediation Plan (VIRP) for the Macon Site.

As part of the obligations for entry to the VRP, delineation of releases of COI onto properties shall be completed within 12 months (for properties where access is available at time of enrollment) or 24 months (for properties without access). Numerous parcels may or may not be affected by dissolved phase bedrock groundwater contamination in and around the intersection of 7<sup>th</sup> Street and Walnut Street. As noted in Section 4.1 of the VIRP, complex property ownership issues (and legal boundaries) exist. AGLC intends to resolve ownership issues prior to contacting potentially-affected property owners. Exact bedrock monitoring well locations will be determined once property ownership has been ascertained. Installation and groundwater monitoring of a total of four bedrock wells is anticipated at this time. The need for installation of additional wells will be evaluated throughout the investigation process and additional wells will be installed as needed to fulfill VRP requirements. The following sections detail the installation and construction of the anticipated bedrock monitoring wells.

Activities proposed include the following:

- Pre-mobilization activities including development of a *Health and Safety Plan* (HASP) and completion of subsurface clearance tasks;
- Installation of bedrock wells to further refine extent of dissolved phase impacts;
- Data collection; and
- Investigation derived waste (IDW) management and disposal.

The following sections of this Work Plan discuss procedures to be employed during the field activities.

Several planning and communication steps will be taken prior to the beginning of the field activities proposed in this Work Plan. A SSHSP will be prepared to identify the site-specific hazards and the steps that will be taken to mitigate those hazards. The legally required notice will be given to the utility operators via GA 811 and a private utility locator will be contracted to complete a scan of the work areas for buried utilities. The private utility locator will use a combination of ground penetrating radar (GPR) and radio frequency electromagnetic (EM) utility locating equipment to identify underground utility locations. GPR is an electromagnetic method that detects interfaces between subsurface materials with differing dielectric constants. The EM system is operated by either inducting or conducting a signal into the underground utility to be traced. A transmitter is placed over and in line with a suspected buried utility, inducing a signal, which propagates along the buried utility and can then be detected.

Affected property owners will be notified of the intent to access their property for well installation activities a minimum of one week prior to the desired access date. Clearance of vegetation may also be required to access some locations.

### **3.0 BEDROCK GROUNDWATER INVESTIGATION**

#### **3.1 MONITOR WELL INSTALLATION LOCATIONS AND RATIONALE**

The locations of bedrock wells will be selected for the intended purpose of including or excluding properties from the VRP as qualifying properties. The locations and number of wells currently anticipated is tentative, and well locations may be modified or removed based on data collection and access issues following implementation of the VIRP.

#### **3.2 BEDROCK MONITOR WELL INSTALLATIONS**

The bedrock monitor wells will be installed using vibratory drilling (Sonic) techniques and will be completed as cased monitoring wells to avoid cross-contamination (i.e., contamination drag-down) and to effectively seal the alluvial aquifer and partially weathered rock (PWR) zone from the underlying competent bedrock.

Particular attention will be made to identify the top of the PWR and the top of competent bedrock. Rock is anticipated to be encountered at an approximate depth of between 30 and 50 feet below ground surface (ft bgs). Upon encountering rock, the borehole will be advanced below the PWR zone approximately 5 feet into rock, and a steel or PVC casing will be grouted in place. Following installation of the casing, below the interface between PWR and competent rock, the corehole will be advanced to an estimated total depth of 20 feet into competent bedrock and completed using a 10- or 20-foot section of 2-inch inner diameter (i.d.) Schedule 40 PVC well screen (0.010-inch slot size) attached to an appropriate length section of 2-inch i.d. Schedule 40 PVC riser pipe. PVC pipe connections will be flush-threaded and centralizers will be used to keep the well screen and riser plumb. The annular space around the screen will be filled with tremmied in-place sand to a minimum of 2 feet above the top of the screen. An approximate 4-foot thick bentonite seal will be placed above the sand and the remaining annular space will be filled with a Portland cement/bentonite grout slurry. Each well will have a flush-mount completion or stick-up monument (approximately about 2.5 to 3 feet above ground surface) depending on the surface conditions at the selected locations.

#### **3.3 MONITOR WELL DEVELOPMENT**

Following installation, the monitoring wells will be developed by pumping and surging until fine grained particles have been removed to the satisfaction of the

site Geologist (i.e., clear to the un-aided eye) or turbidity measurements indicate a value of less than 10 nephelometric turbidity units (NTUs). The well location, top of casing elevation and ground surface elevation will be surveyed by a Georgia-registered surveyor.

After installation and development, the wells will be purged and sampled in accordance with U.S. Environmental Protection Agency (EPA) Region 4, Science and Ecosystem Support Division groundwater sampling procedures (SESD; October 28, 2011). Low flow/volume purging and sampling techniques will incorporate a peristaltic pump, bladder pump, or submersible pump. Tubing and/or the pump intake will be placed in the middle of the screen interval. Measurements of pH, temperature, specific conductance, dissolved oxygen, oxidation reduction potential, and turbidity will be collected during purging and logged on a groundwater sampling log sheet ([Appendix A](#)). Each well will be sampled upon stabilization of field parameters. If more than 0.3 feet of drawdown of the water column occurs prior to stabilization then the well purging method will be switched to a minimum of three well volumes if stable or to a maximum of five well volumes. In this instance, tubing and/or the pump intake will be placed at the top of the well column and lowered as necessary to chase the water column down if the three well volume methods are used. Groundwater samples will be placed into appropriate, laboratory-supplied sample bottle, placed on ice, and submitted to certified laboratory under proper chain-of-custody for analysis of site-specific COI (see Table 2-1 of VIRP). Additional groundwater sampling methodology details are provided in the Bedrock Groundwater Monitoring Work Plan included as Appendix I of the VIRP.

***EQUIPMENT DECONTAMINATION AND INVESTIGATION DERIVED WASTE***

In order to prevent cross-contamination, all drilling and sampling equipment will be decontaminated between each drilling location by steam pressure washing or by hand cleaning using a detergent and water mixture, followed by a final distilled water rinse.

IDW generated during the well installation (e.g., soil cuttings, developed/purged groundwater, and decontamination fluids) will be placed into the appropriately sized container (e.g., 55-gallon steel drums or a roll-off box temporarily staged on-site) and labeled with generator name, description of the contents, and date(s) of generation. Drums will be placed on pallets in an acceptable storage area pending receipt of analytical results and coordination of transportation and off-site disposal at a licensed disposal facility. Personal protective equipment and disposable sampling equipment (e.g., tubing and acetate liners) will be taken off-site daily for disposal.

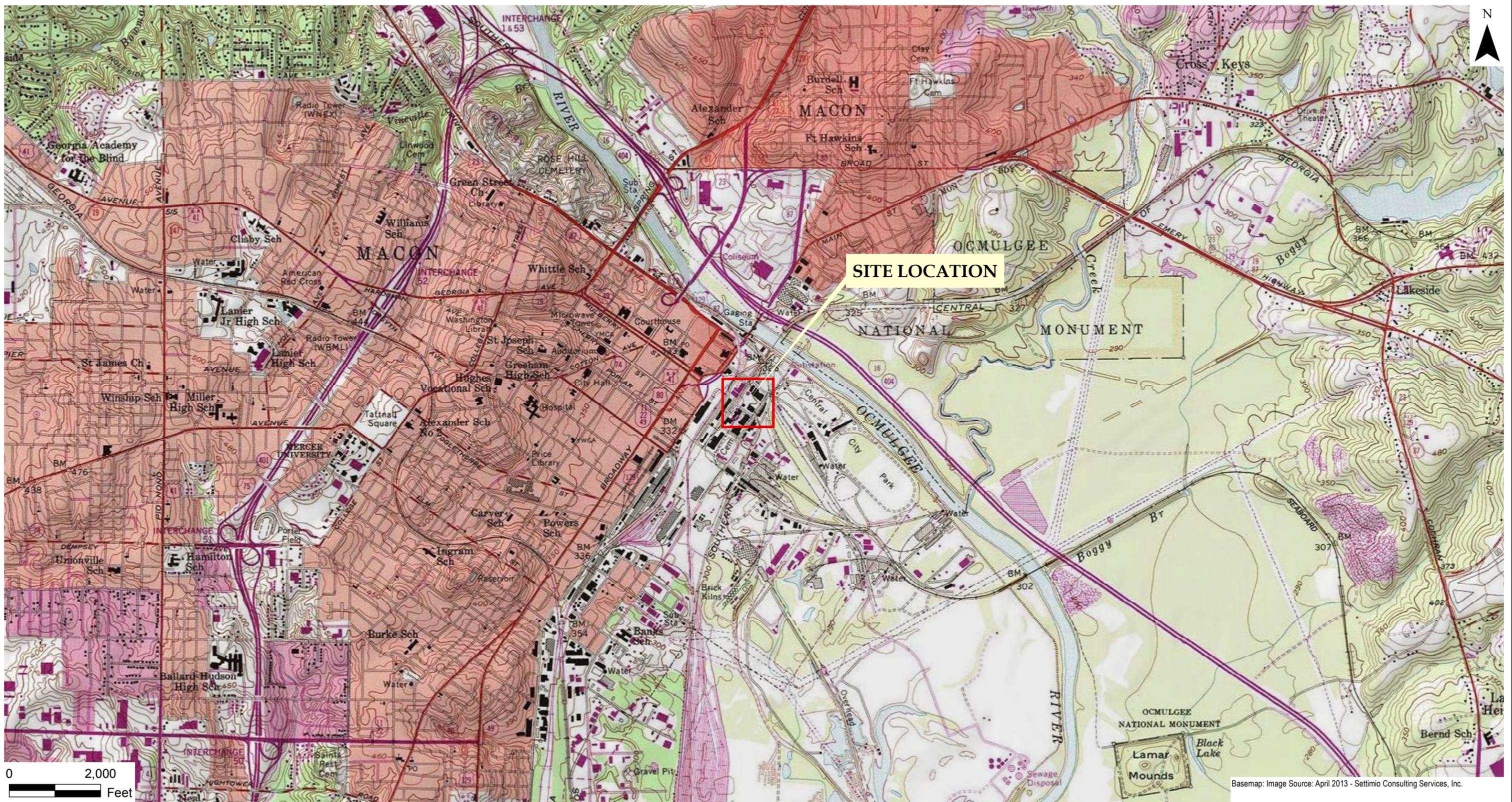
Waste characterization and removal will be expedited to limit time on site. While onsite, all IDW storage containers will be covered with a tarp.

Once property access is granted, ERM will mobilize to the Site to conduct drilling activities described in this Work Plan. Bedrock monitoring wells will be sampled over a period of one week, no sooner than 2 weeks following well development. Once profiling and manifesting have been completed, IDW will be removed from the Site.

## **Figure**

*October 13, 2014*  
*Project No. 0176740*  
*Atlanta Gas Light Company*

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



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



# Environmental Resources Management

|   |            |        |           |           |        |
|---|------------|--------|-----------|-----------|--------|
| DESIGN:   | H Sartain  | DRAWN: | S Vizuete | CHKD.:    | N Vrey |
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CONTOUR INTERVAL 10 FEET  
 DOTTED LINES REPRESENT 5-FOOT CONTOURS  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



FIGURE 1 - TOPOGRAPHIC SITE LOCATION MAP

Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia

**Groundwater Sampling Log Sheet**  
*Appendix A*

*October 13, 2014*  
*Project No. 0176740*  
*Atlanta Gas Light Company*

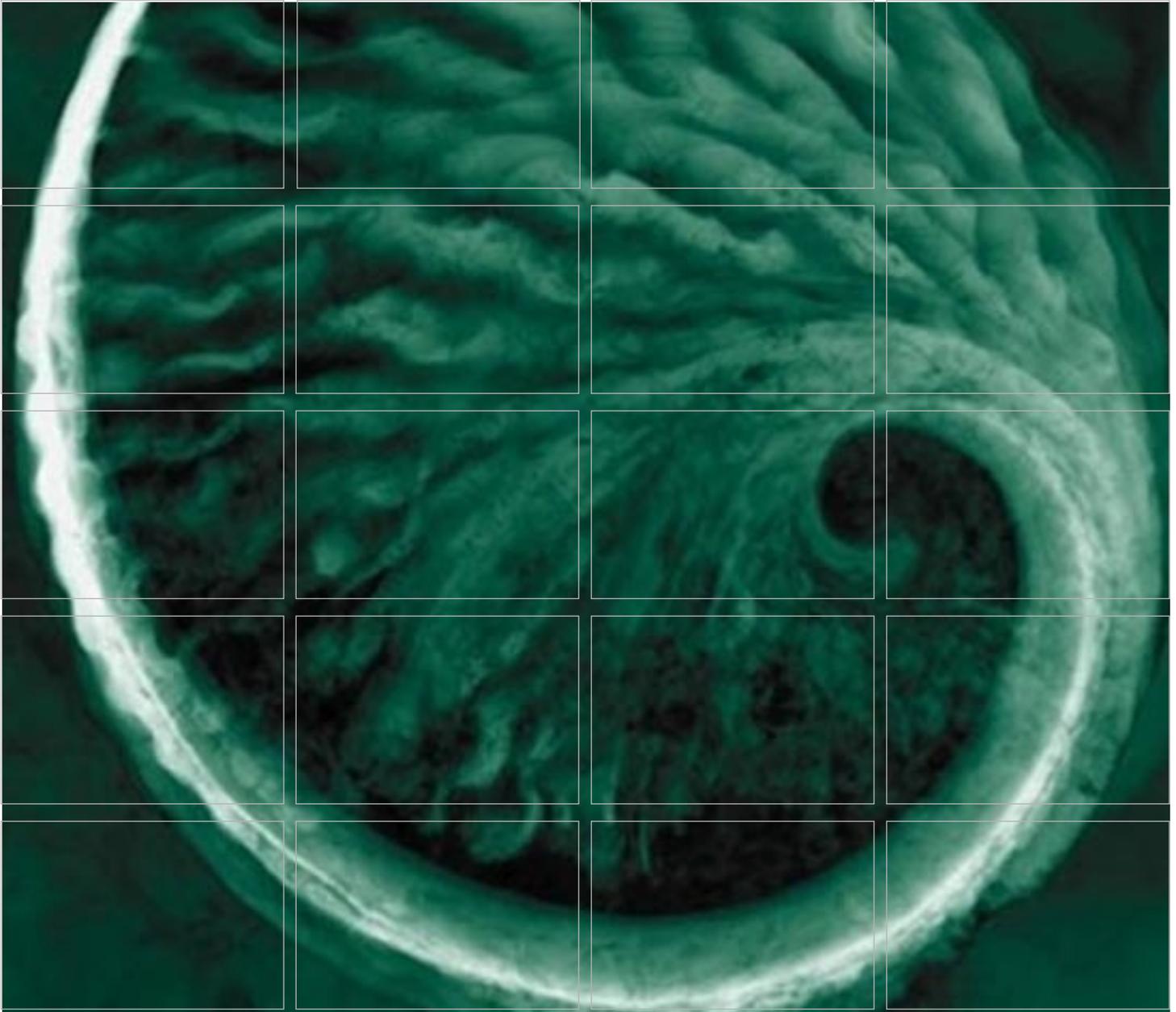
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Atlanta, GA 30339  
(678) 486-2700



**Bedrock Groundwater Monitoring Plan**  
*Appendix I*

*Project No. 0176740*  
*Atlanta Gas Light Company*

**Environmental Resources Management**  
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# Bedrock Groundwater Monitoring Work Plan

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

October 2014

[www.erm.com](http://www.erm.com)

Atlanta Gas Light Company

# Bedrock Groundwater Monitoring Work Plan

Former Manufactured Gas  
Plant Site  
Macon, Georgia HSI #10511

October 2014

ERM Project No. 0176740



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## **TABLE OF CONTENTS**

|            |  |           |
|------------|--|-----------|
| <b>1.0</b> | <b>INTRODUCTION</b>  | <b>1</b>  |
| <b>2.0</b> | <b>CURRENT SITE UNDERSTANDING</b>                                      | <b>1</b>  |
| <b>2.1</b> | <b>SUMMARY OF SITE GEOLOGY AND HYDROGEOLOGY</b>                        | <b>2</b>  |
| <b>3.0</b> | <b>TECHNICAL APPROACH TO GROUNDWATER MONITORING PROGRAM</b>            | <b>3</b>  |
| <b>3.1</b> | <b>MONITORING OBJECTIVES</b>   | <b>3</b>  |
| <b>3.2</b> | <b>BEDROCK GROUNDWATER MONITORING WELL NETWORK</b>                     | <b>3</b>  |
| <b>3.3</b> | <b>SOURCES OF UNCERTAINTY AND IMPLICATIONS ON DECISION-<br/>MAKING</b> | <b>7</b>  |
| <b>4.0</b> | <b>DETAILS OF THE PROPOSED GROUNDWATER MONITORING PROGRAM</b>          | <b>7</b>  |
| <b>4.1</b> | <b>GROUNDWATER MONITORING WELL INSTALLATION</b>                        | <b>8</b>  |
| <b>4.2</b> | <b>GROUNDWATER MONITORING WELL ABANDONMENT</b>                         | <b>8</b>  |
| <b>4.3</b> | <b>GROUNDWATER SAMPLING</b>  | <b>8</b>  |
| <b>4.4</b> | <b>LABORATORY ANALYSIS</b>   | <b>10</b> |
| <b>4.5</b> | <b>SCHEDULE AND REPORTING</b>  | <b>10</b> |
| <b>5.0</b> | <b>REFERENCES</b>  | <b>11</b> |

***TABLE OF CONTENTS continued***

***TABLES***

- 1 OPTIMIZATION OF BEDROCK GROUNDWATER MONITORING NETWORK
- 2 DEPTHS TO WATER AND GROUNDWATER ELEVATIONS - BEDROCK MONITORING WELLS - AUGUST 5, 2014
- 3 SITE-SPECIFIC COI AND MONITORED NATURAL ATTENUATION PARAMETERS

***FIGURES***

- 1 TOPOGRAPHIC SITE LOCATION MAP
- 2 BEDROCK GROUNDWATER MONITORING WELL NETWORK
- 3 BEDROCK GROUNDWATER ELEVATION MAP - AUGUST 2014
- 4 BENZENE IN BEDROCK GROUNDWATER - AUGUST 2014
- 5 NAPHTHALENE IN BEDROCK GROUNDWATER - AUGUST 2014

***APPENDICES***

- A STANDARD OPERATING PROCEDURES

Environmental Resources Management (ERM) has prepared this Work Plan for bedrock groundwater monitoring at the former Manufactured Gas Plant (MGP) site in Macon, Georgia (Site) (see [Figure 1](#)). Bedrock groundwater monitoring procedures are presented in this Work Plan to be included as part of the Voluntary Remediation and Investigation Plan (VIRP) submitted to support enrollment of the site into the Voluntary Remediation Program (VRP). The Mulberry Street MGP is located at 137 Mulberry Street and the Western Portion MGP is located to the west between Terminal Avenue and 6<sup>th</sup> Street in Macon, Bibb County, Georgia, in an older urban area with a mix of commercial, rail and light industrial land uses. The Site (Mulberry Street MGP and Western Portion MGP) includes property formerly owned by AGLC and formerly used for MGP operations; property formerly owned by AGLC not used for MGP operations; surrounding and nearby parcels not owned by AGLC; and city right-of-ways (ROW). The Site location and current bedrock groundwater monitoring well network maps ([Figure 1](#) and [Figure 2](#), respectively) show the setting of the AGLC property.

The planned activities described in this Work Plan will address bedrock groundwater monitoring requirements in accordance with guidelines set forth in the Georgia Voluntary Remediation Program Act (VRPA). As required by the VRP, delineation of releases of constituents of interest (COI) onto properties shall be completed within 12 months (for properties where access is available at time of enrollment) or 24 months (for properties without access). Numerous parcels may or may not be affected by dissolved phase bedrock groundwater contamination in and around the intersection of 7<sup>th</sup> Street and Walnut Street.

As recommended by EPD in the July 2013 meeting, AGLC reviewed the current OM&M program which was originally designed to assess the effectiveness of monitored natural attenuation (MNA) following implementation of previous corrective action. Due to the ongoing evaluation of impacts in the bedrock aquifer and the additional corrective actions planned in the Western Portion MGP (as described in the VIRP), in correspondence to EPD dated August 12, 2013, AGLC proposed to revise the current OM&M program to better meet the existing and future data needs. This Work Plan addresses the proposed revisions to the Bedrock OM&M program, and is included as Appendix I in the VIRP. An overview of proposed changes to the bedrock groundwater monitoring program is set forth in [Table 1](#). This Work Plan addresses bedrock groundwater monitoring only. An Alluvial Groundwater Monitoring Work Plan with proposed changes to the alluvial OM&M program was included as Appendix H in the February 2014 Western Portion and MW 101 Area Groundwater CAP-A. Bedrock groundwater monitoring is proceeding in accordance with AGLC's August 13, 2013 correspondence to the EPD.

## 2.0 CURRENT SITE UNDERSTANDING

### 2.1 SUMMARY OF SITE GEOLOGY AND HYDROGEOLOGY

The geology encountered during previous investigations and described in historic reports consists of fill material; unconsolidated alluvial sands, gravels, and clays; sandy clays of the Cretaceous-age Tuscaloosa Formation; saprolite (clayey silt to clay); and a granitic gneiss bedrock. Alluvial deposits are described as unsorted sand, gravel, and clay. Below the alluvial deposits, the Late Eocene upper sand member of the Barnwell Formation, if present, lies unconformably above the Cretaceous-age Tuscaloosa Formation. The upper sand of the Barnwell Formation is described as deep red clayey sand. The Tuscaloosa Formation consists of fine to coarse, subangular, micaceous, arkosic sands that are interbedded with gray to green, locally iron-stained kaolinitic, micaceous sandy clays. The base of the Tuscaloosa in this area dips slightly to the southeast at approximately 30 feet per mile and lies unconformably above much older crystalline rocks. The Paleozoic-aged and older igneous and metamorphic rock lie at a depth of approximately 50 feet below ground surface (ft bgs).

Bedrock hydrogeology at the Site was evaluated through the installation and monitoring of 35 bedrock monitoring wells installed at the Site and nearby areas. The hydrogeologic characteristics are now well enough defined to make future predictions about transport. Groundwater impacts within the bedrock extend no more than a few hundred feet downgradient of the shallow source area that was treated using ISS in 1999 and 2009. The bedrock groundwater plume is stable, is defined spatially, and has an extremely low transport rate; therefore, there is no current or reasonable anticipated exposure to downgradient receptors from this shallow bedrock. The fractured bedrock is a low yield source of water.

As described in previous reports, the hydraulic potential measured in bedrock wells decreases toward the east and southeast. Geophysical investigations have demonstrated primary fractures in bedrock orientated to the east and southeast. Based on the measured hydraulic potential, groundwater flow lines in bedrock are generally parallel to the fracture orientations. Accessible groundwater in bedrock is limited to fractures, and groundwater flow and dissolved constituent transport is likely dominated by the orientation of the primary fracture system. The groundwater elevation data is presented in [Table 2](#) and the inferred bedrock groundwater flow direction is presented in [Figure 3](#) for data collected in August 2014.

### 3.0 **TECHNICAL APPROACH TO GROUNDWATER MONITORING PROGRAM**

This section summarizes long-term groundwater monitoring and sampling objectives, and describes observations that would trigger further evaluation or revision of the bedrock groundwater sampling plan.

#### 3.1 **MONITORING OBJECTIVES**

Based upon the above discussion, the existing groundwater monitoring well network requires adjustment to better meet current and future data needs following remediation activities at the site. The following approach for groundwater monitoring has been developed to be consistent with applicable concepts articulated within *Use of Monitored Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites* (USEPA, 1999) and *VOC MNA document Performance Monitoring of MNA for VOCs in Ground Water* (USEPA, April 2004a). The groundwater monitoring program has been developed to address the following program objectives:

Objective 1 - Verify that the plume is not expanding (laterally and vertically);

Objective 2 - Monitor for DNAPL accumulation;

Objective 3 - Detect changes in environmental conditions;

Objective 4 - Detect new releases (or other sources) of contaminants to the environment that could impact the effectiveness of the natural attenuation remedy;

Objective 5 - Demonstrate the effectiveness of institutional controls/remedy; and,

Objective 6 - Verify attainment of remediation objectives.

The following sections provide details of the groundwater monitoring requirements necessary to achieve each of these objectives, and includes proposed changes to the groundwater monitoring schedule.

#### 3.2 **BEDROCK GROUNDWATER MONITORING WELL NETWORK**

The existing bedrock groundwater monitoring well network (including wells planned for abandonment during remediation activities), the bedrock dissolved benzene/naphthalene plume, the dimensions of the existing ISS mass, and the proposed dimensions of the Western Portion ISS mass are illustrated in [Figures 4](#)

and 5. Locations of the additional bedrock groundwater investigation wells proposed in the VIRP have not been determined at the time of this submittal; new wells will be incorporated into the groundwater monitoring program following installation. The current status of each monitoring well (existing and proposed for the bedrock aquifer) and, where appropriate, the rationale for including or excluding each well in future groundwater monitoring, is summarized in [Table 1](#).

Depth to groundwater measurements will be collected at each monitoring well during semiannual events to determine groundwater elevations for the creation of potentiometric surface maps. Semiannual groundwater monitoring will include collection of field-measured groundwater quality parameters (pH, conductivity, turbidity, temperature, dissolved oxygen (DO), and oxidation reduction potential (ORP), collection of samples for laboratory analysis for appropriate COI ([Table 3](#)). Continued laboratory analysis of natural attenuation (NA) parameters will be completed on an annual basis from monitoring wells MW-12DRR, MW-110D, MW-112D, MW-205D, MW-306D, MW-307D, and MW-308D, as well as new bedrock monitoring wells installed in accordance with the VIRP, as documented in Appendix H of the VIRP document.

An evaluation of Site data will be performed following each groundwater monitoring event to identify the concentration and extent of appropriate COIs; to identify if new releases of contaminants have occurred; to determine if any DNAPL accumulation has occurred greater than 0.5 ft of thickness; to determine changes in environmental conditions; and to determine whether the monitoring well network, relevant COIs and NA parameter lists, and monitoring schedule need to be revised (supports Objectives 1, 2, 3, 4, and 6). In the event that COI concentrations or NA parameters show significant deviation from historical or baseline data, a resampling event will be conducted within 4 weeks of receiving validated laboratory data to confirm the analytical results.

Additionally, if anomalous NA parameter values are confirmed at any location, additional sampling of neighboring wells will be performed. Details of the scope of additional sampling or other corrective action will be developed on an incident-specific basis and communicated with EPD prior to implementation. Criteria for these evaluations are listed in the tables below:

| <b>Objective</b>  | <b>Applicable Shallow Bedrock Wells</b>    | <b>Trigger for Contingent Action</b>   | <b>Contingent Action</b>   |
|---|--|--|--|
| 1 - Verify that the plume is not expanding (Point of Demonstration Wells) | MW-22D, MW-23D, MW-25D, MW-26D, and MW-27D | Concentration trends result in values that exceed groundwater RRS in previously unimpacted wells | Re-evaluate the existing CSM and the potential need for enhanced NA. |

| Objective  | Applicable Shallow Bedrock Wells  | Trigger for Contingent Action  | Contingent Action  |
|--|---|--|--|
| 2 – Monitor for DNAPL accumulation   | MW-111D, MW-302D, MW-305D   | Accumulation of greater than 0.5 ft of DNAPL   | Vacuum Enhanced Fluid Recovery (VEFR) event                                    |
| 3 – Detect changes in environmental conditions (groundwater flow)                                | All gauged bedrock wells (see Table 1)  | Groundwater elevation data suggest that groundwater flow rate and/or direction is changing enough to create concern.   | Explore localized hydrogeologic changes that could cause the observed changes. |
| 3 – Detect changes in environmental conditions (groundwater COI and/or NA parameters)            | COI – All sampled wells; MNA – MW-12DRR, MW-110D, MW-112D, MW-205D, MW-306D, MW-307D, and MW-308D | Groundwater COI analyses detect constituents not previously observed at this Site; field and/or NA parameters indicate groundwater geochemistry is changing in ways that might inhibit intrinsic biodegradation. | Explore localized conditions that could cause the observed changes.            |
| 3 - Detect changes in environmental conditions; Use background wells for COIs and NA parameters. | COI – MW-22D, MW-25D and MW-308D; MNA – MW-308D   | Background well(s) contain detectable COI or exhibit NA values, which, when compared with MW-12DRR, MW-110D, and MW-205D, suggests impacts   | Consider modifying wells used to monitor background COI and NA parameters.     |

| Objective   | Applicable Shallow Bedrock Wells     | Trigger for Contingent Action  | Contingent Action   |
|---|--------------------------------------|--|---|
| 4 - Detect new releases of contaminants to the environment that could impact the effectiveness of the NA remedy | MW-23D, MW-24D, MW-305D, and MW-308D | Groundwater analyses detect constituents not previously observed at this Site; field and/or NA parameters indicate groundwater geochemistry is changing in ways that might inhibit intrinsic biodegradation. | Explore local conditions that could cause the observed changes.               |
| 6 - Verify attainment of remediation objectives   | All sampled wells (see Table 1)      | Data trends suggest that COI concentrations are not decreasing and plume is not expanding.   | Re-evaluate the existing CSM and the potential need for additional activities |

Analysis of observed concentration trends and NA parameters will be used to determine whether the concentrations are stable or declining and to what extent NA is occurring (addresses Objectives 1 and 6).

Historically, NA parameters at this Site have been very consistent. Field-measured NA parameters will be documented during each sampling event and laboratory-measured NA parameters will be analyzed annually, unless field parameters indicate that geochemical conditions have changed. Collectively the COI, field parameters, and NA data will be used to detect any changes in groundwater geochemical conditions, and to determine whether new releases to the environment have occurred (addresses Objectives 3 and 4).

A visual inspection of adjacent properties will be completed during each annual sampling event to determine compliance with applicable institutional and engineering controls (to be identified in Semiannual Status Reports to be submitted following entry into the VRP. Documentation of inspection activities will be provided to EPD in the semiannual progress reports.

In order to address Objective 2 (monitor for DNAPL accumulation), an interface probe will be used during gauging events to determine if greater than 0.5 ft of DNAPL has accumulated in a monitoring well, which would trigger a vacuum enhanced fluid recovery event to recover DNAPL from the well.

### *SOURCES OF UNCERTAINTY AND IMPLICATIONS ON DECISION-MAKING*

Given the nature of the objectives and “Triggers for Contingent Action” (which can also be considered the performance criteria), two types of errors are of particular concern for this program:

- An error that incorrectly suggests an organic constituent is present in a previously-unimpacted well (either upgradient or downgradient of the actual plumes); or,
- Higher than anticipated variability in either organic constituents analyses or geochemical parameter/constituent measurements, resulting in suggestions of an erroneous trend.

Several components of the program have been designed to minimize the probability that these types of data gathering errors will result in erroneous decisions:

- Each new set of data will be compared against previous Site data soon after collection and wells will be resampled if values appear anomalous, based upon scientific judgment; and
- Decisions that trigger contingent action will be based upon data trends, rather than upon a single data point (including data-verified data points which suggest a change in Site conditions or a shift in a trend).

As appropriate, resampling events will include wells that are near the well that generated potentially anomalous data, to further evaluate the likelihood of a change in Site conditions.

Data that is rejected during the validation process will not be posted in data tables or used in trend analysis. An evaluation will be performed regarding the appropriate use of data that are flagged during the validation process or questioned for any other reason, based upon the specifics of that data quality concern.

## 4.0 *DETAILS OF THE PROPOSED GROUNDWATER MONITORING PROGRAM*

The sections below describe in detail the procedures to follow as part of the proposed groundwater monitoring program for well installation, abandonment, groundwater sampling, laboratory analysis, and schedule.

### 4.1 *GROUNDWATER MONITORING WELL INSTALLATION*

Bedrock groundwater monitoring wells may need to be installed if wells near the remediation boundary are destroyed or damaged during implementation of corrective actions described in the 2014 CAP-A (ERM, 2014). Monitoring wells will be installed in accordance with the Region 4 EPA Science and Ecosystem Support Division (SESD) guidance document SESDGUID-101-R1, *Design and Installation of Monitoring Wells* (USEPA, 2013b) and the Bedrock Groundwater Investigation Work Plan (Appendix H of the VIRP). If replacement wells are necessary, the wells will be constructed to match the original well construction.

### 4.2 *GROUNDWATER MONITORING WELL ABANDONMENT*

Three bedrock wells (MW-09D, MW-115D, and MW-303D) are located within the Western Portion MGP planned ISS remediation footprint and will be abandoned as part of remediation activities. The bedrock monitoring wells will be tremmie grouted in place prior to corrective action activities, and subsequently removed during excavation activities. Any remaining materials will be solidified during ISS activities.

### 4.3 *GROUNDWATER SAMPLING*

Groundwater monitoring events will be performed consistent with previous sampling events and in accordance with the Region 4 EPA SESD Field Branches Quality System and Technical Procedures (as referenced below), which replaces EPA Region 4 Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (USEPA, 2001b).

Prior to sampling each well, field equipment will be cleaned and decontaminated and any investigative-derived waste will be contained using the following SESD procedures:

SESDPROC-205-R2 *Field Equipment Cleaning and Decontamination*, December 20, 2011 (USEPA, 2011)

SESDPROC-202-R1 *Management of Investigation Derived Waste, November 1, 2007 (USEPA, 2007b)*

Field measurements, which include field-measured natural attenuation parameters and groundwater elevation, will be collected using a multi parameter water-quality meter, turbidity meter, and electric water-level meter. Field measurements will be collected using the following SESD procedures:

SESDPROC-106-R2 *Field DO Measurement, February 12, 2010 (USEPA, 2010)*

SESDPROC-113-R0 *Field Measurement of Oxidation-Reduction Potential, August 7, 2009 (USEPA, 2009)*

SESDPROC-100-R2 *Field pH Measurement, June 13, 2008 (USEPA, 2008b)*

SESDPROC-101-R2 *Field Specific Conductance, June 13, 2008 (USEPA, 2008c)*

SESDPROC-102-R2 *Field Temperature Measurement, June 13, 2008 (USEPA, 2008d)*

SESDPROC-103-R2 *Field Turbidity Measurement, June 13, 2008 (USEPA, 2008e)*

SESDPROC-105-R2 *Groundwater Level and Well Depth Measurement, January 29, 2013 (USEPA, 2013a)*

Groundwater will be collected in accordance with SESD groundwater sampling procedures (referenced below) using low-flow (micro-purging) techniques.

SESDPROC-301-R3 *Groundwater Sampling, March 6, 2013 (SESD, 2013c)*

A peristaltic pump and new tubing will be used to purge each well. The pump intake tubing will be lowered to the middle of the screened water column. The well will be purged at a rate that minimizes drawdown to avoid disturbing the fine-grained soil in the well casing, sandpack (if existing), or surrounding formation. During purging, the maximum-pumping rate will be the rate that does not lower the water level in the well by more than 0.3 feet. If the monitoring well has insufficient recharge and the water levels drops by more than 0.3 feet the purging method will be switched to a minimum of three well volumes to a maximum of five well volumes and the pump intake tubing will be raised to the top of the water column, unless the purge volume makes switching to three well volumes infeasible.

Groundwater will be pumped from the well into a sealed, flow-through chamber containing probes to measure the water temperature, acidity or alkalinity (pH), specific conductance, ORP, and DO. At regular intervals, grab samples will be obtained from the outlet of the chamber for turbidity measurements. After passing through the flow-through chamber, the water will be discharged to a 5-gallon bucket. When this bucket is full, the water will be transferred to a 55-gallon drum, or an on-site tank. Storage drums or a poly tank will store the purge water at the Site for future disposal. The purge water will be considered representative of the surrounding aquifer after three consecutive readings of pH, specific conductance, and temperature are within 10 percent of the previous reading and the turbidity is reduced to 10 nephelometric turbidity units or less. Field parameter values of pH, specific conductance, temperature, DO, ORP, turbidity, and the corresponding purge volume will be recorded on the

groundwater sampling form for each well. After the above parameters have stabilized, groundwater samples will be collected for laboratory analyses.

It should be noted that VOCs cannot be collected directly from the pump head; rather, samples should be collected by withdrawing the tubing from the well (while taking care that tubing does not touch any surface or any point of possible contamination) and then reversing the pump flow direction and allowing the water to be pumped into the proper sample containers.

Samples will be collected in appropriate sampling containers, packed on ice, and shipped to the laboratory via overnight courier. Field quality control samples (i.e., field duplicates, field blanks, and equipment rinsate blanks) and laboratory quality control as well as sample custody, decontamination and calibration procedures, documentation, and data reporting will all be performed in accordance with attached SOPs.

#### 4.4 **LABORATORY ANALYSIS**

Groundwater samples will be analyzed semiannually for select VOCs, select semi-volatile organic compounds (SVOCs), and select inorganics, and a sublist of samples will be analyzed annually for select NA parameters. The COI list was updated based on correspondence received from the EPD dated January 17, 2012 to the list of constituents listed in Table 2-1 of the January 2004 Compliance Status Report (CSR), and included herein as [Table 3](#).

Laboratory data will be validated, using methods described in the *EPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review* (USEPA, 2008f) and the *EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, 2004b) modified for method-specific requirements. At a minimum, a field duplicate will be collected at one for every 10 samples collected, and matrix spike (MS) / matrix spike duplicate (MSD) at one for every 20 samples collected.

#### 4.5 **SCHEDULE AND REPORTING**

Bedrock groundwater monitoring is scheduled to occur on a semiannual basis. The semi-annual monitoring events will be completed and reported during the VIRP SemiAnnual Status Reports. The reports will include sampling methodology, tabulated groundwater elevation and analytical data, groundwater contour map(s), groundwater quality map(s), sampling forms, and a brief summary of results with recommendations for modifications to the sampling regime, if necessary. The groundwater monitoring program may be revisited after corrective action is complete and effectiveness is evaluated. In accordance with the VRPA, upon determination of remedy effectiveness, AGLC will submit a Compliance Status Report (CSR) for the Site.

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## **Tables**

*October 13, 2014*  
*Project No. 0230715*  
*Atlanta Gas Light Company*

**Environmental Resources Management**  
3200 Windy Hill Rd. Suite 1500W  
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**Table 1**  
**Optimization of Bedrock Groundwater Monitoring Network**  
**Atlanta Gas Light Company**  
**Former Manufactured Gas Plant Site**  
**Macon, Georgia**

| Monitoring Well I.D. | Hydrogeologic Unit | Screened Interval<br>ft bgs | Existing Program | Proposed Schedule | Rationale  |
|----------------------|--------------------|-----------------------------|------------------|-------------------|--|
| MW-08D               | Shallow Bedrock    | 38 - 53.5                   | Gauge Only       | Gauge only        |  |
| MW-09D               | Shallow Bedrock    | 46.5 - 56.5                 | Semiannual       | Abandon           | Well to be abandoned during ISS activities in 2015 |
| MW-12DRR             | Shallow Bedrock    | 37 - 52                     | Semiannual       | Semiannual        |  |
| MW-12DD              | Deep Bedrock       | 87 - 97                     | Semiannual       | Annual            |  |
| MW-22D               | Shallow Bedrock    | 44 - 66                     | Gauge Only       | Semiannual        | POD well   |
| MW-23D               | Shallow Bedrock    | 23 - 36                     | Semiannual       | Semiannual        | POD well   |
| MW-24D               | Shallow Bedrock    | 30.5 - 40.5                 | Annual           | Semiannual        |  |
| MW-25D               | Shallow Bedrock    | 50 - 57.5                   | Semiannual       | Semiannual        | POD well   |
| MW-26D               | Shallow Bedrock    | 31 - 42                     | Gauge Only       | Semiannual        | POD well   |
| MW-27D               | Shallow Bedrock    | 43.5 - 48.5                 | Gauge Only       | Semiannual        | POD well   |
| MW-27DD              | Deep Bedrock       | 105 - 115                   | Gauge Only       | Gauge only        |  |
| MW-108D              | Shallow Bedrock    | 48.5 - 58.5                 | Annual           | Annual            |  |
| MW-110D              | Shallow Bedrock    | 28 - 43                     | Semiannual       | Semiannual        |  |
| MW-111(D)            | Shallow Bedrock    | 33 - 46.5                   | Semiannual       | Semiannual        |  |
| MW-112D              | Shallow Bedrock    | 26 - 36                     | Semiannual       | Annual            |  |
| MW-113D              | Shallow Bedrock    | 29.5 - 39.5                 | Semiannual       | Annual            |  |
| MW-114D              | Shallow Bedrock    | 45 - 55                     | Gauge Only       | Gauge only        |  |
| MW-115D              | Shallow Bedrock    | 45.5 - 55.5                 | Semiannual       | Abandon           | Well to be abandoned during ISS activities in 2015 |
| MW-200DR             | Shallow Bedrock    | 29.5 - 39.5                 | Semiannual       | Semiannual        |  |
| MW-204D              | Shallow Bedrock    | 30.5 - 45.5                 | Gauge Only       | Semiannual        |  |
| MW-205D              | Shallow Bedrock    | 28 - 43                     | Semiannual       | Semiannual        |  |
| MW-205DD             | Deep Bedrock       | 90 - 100                    | Semiannual       | Semiannual        |  |
| MW-206D              | Shallow Bedrock    | 31 - 46                     | Semiannual       | Annual            |  |
| MW-207D              | Shallow Bedrock    | 34 - 46.5                   | Semiannual       | Annual            |  |
| MW-300D              | Shallow Bedrock    | 33 - 43                     | Annual           | Annual            |  |
| MW-301D              | Shallow Bedrock    | 36 - 46                     | Semiannual       | Semiannual        |  |
| MW-302D              | Shallow Bedrock    | 35 - 45                     | Semiannual       | Semiannual        |  |
| MW-302DD             | Deep Bedrock       | 70 - 100                    | Semiannual       | Semiannual        |  |
| MW-303D              | Shallow Bedrock    | 50 - 60                     | Semiannual       | Abandon           | Well to be abandoned during ISS activities in 2015 |
| MW-304D              | Shallow Bedrock    | 41 - 61                     | New              | Annual            |  |
| MW-305D              | Shallow Bedrock    | 34.5 - 41.5                 | New              | Semiannual        |  |
| MW-306D              | Shallow Bedrock    | 32.5 - 51                   | New              | Semiannual        |  |
| MW-307D              | Shallow Bedrock    | 34 - 58                     | New              | Semiannual        |  |
| MW-308D              | Shallow Bedrock    | 72 - 110                    | New              | Semiannual        |  |

**Table 2**  
**Depths to Water and Groundwater Elevations**  
**Bedrock Monitoring Wells**  
**August 5, 2014**  
**Atlanta Gas Light Company**  
**Former Manufactured Gas Plant Site**  
**Macon, Georgia**

| Monitoring Well | Top of Casing Elevation<br>(ft AMSL) | Depth to Water<br>August 4, 2014<br>(ft BTOC) | Groundwater Elevation<br>August 4, 2014<br>(ft AMSL) | NAPL Thickness<br>(Description)<br>(ft) |
|-----------------|--------------------------------------|---|--|---|
| MW-08D          | 307.52                               | 12.27   | 295.25   | --                                      |
| MW-09D          | 312.94                               | 8.17  | 304.77   | --                                      |
| MW-12DRR        | 299.71                               | 10.73   | 288.98   | --                                      |
| MW-12DD         | 297.02                               | 15.75   | 281.27   | --                                      |
| MW-22D          | 296.74                               | 12.93   | 283.81   | --                                      |
| MW-23D          | 292.13                               | 11.07   | 281.06   | --                                      |
| MW-24D*         | 292.30                               | 5.61  | 286.69   | --                                      |
| MW-25D          | 320.07                               | 11.95   | 308.12   | --                                      |
| MW-26D          | 287.57                               | Not Measured                                  | Could not locate                                     | --                                      |
| MW-27D          | 288.48                               | 10.12   | 278.36   | --                                      |
| MW-27DD         | 288.65                               | 10.31   | 278.34   | --                                      |
| MW-108D         | 318.30                               | 13.04   | 305.26   | --                                      |
| MW-110D         | 295.97                               | 8.11  | 287.86   | --                                      |
| MW-111(D)       | 295.78                               | 7.80  | 287.98   | --                                      |
| MW-112D         | 289.70                               | 6.16  | 283.54   | --                                      |
| MW-113D         | 293.80                               | 9.14  | 284.66   | --                                      |
| MW-114D         | 298.10                               | 8.90  | 289.20   | --                                      |
| MW-115D         | 314.00                               | 8.49  | 305.51   | --                                      |
| MW-200DR        | 295.27                               | 6.72  | 288.55   | --                                      |
| MW-204D         | 296.30                               | 8.35  | 287.95   | --                                      |
| MW-205D         | 295.40                               | 7.52  | 287.88   | --                                      |
| MW-205DD        | 294.58                               | 15.99   | 278.59   | --                                      |
| MW-206D         | 295.70                               | 7.35  | 288.35   | --                                      |
| MW-207D         | 296.10                               | 7.52  | 288.58   | --                                      |
| MW-300D         | 301.02                               | 5.41  | 295.61   | --                                      |
| MW-301D         | 305.76                               | 14.85   | 290.91   | --                                      |
| MW-302D         | 301.93                               | 14.15   | 287.78   | --                                      |
| MW-302DD        | 301.79                               | 23.92   | 277.87   | --                                      |
| MW-303D         | 326.13                               | 19.03   | 307.10   | --                                      |
| MW-304D         | 303.55                               | 16.93   | 286.62   | --                                      |
| MW-305D         | 297.22                               | 17.38   | 279.84   | --                                      |
| MW-306D         | 293.93                               | 7.05  | 286.88   | --                                      |
| MW-307D         | 295.15                               | 9.25  | 285.90   | --                                      |
| MW-308D         | 324.70                               | 19.33   | 305.37   | --                                      |

Created By: H. Beauth

Checked By: A. Shoredits

**Notes:**

AMSL - Above Mean Sea Level

BTOC - Below Top of Casing

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

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

\* MW-24D was gauged on August 6, 2014 due to railroad flagman availability

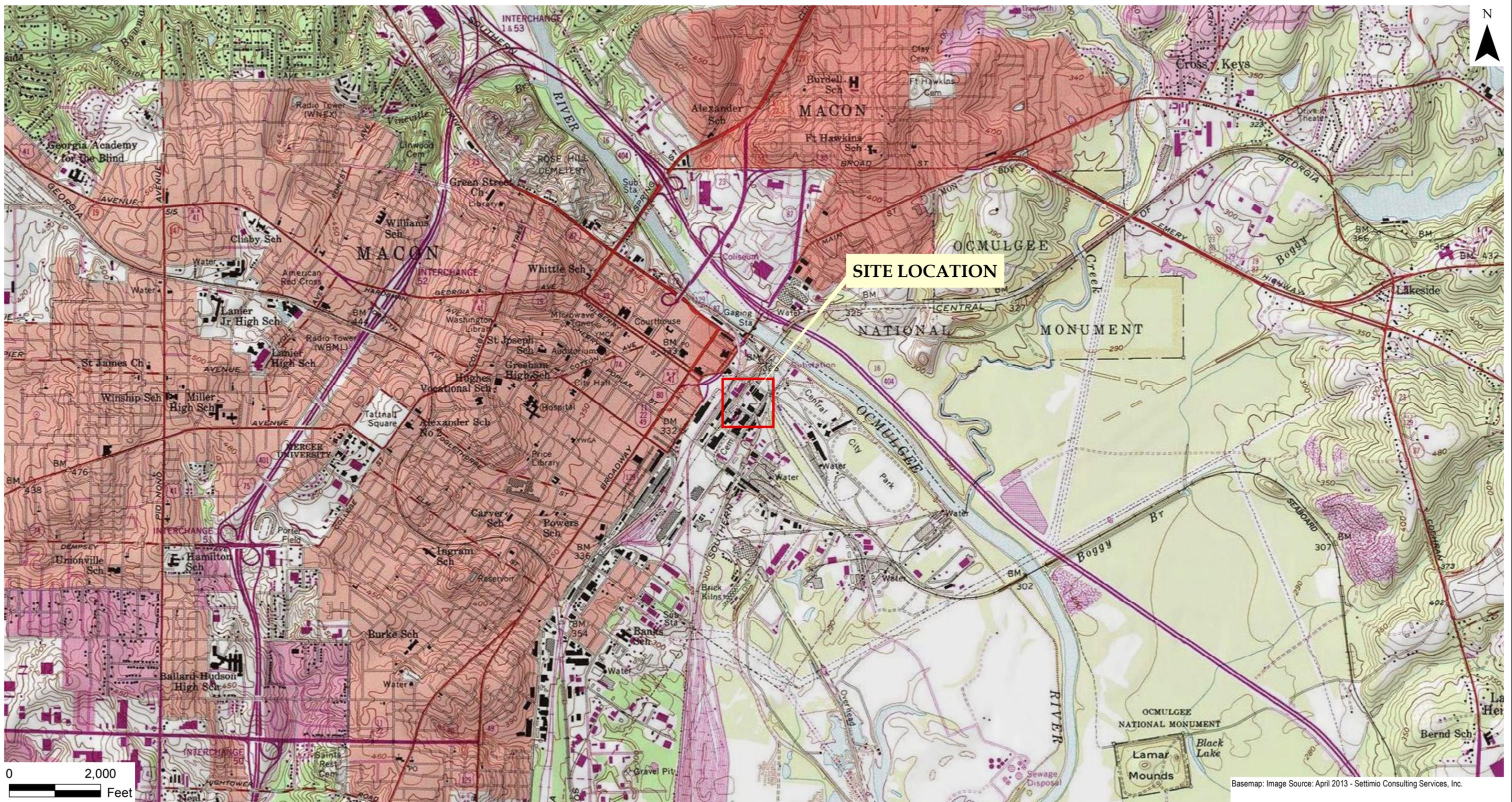
**Table 3**  
**Site-Specific COI and Monitored Natural Attenuation Parameters**  
**Atlanta Gas Light Company**  
**Former Manufactured Gas Plant Site**  
**Macon, Georgia**

| <b>Volatile Organic Compounds</b>  | <b>Semivolatile Organic Compounds</b>   | <b>Inorganic Compounds</b>   | <b>Monitored Natural Attenuation Parameters</b>   |
|--|---|--|---|
| <b><u>EPA-8260B</u></b><br>Benzene<br>Ethylbenzene<br>Toluene<br>Total Xylenes<br>Carbon Disulfide | <b><u>EPA-8270C</u></b><br>Acenaphthene<br>Acenaphthylene<br>Anthracene<br>Benzo[a]anthracene<br>Benzo[a]pyrene<br>Benzo[b]fluoranthene<br>Benzo[g,h,i]perylene<br>Benzo[k]fluoranthene<br>Chrysene<br>Dibenz(a,h)anthracene<br>2,4-Dimethylphenol<br>Fluoranthene<br>Fluorene<br>Indeno[1,2,3-cd]pyrene<br>2-Methylphenol<br>3 & 4 Methylphenol<br>Naphthalene<br>Phenanthrene<br>Phenol<br>Pyrene | <b><u>EPA-6010B</u></b><br>Antimony<br>Arsenic<br>Barium<br>Beryllium<br>Cadmium<br>Chromium<br>Copper<br>Lead<br>Nickel<br>Zinc | <b><u>RSK-175</u></b><br>Dissolved Gases (O <sub>2</sub> ,<br>N <sub>2</sub> , CO, CO <sub>2</sub> , Methane) |
|  |   |  | <b><u>SM-3500</u></b><br>Ferrous Iron   |
|  |   |  | <b><u>EPA-353.2</u></b><br>Nitrate  |
|  |   |  | <b><u>EPA 375.4</u></b><br>Sulfate  |
|  |   | <b><u>EPA-9012A</u></b><br>Cyanide (Total)   | <b><u>EPA 376.1</u></b><br>Sulfide  |
|  |   | <b><u>EPA-7470A</u></b><br>Mercury   | <b><u>EPA-6010B</u></b><br>Iron   |

## **Figures**

*October 13, 2014*  
*Project No. 0230715*  
*Atlanta Gas Light Company*

**Environmental Resources Management**  
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Atlanta, GA 30339  
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Basemap: Image Source: April 2013 - Settimio Consulting Services, Inc.



# Environmental Resources Management

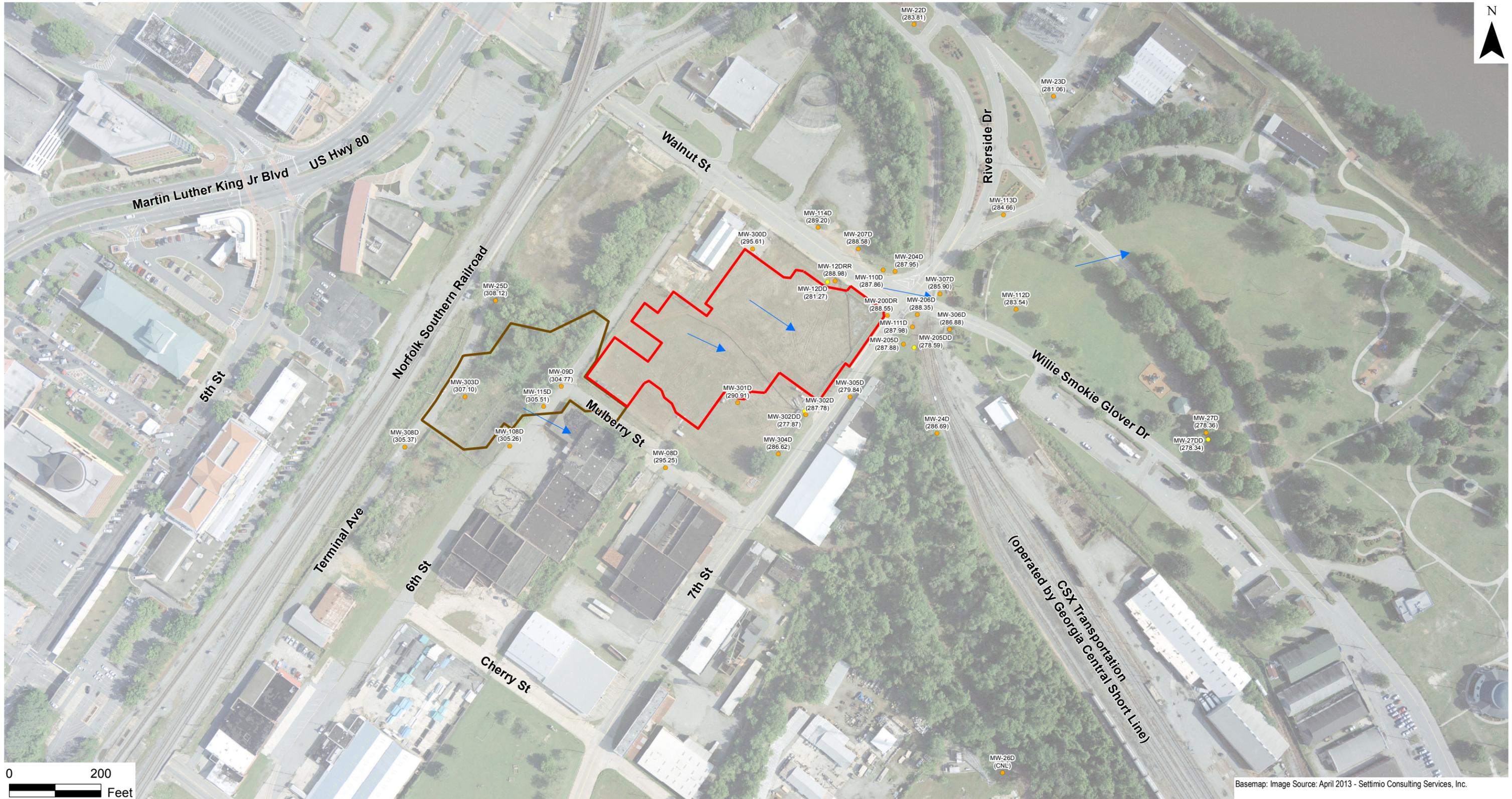
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CONTOUR INTERVAL 10 FEET  
 DOTTED LINES REPRESENT 5-FOOT CONTOURS  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



**FIGURE 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.

# Environmental Resources Management

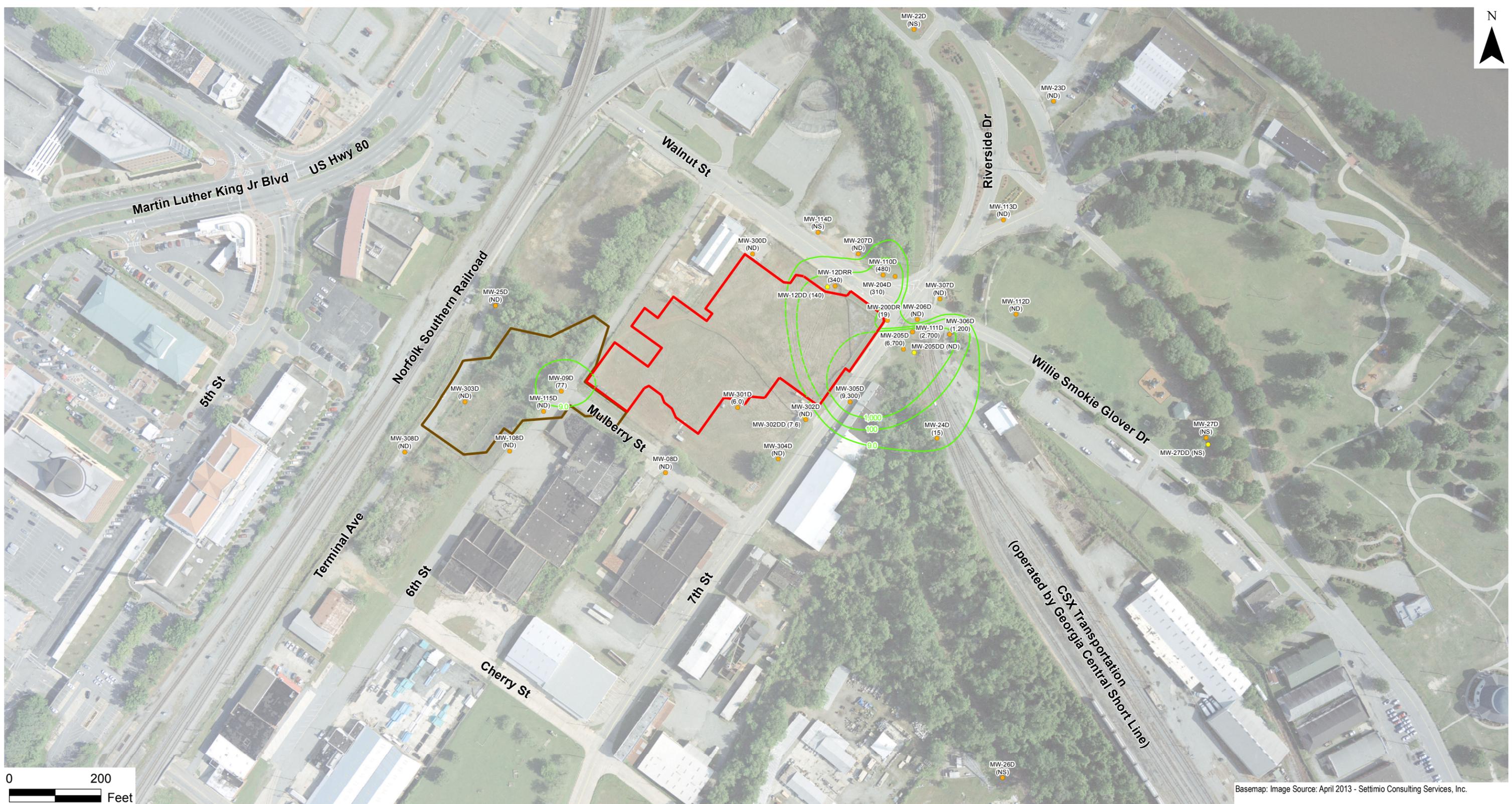


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- Shallow Bedrock Well
- Deep Bedrock Well
- ← Direction of Groundwater Flow
- Existing ISS Area
- Proposed ISS Area
- ( ) Groundwater Elevation 8/4/14 (Feet AMSL)

NOTE:  
Although groundwater flow direction is drawn through ISS mass, actual groundwater flows around the mass.

**FIGURE 3 - BEDROCK GROUNDWATER ELEVATION MAP - AUGUST 2014**  
Atlanta Gas Light Company  
Former Manufactured Gas Plant  
Macon, Bibb County, Georgia



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

# Environmental Resources Management

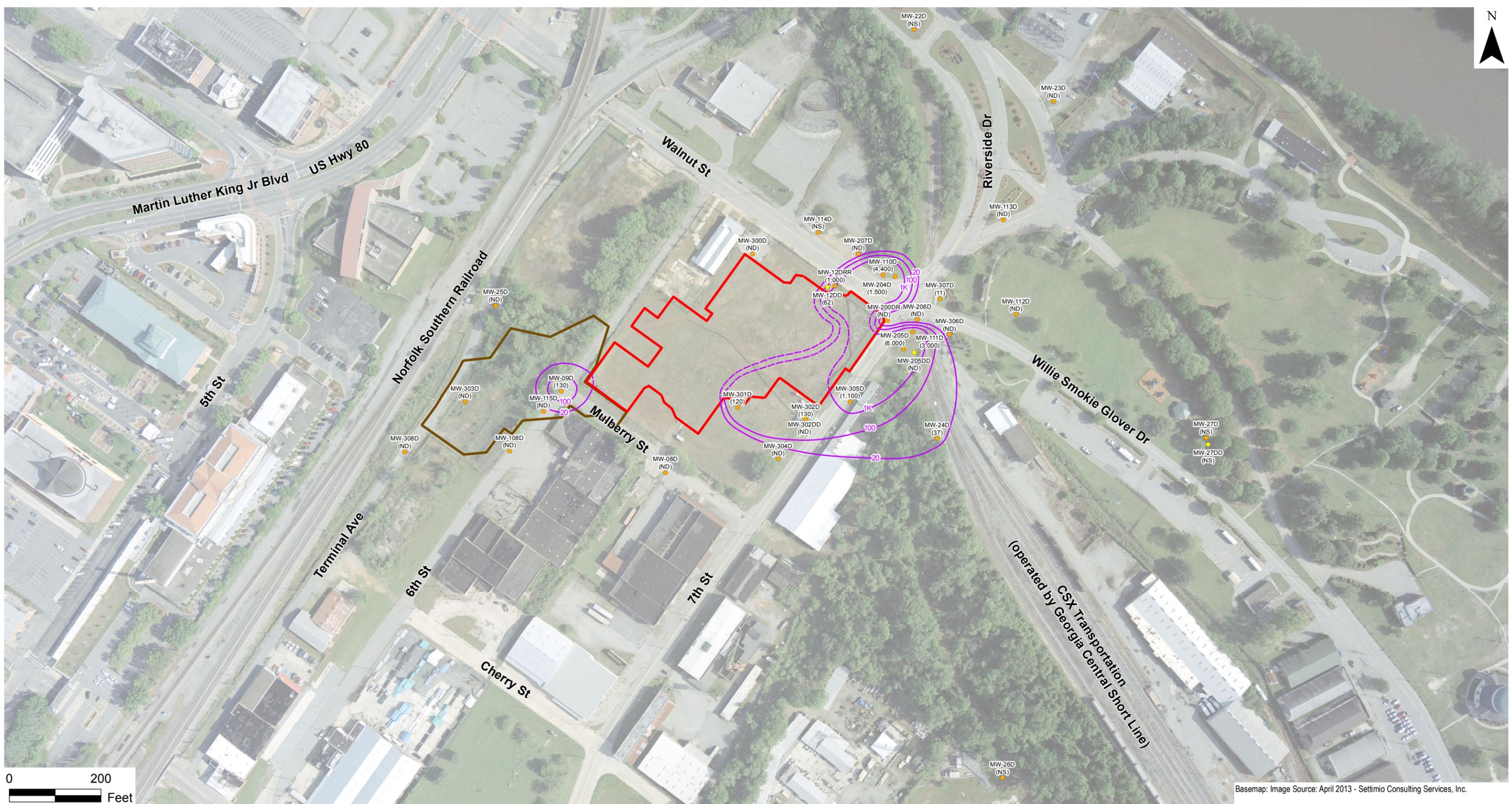


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- Shallow Bedrock Well
- Deep Bedrock Well
- Benzene Isoconcentration Contour *(Dashed where inferred - Under the ISS mass)*
- Existing ISS Area
- Proposed ISS Area
- ( ) Benzene Concentration (ug/L)

NOTE:  
 Deep bedrock wells not included in contouring.  
 NS = Not Sampled  
 ND = Not Detected

**FIGURE 4 - BENZENE IN BEDROCK GROUNDWATER AUGUST 2014**  
 Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia



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



# Environmental Resources Management

|  |           |        |           |           |        |
|--|-----------|--------|-----------|-----------|--------|
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| DATE:  | 10/9/2014 | SCALE: | AS SHOWN  | REVISION: | 0      |
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- Shallow Bedrock Well
- Deep Bedrock Well
- Naphthalene Isoconcentration Contour (ug/L) *(Dashed where inferred - Under the ISS mass)*
- Existing ISS Area
- Proposed ISS Area
- ( ) Naphthalene Concentration (ug/L)

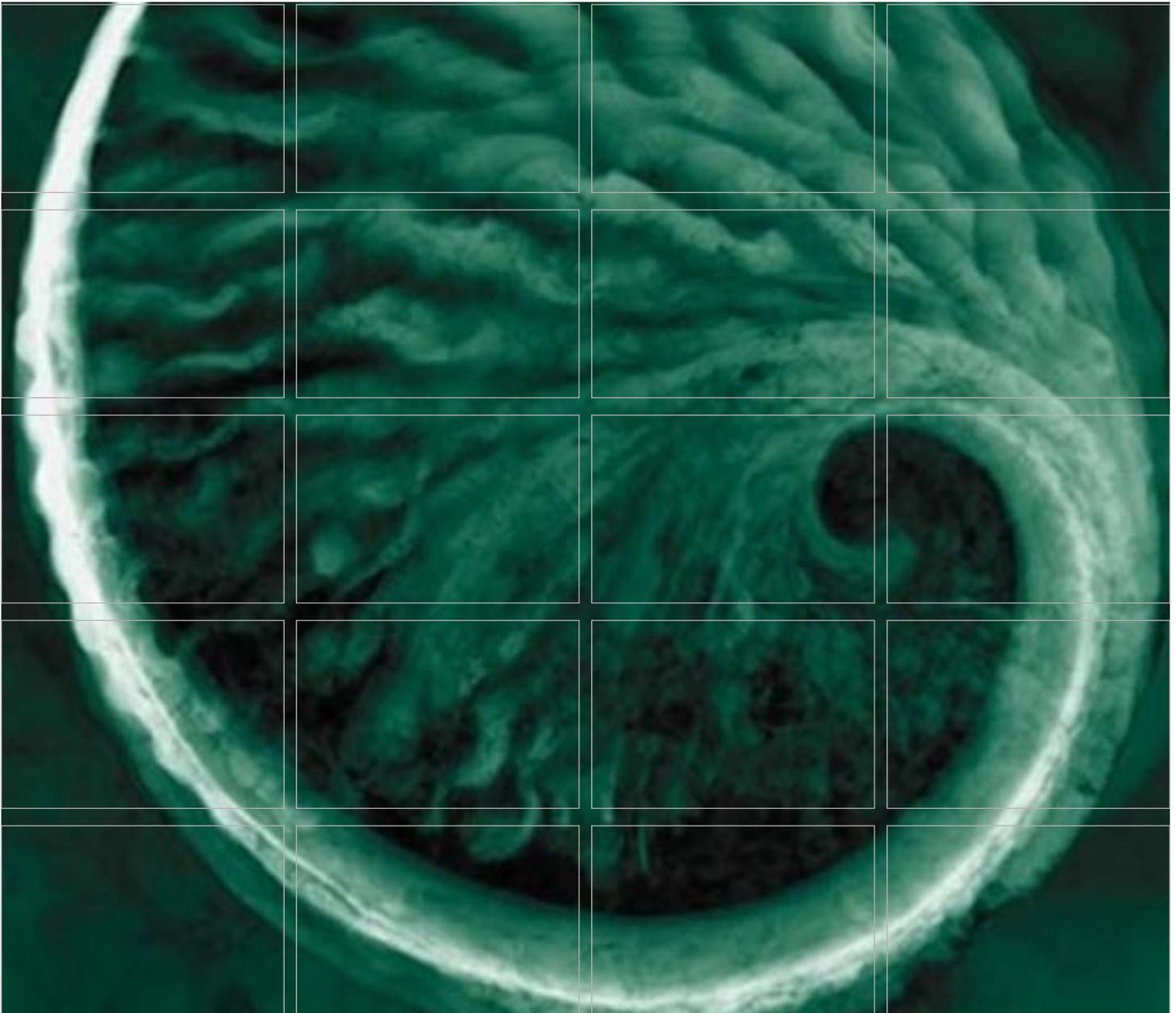
Note:  
 Deep bedrock wells not included in contouring.  
 NS = Not Sampled  
 ND = Not Detected

**FIGURE 5 - NAPHTHALENE IN BEDROCK GROUNDWATER AUGUST 2014**  
 Atlanta Gas Light Company  
 Former Manufactured Gas Plant  
 Macon, Bibb County, Georgia

**Standard Operating Procedures**  
*Appendix A*

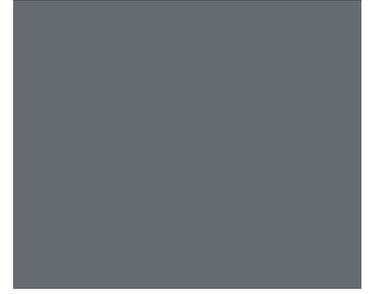
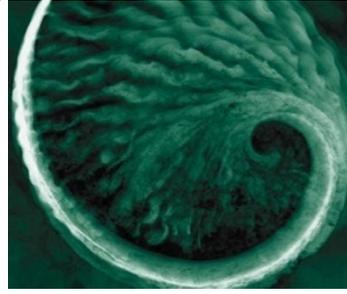
*October 13, 2014*  
*Project No. 0230715*  
*Atlanta Gas Light Company*

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**CSM SOP 02  
Drilling, Installation  
and Development of  
Groundwater Wells  
Version 1.0  
1 October 2013**

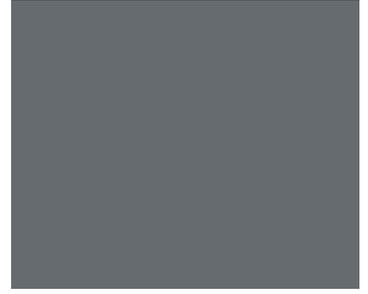
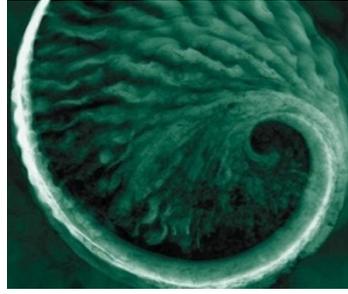
# Table of Contents



|          |   |          |
|----------|---|----------|
| <b>1</b> | <b>GENERAL INFORMATION</b>                      | <b>1</b> |
| 1.1      | PURPOSE AND OBJECTIVES                          | 1        |
| 1.2      | HEALTH AND SAFETY                               | 1        |
| 1.3      | ABBREVIATIONS                                   | 2        |
| <b>2</b> | <b>MONITORING WELL DESIGN CONSIDERATIONS</b>    | <b>4</b> |
| 2.1      | GENERAL   | 4        |
| 2.1.1    | Procedural Precautions                          | 5        |
| 2.2      | DRILLING METHODS                                | 5        |
| 2.2.1    | Sonic Drilling                                  | 5        |
| 2.2.2    | Hollow Stem Auger (HSA)                         | 6        |
| 2.2.3    | Solid Stem Auger                                | 7        |
| 2.2.4    | Rotary Methods                                  | 7        |
| 2.2.5    | Other Methods                                   | 9        |
| 2.3      | BOREHOLE AND WELL CONSTRUCTION                  | 10       |
| 2.3.1    | Annular Space                                   | 10       |
| 2.3.2    | Over-drilling the Borehole                      | 10       |
| 2.3.3    | Well Installation                               | 11       |
| 2.3.4    | Double-Cased Wells                              | 13       |
| 2.3.5    | Bedrock Wells                                   | 14       |
| 2.4      | WELL CONSTRUCTION MATERIALS AND TECHNIQUES      | 15       |
| 2.4.1    | Well Screen and Casing Materials                | 15       |
| 2.4.2    | Well Screen Design                              | 16       |
| 2.4.3    | Filter Pack Placement                           | 16       |
| 2.4.4    | Filter Pack Seal - Bentonite Pellet Seal (Plug) | 17       |
| 2.4.5    | Grouting the Annular Space                      | 18       |
| 2.4.6    | Above Ground Riser Pipe and Outer Casing        | 19       |
| 2.4.7    | Concrete Surface Pad                            | 20       |
| 2.4.8    | Surface Protection - Bumper Guards (Bollards)   | 21       |

|     |   |    |
|-----|---|----|
| 2.5 | SAFETY PROCEDURES FOR DRILLING ACTIVITIES | 21 |
| 2.6 | WELL DEVELOPMENT                          | 23 |
| 3   | REFERENCES                                | 25 |

# 1 General Information



## 1.1 PURPOSE AND OBJECTIVES

The purpose of monitoring well installation is to enable gauging and groundwater sample collection for the purpose of measuring fluid levels and characterizing aquifer chemistry. The advancement of the monitoring well borehole enables observation of geological conditions and soil sample collection, both of which are covered under separate Standard Operating Procedures (SOPs).

The objective of the SOP is to provide procedures, methods and considerations to be used and observed by field personnel when designing and installing permanent and temporary groundwater monitoring wells to be used for collection of fluid level data and groundwater samples. This SOP is issued for global use; however, industry standards, equipment availability and regulatory requirements may vary regionally.

This series of SOPs was developed by senior CSM practitioners across ERM to provide our staff with a means of applying “best practice” to completion of tasks commonly performed during site investigation and other site management activities. Although referred to as “operating procedures,” the procedures may not be implementable in their entirety on every project or every location. All CSM practitioners are, therefore, responsible for identifying instances where region-specific or client-specific procedures, guidance and/or regulations may supersede ERM’s internal SOPs and complying with the local requirements.

Should field conditions be encountered or project requirements make a procedure(s) described in this SOP inappropriate, inadequate or impractical then an alternative procedure(s) will be agreed upon by the project team and the client as appropriate. The agreed-upon procedure should be documented for project files (e.g., within the field logbook), along with a description of the circumstances requiring its use.

## 1.2 HEALTH AND SAFETY

Standard operating procedures are designed to provide technical guidance for conducting work associated with Contaminated Site Management (CSM) and do not provide detailed or comprehensive guidance related to health and safety nor do they represent guidance on safe work procedures for the tasks described. Where considered,

appropriate tips related to health and safety issues associated with specific tasks may be included within technical descriptions for information's sake only.

Health and safety aspects of all projects and project tasks should be assessed and planned using ERM's established Health and Safety planning procedures, including the WARN system. Drilling and other subsurface intrusive work presents specific hazards and proper safety precautions must be observed performing any subsurface work. These hazards, as well as those associated with constructing and installing monitoring wells, should be addressed by a site-specific Health and Safety Plan (HASP). The safety guidelines within the HASP should be used to complement the judgment of an experienced professional.

Safe Work Practices for subsurface obstruction and utility clearance (collectively, Subsurface Clearance Procedure or SSC for short) requirements must be used to prevent injury and avoid contact with subsurface structures prior to or during project-related ground disturbance activities. The SSC process has been developed to be broadly applicable across the jurisdictions in which ERM operates. However, it may sometimes be necessary to augment portions of this process by taking into account applicable legislative, regulatory or client-specific requirements which may augment ERM protocol. Compliance with such requirements is not optional. For additional ERM SSC documents, training, and related references, go to:

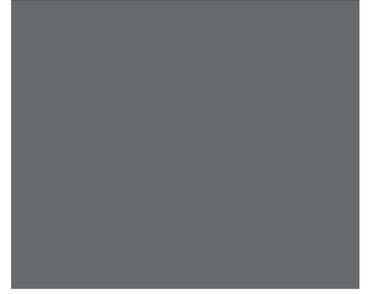
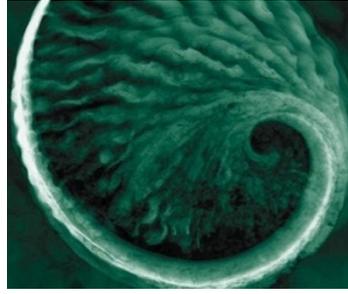
<http://minerva.erm.com/Support/HS>.

### 1.3 ABBREVIATIONS

|       |  |
|-------|--|
| ASTM  | American Society for Testing and Materials |
| CSM   | Contaminated Site Management               |
| DNAPL | Dense Non-Aqueous Phase Liquid             |
| DTH   | Down the Hole                              |
| H&S   | Health and Safety                          |
| HASP  | Health and Safety Plan                     |
| HAS   | Hollow Stem Auger                          |
| HDPE  | High Density Polyethylene                  |
| ID    | Inside diameter                            |
| NAPL  | Non-Aqueous Phase Liquid                   |

|       |   |
|-------|---|
| OSHA  | Occupational Safety and Health Association    |
| ORP   | Oxidation Reduction Potential                 |
| PVC   | Polyvinyl Chloride                            |
| QA/QC | Quality Assurance/Quality Control             |
| SOP   | Standard Operating Procedure                  |
| SSC   | Subsurface Clearance                          |
| USEPA | United States Environmental Protection Agency |
| VOC   | Volatile Organic Compound                     |
| WARN  | Work Activity Risk Assessment                 |

## 2 Monitoring Well Design Considerations



### 2.1 GENERAL

The design and installation of permanent monitoring wells involves drilling into various types of geologic formations that exhibit varying subsurface conditions. Designing and installing permanent monitoring wells in these geologic environments may require several different drilling methods and installation procedures. The selection of drilling methods and installation procedures should be based on field data collected during a hydrogeologic site investigation and/or a search of existing data. Each permanent monitoring well should be designed and installed to function properly throughout the duration of the monitoring program. When designing monitoring wells, the following should be considered:

- Short-and long-term objectives;
- Purpose of the well(s);
- Probable duration of the monitoring program;
- Contaminants likely to be monitored;
- Presence of shallow affected groundwater zone(s) which may impact a deeper unaffected groundwater zone;
- Surface and subsurface geologic conditions;
- Properties of the aquifer(s) to be monitored;
- Well screen placement;
- General site conditions; and
- Potential site health and safety hazards.

In designing permanent monitoring wells, the most reliable, obtainable data should be utilized. Once the data have been assembled and the well design(s) completed, a drilling method(s) must be selected.

The preferred drilling methods for installing monitoring wells are those that temporarily case the borehole during drilling and the construction of the well, e.g., hollow-stem augers (HSA) and sonic methods. However, site conditions or project criteria may not allow using these methods. When this occurs, alternate methods should be selected that will achieve the project objectives.

The following discussion of methods and procedures for designing and installing monitoring wells will cover the different aspects of selecting materials and methods, drilling boreholes, and installing monitoring devices.

### **2.1.1 Procedural Precautions**

The following precautions should be considered when constructing and installing groundwater monitoring wells:

- Special care should be taken to prevent or limit to the degree practicable inadvertent cross-contamination between borehole locations. Equipment, tools and well materials should also be cleaned and/or decontaminated;
- In order to prevent inadvertent cross-contamination within a borehole the design of the monitoring well has to be defined based on the encountered geological profile and in accordance with the objectives of the investigation; and
- All field activities are documented in a bound logbook.

## **2.2 DRILLING METHODS**

The following drilling methods may be used to install environmental monitoring wells or collect soil cores for logging or laboratory analysis under various subsurface conditions. While consideration will need to be given to the depth and nature of materials to be drilled through in order to install the monitoring well, the preferred drilling methods are generally those that case the hole during drilling (e.g., HSA or sonic drilling). However, other methods may be used where specific subsurface or project criteria dictate. The following sections describe common drilling techniques used for monitoring well installation.

### **2.2.1 Sonic Drilling**

Sonic drilling is a combination of both rotary and percussion of a core barrel, with the added effect of high frequency vibration applied to the rod/barrel assembly. The vibration is in the audible frequency range, hence the term sonic. A telescopic casing system can be used up to a maximum depth of approximately 200 feet (61m). Performance is generally good except in very hard rock, where going can be slow. Provides good performance in nearly all other strata with very rapid advancement

(probably the fastest technique available), and it is possible to get undisturbed core samples to allow for field screening and geological logging.

## **2.2.2 Hollow Stem Auger (HSA)**

There are two auger drilling methods which can be used in unconsolidated soils and semi-consolidated (weathered rock) soils (hollow-stem augers described here, and solid stem augers described in the following section). These auger drilling methods are not applicable to drilling in competent rock.

Auger drilling methods can be employed without introducing foreign materials into the borehole such as water or drilling fluids, which helps to limit the potential for cross contamination. Reducing the risk of cross contamination is one of the most important factors to consider when selecting the appropriate drilling method(s) for a project.

This type of auger consists of a hollow, steel stem or shaft with a continuous, spiraled steel flight, welded onto the exterior. A hollow auger bit, generally with carbide teeth, disturbs soil material when rotated, whereupon the spiral flights transport the cuttings to the surface.

The hollow auger and bit facilitate collection of soil core using Shelby tubes, split spoons, or split-barrel samplers that can be driven ahead of the bit. These cores provide lithologic data that allow the geoscientist to assess top and bottom of water-bearing units and interval(s) to set the well screen.

This method is best suited in soils that have a tendency to collapse when disturbed. A monitoring well can be installed inside of hollow-stem augers with little or no concern for the caving potential of the soils. If heaving (flowing) sands are present during monitoring well installations, a drilling rig must be used that has enough power to extract the augers from the borehole without having to rotate them.

If heaving sands are known to be present prior to drilling, a bottom plug, trap door, or pilot bit assembly can be used at the bottom of the augers to keep out most of the soils and/or water that have a tendency to enter the bottom of the augers during drilling. Potable water (analyzed for contaminants of concern) may be poured into the augers during drilling to equalize pressure to limit inflow of formation materials.

If continuously collecting soil core while drilling with hollow stem augers, a sampling tool (e.g., split spoon, Shelby tube or similar) is used to collect undisturbed soil cores in advance of the auger. Following sample collection the auger is advanced and the process repeated. Where refusal of the sampling tool (or flowing sand conditions) is encountered, the drilling can continue using an internal (or reverse) auger within the auger stem, or by inserting a bottom plug in the auger string.

Alternatively, when soil sampling or logging is not required during the drilling process, a bottom plug can be used to keep soil from entering the auger string. The bottom plug is wedged into the bottom of the auger bit and is knocked out at depth with drill pipe or the weight of the casing and screen assembly. The plug material should be compatible with the screen and casing materials. The use of chemically-treated wood bottom plugs is not acceptable. The type of bottom plug, trap door, or pilot bit assembly proposed for the drilling activity should be approved by a senior field geologist and project manager prior to drilling operations.

Boreholes can be augered to depths of 150 feet (45m) or more (depending on the auger size, lithology and size of the drill rig), but generally boreholes are augered to depths less than 100 feet (30m). Note: for wells deeper than 100 feet (30m), it is important to consider whether the driller's equipment is adequate in the event flowing sands or gravel/cobbles are encountered. Augers may become permanently trapped and the boring may need to be abandoned.

### **2.2.3 Solid Stem Auger**

This type of auger consists of a sealed hollow or solid stem or shaft with a continuous spiraled steel flight welded on the outside of the stem. An auger bit connected to the bottom disturbs soil material when rotated and the helical flights transport cuttings to the surface. This method is less desirable than HSA in that collection of undisturbed soil core samples requires removal of the entire auger string. Lithologic logging generally involves describing cuttings that travel up the auger flights making accurate depiction of lithology difficult at best. To collect a soil core, the boring is advanced to the desired depth; the entire auger string is then removed to gain access to the bottom of the borehole. The core is then collected using a Shelby tube or split spoon. Note, if drilling through a shallow contaminated zone to a deeper unaffected zone, consideration should be made to setting surface or isolation casing to reduce the potential to carry affected materials downward (which may result from repeated trips of the augers into/out of the borehole).

This auger method is used in cohesive and semi-cohesive soils that do not have a tendency to collapse when disturbed. Caution should be taken when examining core samples to assess whether the upper portions may be slough from shallower portions of the borehole. Boreholes can be augered to depths of 200 feet (60m) or more (depending on the auger size, lithology, and size of the drill rig), but generally boreholes are augered to depths less than 100 feet (30 m).

### **2.2.4 Rotary Methods**

These methods consist of a drill pipe or drill stem coupled to a drilling bit that rotates and cuts through the soils. The cuttings produced from the rotation of the drilling bit are

transported to the surface by drilling fluids, which generally consist of water, drilling mud, or air. The water, drilling mud, or air are forced down through the drill pipe, and out through the bottom of the drilling bit. The cuttings are then lifted to the surface between the borehole wall and the drill pipe, (or within a concentric drill stem in reverse rotary). With the exception of air rotary, the drilling fluid provides a hydrostatic pressure that reduces or prevents borehole collapse. When considering any rotary drilling method, there are several points that must be considered:

- Will the drilling fluid potentially cause cross-contamination of units if a shallow affected zone is encountered?
- Will the drilling fluid introduce contaminants to the subsurface (e.g., trace amounts of halogenated compounds in municipal water used as the drilling fluid or to mix the drilling mud)?
- Will soil samples be collected? Air rotary methods often heat rock to more than 100 degrees Fahrenheit (38 degrees Celsius) and may result in loss of volatile and semi-volatile constituents.

If shallow contaminated intervals are known to be present and the target water-bearing unit is not impacted or is not known to be affected, installation of surface casing across the contaminated interval should be considered. In any of the rotary methods, care must be exercised in the selection and use of compounds to prevent galling of drill stem threads.

### **Air Rotary**

Air rotary drilling uses compressed air as a “drilling fluid” to entrain cuttings and carry them to the surface. High air velocities, and consequently large air volumes and compressor horsepower are required. “Down-the-hole” (DTH) percussion hammers driven by the air stream can be used with this method to penetrate bedrock materials. Where a casing through unconsolidated material is required to prevent borehole collapse, it can be driven in conjunction with advancement of the drill stem.

When using air rotary drilling in any zone of potential contamination, the cuttings exiting the borehole must be controlled. This can be done using the dual-tube reverse circulation method where cuttings are carried to the surface inside dual-wall drill pipe and separated with a cyclone separator. An air diverter with hose or pipe carrying cuttings to a waste container is also an acceptable alternative. Allowing cuttings to blow uncontrolled from the borehole is not acceptable. Another consideration when selecting air rotary methods is that when drilling through strata with organic contamination displacement of vapors can occur and cause build up at the surface resulting in aesthetic issues, potential exceedance of health screening levels in the work zone, or potential

explosive environments. These possibilities should be considered as part of the health and safety planning for a project.

When using air rotary, the issue of contaminants being introduced into the borehole by the air stream must be addressed. Screw compressor systems should have a coalescing filter system in good working order to capture excess entrained compressor oils. The lubricant to be used with DTH hammers as well as thread lubricants to be used on drill stem should be evaluated for their potential impact on analytical samples.

### **Mud Rotary**

Mud rotary utilizes a drilling fluid consisting of water mixed with bentonite mud. The mud serves to circulate soil cuttings to the surface and cool the drill bit. The bentonite mud also coats shallow permeable zones that would otherwise allow infiltration of drilling fluids.

Mud rotary is sometimes considered a less desirable drilling method because contamination can be introduced into the borehole from the constituents in the drilling mud, cross-contamination can occur along the borehole column, and it is difficult to remove the drilling mud from the borehole after drilling and during well development. The drilling mud can also circulate affected material from a shallow contaminated zone to an uncontaminated zones. Note: if drilling through a shallow contaminated zone to a deeper unaffected zone, consideration should be made to setting surface or isolation casing to reduce the potential to carry affected materials downward. If isolation casing is used, the drilling mud should be flushed from the borehole and replaced with fresh mud before advancing the borehole deeper.

If mud rotary is selected, only potable water and pure (no additives) bentonite drilling mud should be used. Additional time for well development should be budgeted relative to other drilling methods. All materials used should have adequate documentation as to manufacturer's recommendations and product constituents. QA/QC samples of drilling mud and potable water should be sampled at a point of discharge from the circulation system to assure that pumps and piping systems are not contributing cross-contamination from previous use.

## **2.2.5 Other Methods**

Less common methods are available for well installation including the cable-tool method, jetting method, and boring (bucket auger) method; and in some countries, may be the only technology available. Prior to using these methods, consult with a senior geologist regarding the considerations for use of these drilling methods and whether they can be used to safely meet a project's data quality objectives.

## 2.3 BOREHOLE AND WELL CONSTRUCTION

### 2.3.1 Annular Space

The borehole or hollow stem auger should be of sufficient diameter so that well construction can proceed without major difficulties. For open boreholes, the annular space should be at least 2 inches (5 cm) to allow the uniform deposition of well materials around the screen and riser, and to allow the passage of tremie pipes and well materials without unduly disturbing the borehole wall. For example, a 2 inch (5 cm) nominal diameter casing would typically require a 6 inch (15 cm) diameter (ID) borehole. However, local requirements governing the diameter of boreholes relative to a well's casing should be considered when preparing a work scope.

When drilling with HSA, the ID of the augers should be of sufficient size to allow the passage of a tremie pipe used for well grout placement, as well as free passage of filter sands or bentonite pellets dropped through the auger or casing. While there may be local regulation governing the diameters of boreholes relative to a well's casing, in general, using hollow stem augers with an internal diameter which is 2 to 4-inches (5 to 10 cm) larger than the nominal well casing diameter (e.g., using 4-1/4" (11 cm) ID augers for placement of 2" (5 cm) diameter wells) is recommended. Larger augers should be used where installation difficulties due to geologic conditions or greater depths are anticipated, e.g., larger augers might be required to place a bentonite pellet seal through a long water column.

If annular space is limited due to available equipment, pre-pack well screen may be utilized to assure an adequate filter pack around the well screen.

### 2.3.2 Over-drilling the Borehole

Sometimes it is necessary to over-drill the borehole in anticipation of material entering the augers during center bit removal or knocking out of the bottom plug. Normally, 3 to 5 feet (1 to 1.5m) is sufficient for over-drilling. The borehole can also be over-drilled to allow for an extra space or a "sump" area below the well screen. This "sump" area provides a space to attach a 2 to 3-foot (nominally 50-100 cm) section of well casing to the bottom of the well screen. The extra space or "sump" below the well screen serves as a catch basin or storage area for sediment that flows into the well and drops out of suspension. These "sumps" are added to the well screens when the wells are screened in aquifers that are naturally turbid and will not yield clear formation water (free of visible sediment) even after extensive development. The sediment can then be periodically pumped out of the "sump" preventing the well screen from clogging or "silting up."

If the borehole is inadvertently drilled deeper than desired, it can be backfilled to the design depth with bentonite pellets/chips, or the filter sand that is to be used for the filter pack. If using filter sand, however, care must be taken to consider whether installation of the well may create a potential for cross contamination to deeper water bearing units. If a potential exists, then bentonite should be used to backfill the borehole or the borehole should be abandoned and a new borehole advanced to the target depth for monitoring well installation.

**Caution:** over-drilling should not be done in areas where dense non-aqueous phase liquids (DNAPL) are anticipated.

Over-drilling can open a pathway for vertical migration of DNAPL.

### 2.3.3 Well Installation

The bore hole should be bored, drilled, or augered as close to vertical as possible.

Slanted boreholes are less desirable and should be noted in the boring logs and final construction logs and are generally only constructed to access strata beneath structures where vertical wells cannot be constructed. The depth and volume of the borehole, including the over-drilling if applicable, should have been calculated and the appropriate materials procured prior to initiating drilling activities.

The well casings should be secured to the well screen by flush-jointed threads, placed into the borehole, and plumbed by the use of centralizers and/or a plumb bob and level. If threaded well casings are not available then couplings can be used to secure the joints of well pipe, however, the use of chemical solvents or glues to join the pipe joints is prohibited. To secure the casing sections together, stainless steel screws may be used at the couplings.

Centralizers are highly recommended for wells deeper than 50 feet (approximately 15 meters) spaced approximately one per 20 feet (7 meters) above the well screen (not within the well screen interval however) to help maintain a straight well.

Another method of placing the well screen and casings into the borehole and plumbing them at the same time is to suspend the string of well screen and casings in the borehole by means of a hoist on the drill rig. This wireline method is especially useful if the borehole is deep and a long string of well screen and casings have to be set and plumbed and centralizers are not available.

No lubricating oils or grease should be used on casing threads. No glue of any type should be used to secure casing joints. Teflon "O" rings can also be used to help provide a tight fit and reduce the potential for leakage; however, "O" rings made of other

materials are not acceptable if the well is going to be sampled for organic compound analyses.

As mentioned, it is industry practice in some regions to place filter pack material under the bottom of the well to provide a firm base (nominally up to 6 inches (15 cm)) depending upon the geology and the nature of the contaminants (e.g., may not be applicable if a DNAPL is suspected). This should be discussed and agreed among the project team as part of the work scope development.

When installing the well screen and casings through hollow-stem augers, the augers should be slowly extracted as the filter pack, bentonite pellet seal, and grout are tremied and/or poured into place. The gradual extraction of the augers will allow the materials being placed in the augers to flow out of the bottom of the augers into the borehole. If the augers are not gradually extracted, the materials (sand, pellets, etc.) will accumulate at the bottom of the augers causing potential bridging problems.

The filter pack material should be placed around the well screen to the designated depth. With cased drilling methods, the sand should be poured into the casing or augers until the lower portion is filled. The casing or augers are then withdrawn, allowing the sand to flow into the evacuated space. With hollow stem augers, sand should always fill the augers 6-12 inches (15-30 cm), maintained by pouring the sand while checking the level with a weighted tag line. The filter pack sand in open boreholes should be installed by tremie methods, using water to wash the sand through the pipe to the point of placement.

After the filter pack has been installed, the bentonite seal (if used) should be placed directly on top of the filter pack. After the bentonite seal has hydrated for the time specified by the manufacturer, the grout should then be pumped by the tremie method (preferably using side vents or side discharge) into the annular space around the casings.

After the surface pad and protective casing are installed, bumper guards should be installed (if needed) as described above. For above-grade well completions, consider painting the outer protective casing with a highly visible paint. The wells (either above-grade or those completed at grade level) should be permanently marked with the well number and other information as needed or required by the client (e.g., date installed, site name, elevation, etc.) either on the cover or an appropriate place that will not be easily damaged and/or vandalized. The well casing should be topped with a well plug and the protective casing surrounding the well secured. For wells completed at ground level, expandable well plugs should be used to cap the well riser to prevent infiltration of rainwater that might enter the flush-mount cover and accumulate within the annular space adjacent to the top of the well.

### 2.3.4 Double-Cased Wells

Double-cased wells should be constructed when there is reason to believe that interconnection of two aquifers by well construction may cause cross-contamination or when flowing sands make it difficult to install monitoring wells using conventional methods. A contaminated shallow groundwater zone may also be cased off so that drilling may continue below the casing with reduced risk of cross contamination. A pilot borehole should be bored through the overburden and/or the contaminated zone into the clay confining layer or bedrock. An outer casing (sometimes called surface or pilot casings) should then be placed into the borehole and sealed with grout. The borehole and outer casing should extend into an unconsolidated confining unit (e.g., a clay soil horizon) a minimum of two feet (nominally 50 cm); however, if drilling into a consolidated confining unit (e.g., competent bedrock) greater depths may be required. The final depths should be approved by the Project Manager in consultation with a senior project geologist. The size of the outer casing should be of sufficient inside diameter to contain the inner casing, and the 2-inch (5 cm) minimum annular space. In addition, the borehole should be of sufficient size to contain the outer casing and the 2-inch (5 cm) minimum outer annular space, if applicable.

The outer casing should be sealed in place by introducing grout into the annular space between the outer casing and the borehole wall, ideally using a tremie pipe to fill from the bottom of the annular space up, or by pressure grouting methods (i.e., placing the grout within the casing and displacing it through the bottom of the casing and up through the adjacent annular space). A minimum of 24 hours should be allowed for the grout plug (seal) to cure before attempting to drill through it. The grout mixture should either be neat Type I Portland cement or a cement/bentonite grout mixture. Other grout mixtures may be allowable or recommended under local regulation.

The use of a pure bentonite grout for a bottom plug or seal is not acceptable, because the bentonite grout cures to a gel-like consistency, and is not rigid enough to withstand the stresses of drilling.

When drilling through the seal, care should be taken to avoid cracking, shattering, or washing out the seal. If caving conditions exist so that the outer casing cannot be sufficiently sealed by grouting, the outer casing should be driven into place and a grout seal placed in the bottom of the casing.

### 2.3.5 Bedrock Wells

The installation of monitoring wells into bedrock can be accomplished in two ways:

- The first method is to drill or bore a pilot borehole through the soil overburden into the bedrock. An outer casing is then installed into the borehole by setting it into the bedrock, and grouting it into place as described in the previous section. After the grout has set, the borehole can then be advanced through the grout seal into the bedrock. Roller cone bits are used in soft bedrock, but extreme caution should be taken when using a roller cone bit to advance through the grout seal in the bottom of the borehole because excessive water and "down" pressure can cause cracking, eroding (washing), and/or shattering of the seal. Low volume air hammers may be used to advance the borehole, but they have a tendency to shatter the seal because of the hammering action. If the structural integrity of the grout seal is in question, a pressure test can be utilized to check for leaks. If the seal leaks (detected by pressure testing) and/ or the core is cracked or shattered, or if no core is recovered because of washing, excessive down pressure, etc., the seal is not acceptable. The concern over the structural integrity of the grout seal applies to all double cased wells.
- Any proposed method of double casing and/or seal testing will be evaluated on its own merits, and will have to be approved by a senior field geologist before and during drilling activities, if applicable.
- Another limitation to the open rock well is that the entire bedrock interval serves as the monitoring zone. In this situation, it is very difficult or even impossible to monitor a specific zone, because the contaminants being monitored could be diluted to the extent of being non- detectable. However, some site conditions might exist, especially in cavernous limestone areas (karst topography) or in areas of highly fractured bedrock, where the installation of the filter pack and its structural integrity are questionable. Under these conditions, the design of open bedrock wells may be warranted.
- The second method of installing a monitoring well into bedrock is to install the outer surface casing and drill the borehole (by an approved method) into bedrock, and then install an inner casing and well screen with the filter pack, bentonite seal, and annular grout. The well is completed with a surface protective casing and concrete pad. This well installation method gives the flexibility of isolating the monitoring zone(s) and reducing the potential for inter-aquifer flow. In addition, it gives structural integrity to the well, especially in unstable areas (steeply dipping shale, etc.) where the bedrock has a tendency to shift or move when disturbed. Omitting the filter pack around the well screen is a general practice in some open rock borehole installations, especially in drinking water and irrigation wells. However, without the filter pack to protect the screened interval, sediment particles

from the well installation and/or from the monitoring zone could clog the well screen and/or fill the screened portion of the well rendering it inoperable. In addition, the filter pack serves as a barrier between the bentonite seal and the screened interval. The use of a pre-packed screen (if available locally) could be considered in these instances where installation of a filter pack by traditional means is not practicable. Rubber inflatable packers have been used to place the bentonite seal when the filter pack is omitted, but the packers have to remain in the well permanently and, over a period, will decompose and possibly could result in a preferential pathway for groundwater migration along the borehole.

## **2.4 WELL CONSTRUCTION MATERIALS AND TECHNIQUES**

Well construction materials are chosen based on the goals and objectives of the proposed monitoring program and the geologic conditions at the site(s). In this section, the different types of available materials will be discussed.

### **2.4.1 Well Screen and Casing Materials**

When selecting the materials for well construction, the prime concern should be to select materials that will not contribute foreign constituents, or remove contaminants of concern from the ground water. PVC materials are acceptable for monitoring identified organic compounds in a soluble aqueous phase where no incompatibilities are present. EPA document EPA/540/S-95/503, Nonaqueous Phase Liquids Compatibility with Materials Used in Well Construction, Sampling, and Remediation (<http://www.epa.gov/ada/download/issue/napl.pdf>) should be used for guidance in this area and in the use of PVC with non-aqueous phase liquids (NAPLs). Well screen and casing materials generally used in monitoring well construction include:

- Rigid PVC (e.g., meeting a locally recognized standard such as NSF Standard 14 (type WC));
- Stainless Steel (e.g., Grade 304 or 316); or
- Other materials (e.g., fiberglass or HDPE where applicable and based on local regulation and industry practice).

The diameter of well casings for groundwater monitoring may be regulated. The diameter is often dictated by the intended current or anticipated future use of the well (e.g., if it is anticipated that a monitor well may be converted to a recovery well, larger diameter casing and screen may be selected to facilitate installation of pumps and other ancillary equipment). However, in the absence of local regulation, the general nominal casing size for most permanent monitoring wells will be 2-inch (5 cm).

The length of well screens in permanent monitoring wells should be long enough to effectively monitor the interval or zone of interest but is generally limited to 10 feet (3m). Well screens designed for long term monitoring purposes should normally not be less than 5 feet (1.5m) in length. Well screens less than 5 feet (1.5m) long are generally only used in temporary monitoring wells where groundwater samples are collected for screening purposes.

## **2.4.2 Well Screen Design**

The majority of monitoring wells are to be installed in the water table aquifer that consists of silts, clays, and sands in various combinations. These shallow aquifers are not generally characteristic of aquifers used for drinking water.

In formations consisting primarily of fines (silts and clays), the procedures for water well screen design may result in requirements for filter packs and screen slot sizes that are not available. In most of these cases, the use of 0.010-inch (0.3 mm) screen slots will be acceptable practice. For formations comprised mainly of coarse-grained materials, 0.020-inch (0.6 mm) screen slots can be utilized. The grain size of the filter pack media needs to be selected based on the well screen slot size.

The local geology can dictate the need for different screen and filter pack design. Please consult with the project management team prior to implementation in the field.

## **2.4.3 Filter Pack Placement**

The filter pack materials should consist of clean, rounded to well-rounded, hard, insoluble particles of siliceous composition. Filter pack materials should be new material from a commercial supplier material and of a known composition and grain-size. However, all data and design proposals will be evaluated and approved by a senior staff geologist before field activities begin. It is not considered best practice to use cuttings from the borehole as filter pack materials or for backfilling the annular space above the screened interval.

The filter pack material should be paced around the well's screened interval and sump (if included in the well design). In some regions, it is industry practice to place filter pack material under the bottom of the well to provide a firm base (nominally up to 6-inches (15 cm)) depending upon the geology and the nature of the contaminants (e.g., may not be applicable if a DNAPL is suspected). This should be discussed and agreed among the project team as part of the work scope development.

In addition, the filter pack should extend a minimum of 2 feet (nominally 50 cm) above the top of the well screen to allow for settling and to isolate the screened interval from the grouting material (actual thickness may need adjustment depending on the depth to the top of the well screen).

In open boreholes, the filter pack should be placed by the tremie or positive displacement method. Placing the filter pack by pouring the sand into an open drill stem is acceptable with the use hollow stem augers, and other methods where the borehole is temporarily cased down to the filter pack.

The volume of filter pack needed to fill the annulus should be calculated prior to installation. This will help the field personnel determine if bridging has occurred if significantly less sand is needed than estimated. If more sand is needed than anticipated, it suggests significant washouts have occurred during drilling.

Size of filter pack material should also be considered. If the water-bearing unit is silt, a coarse-grained sand pack may be ineffective at keeping the formation from silting up the well. Placement of a finer-grained filter pack material (e.g., finer-grained sand) is also recommended for us in the top portion of the filter pack. This will help prevent infiltration of the overlying bentonite plug into the filter pack.

#### **2.4.4 Filter Pack Seal – Bentonite Pellet Seal (Plug)**

Bentonite pellets consist of ground, dried bentonite compacted into pellets or chips available in several sizes. Bentonite pellets/chips are compressed to a bulk density of 70-80 lbs/ft<sup>3</sup> (860 kg/m<sup>3</sup>) and hydrate to a 30 percent min. solids material.

The purpose of placing a bentonite seal is to isolate the underlying filter pack from shallower groundwater bearing zones and from the overlying grout seal placed in the borehole. Based on local availability, this bentonite seal can consist of pellets, chips, or of a bentonite slurry prepared using bentonite powder and potable water.

Since bentonite pellets/chips begin hydrating rapidly, they can be very difficult to place properly. They are generally placed by pouring slowly into open boreholes, hollow stem augers or sonic drill pipe. In some cases, pellets are placed by tremie pipe and flushed into place with potable water. A tamper can be used to ensure that the material is being placed properly and to break up any pellet bridging that occurs. Bentonite slurry can be applied via tremie pipe, however, care must be taken to avoid slurry intrusion into the underlying filter pack (i.e., use a side-discharge and/or pump at low flow rates).

Bentonite seals should be designed for a minimum of 6-inch (15 cm) thickness of dry pellets above the filter pack, and generally an overall bentonite seal (i.e., combination of bentonite pellets, chips or grout) of 2-feet (nominally 50 cm) is desirable. Hydration may extend the height of the seal. Where neat cement grout is to be used above the bentonite seal, the pellets should be hydrated for eight hours, or the manufacturers' recommended hydration time, whichever is greater.

Where the water table is temporarily below the pellet seal, potable (or higher quality) water should be added repeatedly to hydrate the pellets prior to grouting.

#### **2.4.5 Grouting the Annular Space**

The annular space between the casing and the borehole wall should be filled with either a 30% solids bentonite grout, a neat cement grout, or a cement/bentonite grout. Each type of grout selected should be evaluated as to its intended use and integrity. Bentonite grouts are preferred unless the application dictates the use of another material.

Bentonite grout shall be a 30 percent solids pure bentonite grout. Drilling mud is not acceptable for grouting. The grout should be placed into the borehole, by the tremie method, from the top of the bentonite seal to within 2 feet (nominally 50 cm) of the ground surface or below the frost line, whichever is the greater depth. The bentonite pellet seal or filter pack should not be disturbed during grout placement, preferably by using a side discharge port on the tremie tube, or by maintaining clearance between the bottom of the tremie tube and the bentonite seal or filter pack. It is considered best practice to allow the grout to set for a minimum of 24 hours before the concrete surface pad is installed and this may be considered during the field program design.

The preferred method of achieving proper solids content is by measurement of ingredients per the manufacturer's specifications during mixing. However, some jurisdictions may require that the solids content be measured by using a grout balance after mixing. Bentonite grouts generally should have a minimum density of 10 lbs/gal (approximately 1 kg/L) to ensure proper gelling and low permeability. Evidence that the grout was mixed per the manufacturer's specifications should be documented in the field notes.

Cement grouts are generally dictated where a high level of dissolved solids or a particular dissolved constituent would prevent proper gelling of a bentonite grout or in the event that the grout is incompatible with shallow (free-phase) contaminants. Neat cement grouts (cement without additives) should be mixed using 6 gallons (23L) of water per 94-lb (43 kg) bag of Type 1 Portland cement to a density of 15 lbs/gal (approximately 2 kg/L). The addition of bentonite (5 to 10 percent) to the cement grout can be used to delay the "setting" time and reduce shrinkage. However, this may not be needed in all applications. The specific mixtures and other types of cement and/or grout

proposed should be evaluated on a case-by-case basis by a senior field geologist and someone experienced in well grouting procedures.

Note: curing cement grout generates heat that (if sufficient) may damage PVC well casing and/or affect the concentration of VOCs in groundwater adjacent to the well. For wells with grout sections greater than 30 feet (10 meters) and water levels that are below the level of the grout seal, consider installing grout in lifts of approximately 20 feet (7 meters) and allowing time between the lifts for heat to dissipate. Alternatively, stainless steel well casing could be considered over PVC.

#### **2.4.6 Above Ground Riser Pipe and Outer Casing**

Outer protective casing is installed to protect the well from damage but also to reduce the potential for tampering. The well casing, when installed and grouted, should extend above the ground surface a minimum of 2.5 feet (75 cm), or to a sufficient height based on client or site requirements. A vent hole should be drilled into the top of the well casing cap to permit pressure equalization, if applicable. Generally, outer protective casings used over 2-inch (5 cm) well casings are at least 4 inches by 4 inches (10 cm by 10 cm) by 5 feet (1.5 m) long. Similarly, protective casings used over 4-inch (10 cm) well casings are 6 inches by 6 inches (15 cm by 15 cm) and 5 feet (1.5 m) long. Other types of protective casing including those constructed of pipe are also acceptable.

All protective casings should have sufficient clearance around the inner well casings, so that the outer protective casings will not encounter the inner well casings after installation. The protective casings should have a weep hole to allow drainage of accumulated rain or spilled purge water. The weep hole should be approximately 1/4-inch (0.5 cm) in diameter and drilled into the protective casings just above the top of the concrete surface pad to prevent water from standing inside of the protective casings. Protective casings made of aluminum or other soft metals are less desirable than steel casings because they generally are not strong enough to resist tampering.

Aluminum protective casing may be used in very corrosive environments such as coastal areas.

Prior to installing the protective casing, the bentonite grout in the borehole annulus is excavated to a depth of approximately two feet (nominally 50 cm). The protective casing is installed by pouring concrete into the borehole on top of the grout. The protective casing is then pushed into the wet concrete and borehole a minimum of 2 feet (nominally 50cm). Extra concrete may be needed to fill the inside of the protective casing so that the level of the concrete inside of the protective casing is at or above the level of the surface pad. In areas where frost heave of the surface pad is possible, the protective casing should first be pressed into the top surface of the bentonite grout seal and concrete poured around the protective casing.

A granular material such as sand or gravel can then be used to fill the space between the riser and protective casing. The use of granular material instead of concrete between the protective casing and riser will also facilitate the future conversion of the well to a flush-mount completion, if required.

The protective casing should extend above the ground surface to a height so that the top of the inner well casing is exposed when the protective casing is opened. At each site, all locks on the outer protective casings should preferably be keyed alike.

#### **2.4.7 Concrete Surface Pad**

A concrete surface pad should be installed around each well at the same time as the outer protective casing is being installed. The surface pad should be formed around the well casing. Concrete should be placed into the pad forms and into the borehole (on top of the grout) in one operation making a contiguous unit.

The size of the concrete pad is sometimes dictated by local regulations. These regulations should be reviewed prior to mobilization in order to have adequate materials onsite. The size of the concrete surface pad is generally dependent on the well casing size. In the absence of specific regulation regarding well pads dimensions, a minimum pad dimension extending 2 feet (nominally 50 cm) in all directions from the outside of the well casing should be considered. The concrete surface pad can be either square or round. The finished pad should be slightly sloped so that drainage will flow away from the protective casing and off the pad (without creating a nuisance condition or trip hazard). When setting a well at grade in a concrete or other paved area, care must be taken to match the concrete surface pad to surrounding ground level. In unpaved areas, the ground surface should be made suitable for the placing of concrete. Rebar or mesh can be used within the concrete pad to help prevent them from failing, for instance, under the weight of mowing equipment or vehicle traffic.

If the monitoring wells are installed in a high traffic area such as a parking lot, in a residential yard, or along the side of a road it may be desirable to finish the wells at ground surface and install watertight flush-mounted traffic and/or manhole covers. Flush mounted traffic and manhole covers are designed to extend from the ground surface down into the concrete plug around the well casing. Although flush mounted covers may vary in design, they should have seals that make the unit watertight when closed and secured. The flush-mounted covers should be installed slightly above grade to reduce the potential for standing water over the well and promote runoff. Locking expandable well plugs should be used to cap the well riser to prevent infiltration of rainwater or other fluids that might enter the flush-mount cover and accumulate within the annular space adjacent to the top of the well.

## 2.4.8 Surface Protection – Bumper Guards (Bollards)

If monitoring wells with above-grade completions require protection from traffic of other hazards, the installation of bollards or bumper guards consisting of partially-buried steel pipes should be considered. The dimensions of such protective posts can be sized to meet site-specific conditions, however, these generally consist of steel pipes approximately 3 to 4 inches (8 to 10 cm) in diameter and buried approximately 40 percent of their total length (e.g., assuming a total length of 5 feet (1.5 m), the protective posts would nominally be installed to a depth of 2 feet (nominally 50 cm) below the ground surface and set in a concrete footing). Concrete may also be placed into the steel pipe to provide additional strength. Substantial steel rails and/or other steel materials can be used in place of steel pipe. Welding bars between the bumper guards can provide additional strength and protection in high traffic areas, however, keep in mind the need to access the well for sampling. It is also recommended that the bumper guards are painted yellow to increase visibility to traffic. Note: the size and length of bumper guards and even what color they should be painted may be dictated by the facility within which the wells are installed. It is prudent to check with a knowledgeable site contact prior to mobilization to determine the specific facility requirements.

## 2.5 SAFETY PROCEDURES FOR DRILLING ACTIVITIES

A site health and safety plan should be developed for approval by the Partner and other locally-required signatories (e.g., division H&S officer, client H&S officer) prior to any drilling activities, and should be followed during all drilling activities.

The driller or designated safety person should be responsible for the safety of the drilling team performing the drilling activities. All personnel conducting drilling activities should be qualified in proper drilling and safety procedures. Before any drilling activity is initiated, utilities should be marked or cleared by the appropriate state or municipal utility protection organization.

Although not all-encompassing the following minimum safety requirements should be adhered to while performing drilling activities:

- All drilling personnel should wear safety hats, safety glasses, and steel toed boots. Earplugs or other adequate hearing protection (e.g., ear muffs) are required.
- Appropriate work gloves (cotton, leather, etc.) should be worn when working around or while handling drilling equipment.
- The drill rig should be equipped with a kill switch that will immediately shut down the rig when activated. All personnel should know where the kill switch(s) is located in case of emergency.

- All personnel should stay clear of the drill rods or augers while in motion, and should not grab or attempt to attach a tool to the drill rods or augers until they have completely stopped rotating. Rod wipers, rather than gloves or bare hands should be used to remove mud, or other material, from drill stem as it is withdrawn from the borehole.
- Do not hold drill rods or any part of the safety hammer assembly while taking standard penetration tests or while the hammer is being operated.
- Do not lean against the drill rig or place hands on or near moving parts while it is operating.
- Keep the drilling area clear of any excess debris, tools, or drilling equipment.
- The driller will direct all drilling activities. No work on the rig or work on the drill site will be conducted outside of the driller's direction. Overall drill site activities will be in consultation with the site geologist.
- Each drill rig will have a first-aid kit and a fire extinguisher located on the rig in a location quickly accessible for emergencies. All drilling personnel will be familiarized with their location.
- Work clothes will be firm fitting, but comfortable and free of straps, loose ends, strings etc., that might catch on some moving part of the drill rig.
- Rings, watches, or other jewelry will not be worn while working around the drill rig.
- Drilling locations should be assessed for the presence of underground or overhead utilities in accordance with ERM's SSC procedures.
- The drill rig should not be operated within the minimum distance of overhead electrical power lines and/or buried utilities that might cause a safety hazard (ERM's minimum setback distances are defined in the subsurface clearance procedure, however, client or local regulatory requirements should also be applied). In addition, the drill rig should not be operated while there is lightning in the area of the drilling site. If an electrical storm moves in during drilling activities, if possible, the derrick will be lowered and the area will be vacated until it is safe to return; otherwise vacate the area immediately.

## 2.6 WELL DEVELOPMENT

The main purpose of developing new monitoring wells is to remove the fine-grained materials or drilling fluids introduced into the well during installation, and to improve hydraulic connectivity between the immediate vicinity of the well and the surrounding formation (Striggow, 2013). Well development methods vary with the physical characteristics of the geologic formation in which the monitoring well is screened, the construction details of the well, the drilling method used during the construction of the borehole in which the well is installed and the quality of the water (ASTM D5521-05).

A new monitoring well should ideally be developed until the column of water in the well is free of visible sediment, or at a minimum until further improvement in water clarity is not observed with continued groundwater removal. Development of a well should occur as soon as it is practical after installation, allowing for sufficient time for the annular materials and the surface completion to cure. Depending on the materials used this may require up to 48 hours. Note that wells screened in fine grained formations or installed using wet rotary methods may require higher volumes of water to be removed (say up to 10 well volumes or more) for groundwater clarity to improve. Ultimately, the level of development should be decided by the project team in consideration of local regulation and industry practice, client technical specifications (if applicable) and/or project-specific data quality objectives.

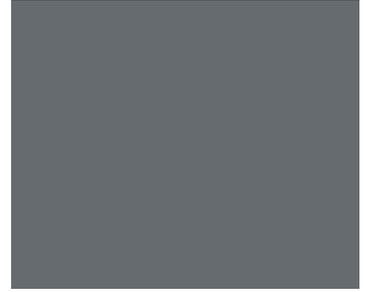
Well development generally involves surging using a purpose-built surge block or (if a surge block is not available) a bailer rapidly raised and lowered to induce water flow into and out of the well screen (to flush fine particles/mud from the filter pack and screen and into suspension where they can be removed from the well). Groundwater is then removed (ideally via pumping) at a rate which will remove the suspended fine-grained material and draw water through the screen flushing additional fine-grained material into the well. Peristaltic pumps or other low-flow sampling pumps are not appropriate for well development because they do not induce sufficient flow to flush out the fine material from the filter pack and adjacent formation and pull it into the well. It may be necessary to complete multiple sequences of surging followed by pumping in order to improve water clarity.

It is considered best practice to monitor groundwater quality parameters (e.g., temperature, conductivity, ORP and pH, if available) and to make an assessment of water clarity (either visually or using a turbidity meter where available) during purging activities. The development process should continue until groundwater quality parameters and groundwater clarity (turbidity) stabilizes to a point consistent with local regulation or best practice, or until a project-specific endpoint is reached. All field measurements, observations and decisions regarding the cessation of well development should be documented in the field logbook.

Note that volume based endpoints (e.g., removal of 10 well volumes) may not lead to improved hydraulic connection with the surrounding formation or improvement in the clarity of groundwater extracted from the well. The quality of development is generally a function of the effectiveness of the surging action and purging to draw fine materials into the well and remove them along with the extracted groundwater.

It is considered best practice that monitoring wells are not sampled on the same day as they are developed. This allows the well to re-equilibrate with the surrounding formation and for the collection of a groundwater sample which is more representative of conditions within the surrounding formation. Well equilibration is generally a function of the hydraulic conductivity of the formation; i.e., coarse sand aquifers will equilibrate faster than silt. A minimum equilibration period of 24-hours following well development, or where possible one week, should be taken before the well is sampled.

### 3 References



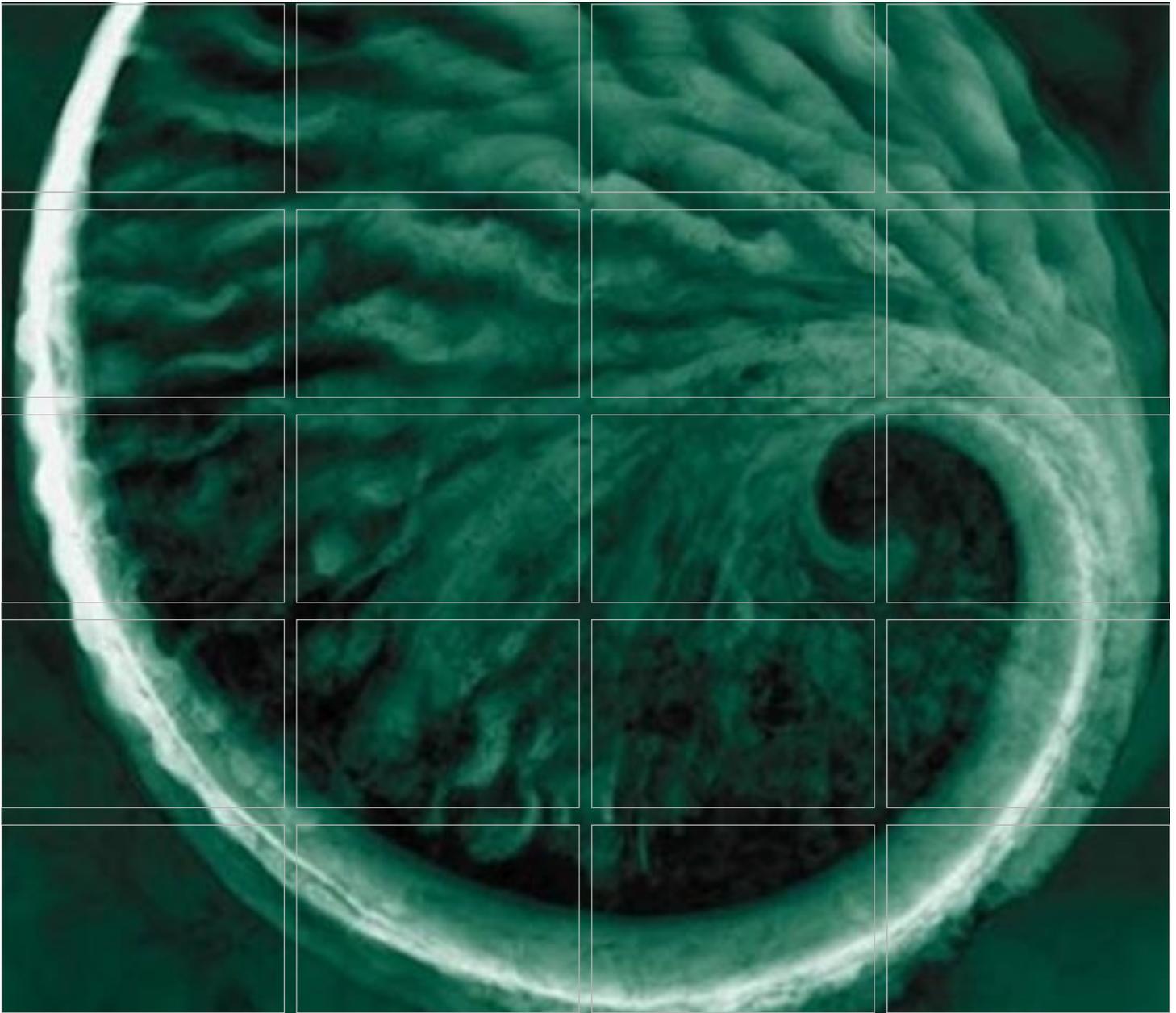
The following references provide guidance for the development of operating procedures for the drilling, installation and development of groundwater monitoring wells undertaken by ERM personnel. ERM personnel are responsible for determining if additional region-specific or client-specific standards or guidance are available.

American Society for Testing and Materials (ASTM). 2010. Standard Practice for Design and Installation of Groundwater Monitoring Wells. D5092 – 04(2010)e1.

American Society for Testing and Materials (ASTM). 2005. Standard Guide for Development of Groundwater Monitoring Wells in Granular Aquifers. D5521 – 05.

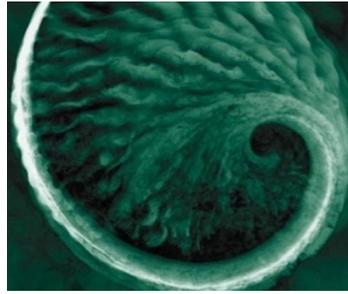
American Society for Testing and Materials (ASTM). 2010. Standard Guide for Installation of Direct Push Groundwater Monitoring Wells. D6724 – 04(2010).

Striggow, Brian. 2013. Design and Installation of Monitoring Wells, Guidance. United States Environmental Protection Agency, Science and Ecosystem Support Division (SESD). Athens, Georgia; SESDGUID-101-R1; January 22; document available at: <http://www.epa.gov/region4/sesd/fbqstp/Design-and-Installation-of-Monitoring-Wells.pdf> (last accessed 21 Jun 2013).



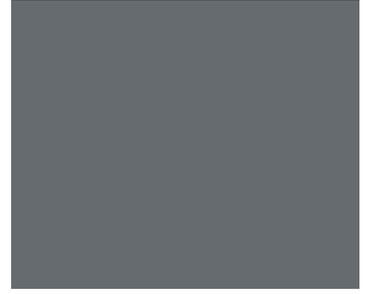
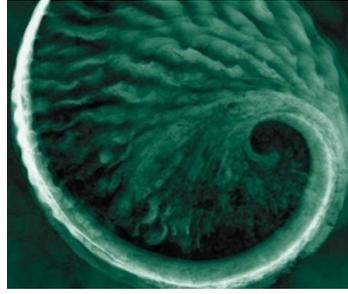
**CSM SOP 04  
Fluid Level Gauging  
Version 1.0  
1 October 2013**

# Table of Contents



|          |  |           |
|----------|--|-----------|
| <b>1</b> | <b>INTRODUCTION</b>                          | <b>1</b>  |
|          | 1.1 PURPOSE AND OBJECTIVES                   | 1         |
|          | 1.2 HEALTH AND SAFETY                        | 1         |
|          | 1.3 ABBREVIATIONS                            | 2         |
| <b>2</b> | <b>MATERIALS</b>                             | <b>3</b>  |
| <b>3</b> | <b>METHODOLOGY</b>                           | <b>5</b>  |
| <b>4</b> | <b>FLUID GAUGING CALCULATIONS</b>            | <b>9</b>  |
|          | 4.1 WATER TABLE ELEVATION (NO LNAPL)         | 9         |
|          | 4.2 CORRECTED DEPTH TO WATER (LNAPL PRESENT) | 10        |
| <b>5</b> | <b>REFERENCES</b>                            | <b>12</b> |

# 1 Introduction



## 1.1 PURPOSE AND OBJECTIVES

The purpose of groundwater gauging is to collect data to support construction of groundwater table or potentiometric surface maps for the site under investigation. The fluid level data are also used to calculate hydraulic gradient(s) and the horizontal groundwater flow direction(s) across the site.

The objective of fluid gauging is to accurately measure depth to water and separate phase product<sup>1</sup>, if present, relative to a surveyed data point in monitoring wells to determine:

- ground water elevation; and
- thickness of phase separated product.

This SOP is issued for global use; however, industry standards, equipment availability and regulatory requirements may vary regionally.

This series of SOPs was developed by senior CSM practitioners across ERM to provide our staff with a means of applying “best practice” to completion of tasks commonly performed during site investigation and other site management activities. Although referred to as “operating procedures,” the procedures may not be implementable in their entirety on every project or every location. All CSM practitioners are, therefore, responsible for identifying instances where region-specific or client-specific procedures, guidance and/or regulations may supersede ERM’s internal SOPs and complying with the local requirements.

## 1.2 HEALTH AND SAFETY

Standard operating procedures (SOPs) are designed to provide technical guidance for conducting work associated with Contaminated Site Management (CSM) and do not

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<sup>1</sup> Phase separated product may either be light non-aqueous phase liquid (LNAPL) or dense non-aqueous phase liquid (DNAPL), though DNAPL detection is often not possible to measure with standard equipment.

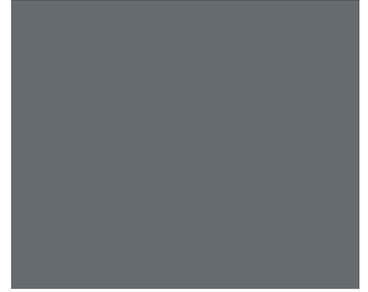
provide detailed or comprehensive guidance related to health and safety nor do they represent guidance on safe work procedures for the tasks described. Where considered, appropriate tips related to health and safety issues associated with specific tasks may be included within technical descriptions for information's sake only.

Health and safety aspects of all projects and project tasks should be assessed and planned using ERM's established Health and Safety planning procedures, including the WARN system.

### 1.3 ABBREVIATIONS

|       |   |
|-------|---|
| ASTM  | American Society of Testing and Materials     |
| COPCs | Constituents of Potential Concern             |
| CDTW  | Corrected Depth to Water                      |
| CWE   | Corrected Water Elevation                     |
| CSM   | Contaminated Site Management                  |
| DTP   | Depth to Product                              |
| DTW   | Depth to Water                                |
| DNAPL | Dense Non-aqueous Phase Liquid                |
| HASP  | Health and Safety Plan                        |
| LNAPL | Light Non-aqueous Phase Liquid                |
| PID   | Photoionization Detector                      |
| PPE   | Personal Protective Equipment                 |
| PT    | Product Thickness                             |
| SG    | Specific Gravity                              |
| SOP   | Standard Operating Procedure                  |
| TOC   | Top of Casing                                 |
| USEPA | United States Environmental Protection Agency |
| WARN  | Work Activity Risk Assessment                 |

## 2 Materials

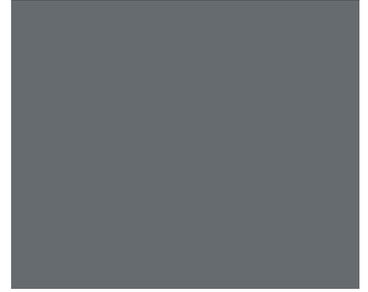


The following materials are typically required for fluid level gauging activities:

1. WARN Form/Health and Safety Plan.
2. Traffic protection equipment (e.g. traffic cones, barriers, high visibility vest).
3. Personal protective equipment (PPE) for splash protection (e.g. gloves, safety glasses).
4. Tools for removing the bolt down cover or manway, well cap, and keys for lock on well cap.
5. Small manually operated hand pump, or small cup for evacuating standing water from around the well casing, if water is above top of well casing within manway or well cover.
6. Decontamination solution, buckets, rinsate water (distilled or deionised water should be used (where available) rather than potable or tap water), clean rags and paper towels.
7. Interface meter for sites where phase separated product (LNAPL or DNAPL) is known or suspected to be present. If unknown, use an interface meter until the site is better understood. Water level meter for sites where phase separated product (LNAPL or DNAPL) is not anticipated.
8. Weighted cotton string – for sites with anticipated DNAPL, used as a backup for interface probe when thickness of DNAPL is too thin to register on the interface probe. String is lowered to the base of well suspected to have DNAPL to assess the presence of DNAPL by staining of the string.
9. Disposable bailers (if available) and string – to observe/measure very thin occurrences of LNAPL below the resolution of the interface probe.
10. Watch, field log book and/or gauging forms. It is also helpful to have a summary of well construction for the site, if available.

11. Boring logs or completion diagrams that describe the well diameter, well depth, stickup and screen interval.
12. Extra batteries for the water level meter and/or interface probe.

### 3 Methodology



The following methodology should be followed for fluid level gauging activities:

1. During the initial phase of monitoring, a calibrated photoionization detector (PID) could be used to gauge the air at the top of each well prior to conducting gauging activities if volatile organic contaminants are considered to be present. These data provide information as to whether additional PPE (e.g., respirators) may be needed during gauging. The calibration and voltage of bulb used in the PID should be selected based on the constituents of potential concern (COPCs) for the site.

PID screening is not required during every site visit, provided that previous screening has indicated conditions consistently below COPC action levels defined in the site Health and Safety Plan (HASP). If conditions have not been monitored previously, or if PID screening results have indicated encroachment on the action level for the COPCs at the site, a PID should be taken to the site.

2. Prior to visiting the site, check that the Interface/Water Level meter is functioning properly by inserting the probe into a container of water and noting that the presence of water is signaled. Usually an intermittent flashing light on the unit and/or an audible signal sounds for the presence of water and a constant light and audible signal for the presence of product.
3. Develop a gauging plan. Measurements should be taken within a 24-hour period or less. The gauging plan should also consider:
  - a) known information about the wells and historical water levels from previous field events. Field notes should be reviewed if available.
  - b) other relevant activities to be undertaken at the same time and specific requirements relating to these, including the sequencing of events (eg, undertaking gas measurements).
  - c) potential for tidal influences on fluid levels and the timing for collection of fluid levels. If the site is located in an area where groundwater elevations may be tidally influenced, considerations should be given to using data loggers or performing rapid measurement of water levels over a slack tide (ie, an hour

either side of either a high or low tide) to evaluate tidal effects on groundwater elevations.

d) potential difficulties in accessing the wells; such as:

- i. Are any of the wells located within process areas requiring permits from the facility?
- ii. Well cover bolts or well cap locks rusted?
- iii. Are there restrictions to access such as stream crossings or heavy brush with associated physical and biological hazards?
- iv. Are wells located in or near roadways requiring a traffic management plan and/or appropriate PPE (e.g., reflective vests)?

e) presence of non-aqueous phase liquids (NAPL) and/or high concentrations of dissolved-phase constituents in each well. Despite the use of decontamination techniques, it is prudent to proceed in gauging and sampling from least-impacted wells to the most-impacted wells, if known. If unknown, the suspected source area wells should be gauged last.

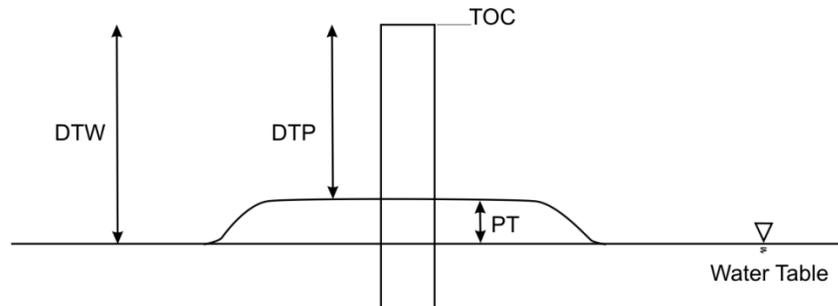
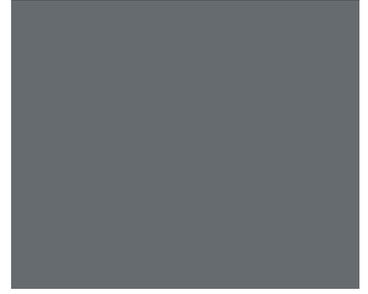
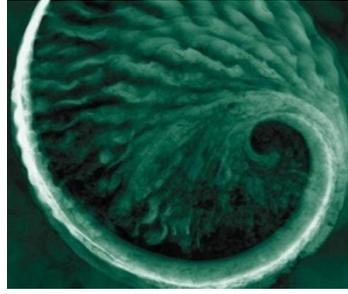
4. Remove the well cap as soon as possible to allow the water level to reach equilibrium before measurements are taken because pressure inside the well may have changed since the last measurement was taken due to rising or falling water levels. Pressure can also naturally build within a monitor well between measurement and sampling potentially making a loosened well cap a projectile. Therefore, caution should be taken when opening the wells to avoid potential sudden discharge of air pressure. Technicians should not look directly over the well when opening / removing the well cap. Also it is not uncommon in some domains to encounter poisonous insects/spiders or snakes in well boxes, thus care should be taken when opening well boxes, vault lids, or manways.
5. Allow sufficient time for vapors that may have accumulated within the bore to dissipate.
6. If bailers have been left in the wells from previous sampling events and are completely submerged, measure the water level before removing the bailer as the static water level will be in equilibrium with the submerged bailer. However, if the bailer is partially submerged, do not collect a water level from within the bailer as it may not be representative of the water level in the well. If necessary, remove the bailer and allow the water level to equilibrate before measuring the water level.
7. Decontaminate the interface/water meter and the portion of the tape that is likely to contact the water.

8. If the interface probe has a grounding wire, attach it to the manway (gatic) cover, the well box, or to a metal rod driven into the ground prior to gauging. In the absence of a grounding wire, the technician should touch a grounded metal object to discharge built up static electricity.
9. The depth to water/product should be measured relative to an established surveyed reference point on the top of the well casing. The reference point on the well casing should be marked; as a default, if not marked, the top of casing (TOC) is presumed to be the **north** side of the casing and should be noted in the field forms or log book.
10. Begin with a decontaminated water level meter or interface probe. To measure the depth to water (no LNAPL), slowly lower the probe into the well until a signal (intermittent or constant beep) is heard. Repeat the recording three times by raising and then lowering the probe again across the water table (does not measure while raising the probe, as surface tension may result in aberrant readings). Record the depth to water in feet to two decimal places or meters to three decimal places (i.e., to the millimeter level).
11. To measure the depth of LNAPL, slowly lower the probe into the well until a signal (usually a solid beep) is heard, then record this number as the top of LNAPL. Next, lower the probe through the layer of LNAPL until the tone changes (usually an intermittent beep), this is the LNAPL/water interface. To facilitate accuracy, lower the probe below this interface three times and average the reading. As above, record the depth to water/LNAPL in feet to two decimal places or meters to three decimal places (i.e., to the millimeter level). If measurements are unusual or not historically supported, note in the field forms or logbook.
12. LNAPL presence should be confirmed by use of a disposable bailer lowered into the LNAPL layer and retrieved for viewing. Once color and/or other LNAPL characteristics have been recorded, LNAPL may be poured back into the well bore, unless there are regulatory restrictions to doing so or site and scope-specific procedures for storage/disposal of LNAPL waste. Testing with a disposable bailer should also be conducted in wells with suspected LNAPL but the thickness may be too thin to register on the interface probe.
13. The total depth of the well should be measured to determine if the well is silting or damaged. This is done by lowering the probe into the well until the tape just becomes slack and recording the depth from the top of casing. If the well is to be sampled for metals, gauging of total depth should not be conducted until sampling has been completed due to potential to create turbid conditions within the well.
14. If gauging for the presence of DNAPL, the interface probe must be lowered carefully to the bottom of the well because DNAPL will collect at the bottom if the well has been appropriately designed (eg, screened at the base of the water bearing zone and

constructed with a sump below the screened interval). However, note that DNAPL gauging is typically used to evaluate the presence or absence of product and measurements may not be reliable. Alternatively, a weighted string (preferably cotton or a natural fiber where available) compatible with the contaminant may be carefully lowered to the bottom of the well and retrieve. DNAPL may appear as staining on the string when retrieved. The string should be properly disposed of when the measurement is complete. This method should not be used where LNAPL is present.

15. At the completion of the gauging (or total depth sounding), the Interface/Water Level meter tape should be retrieved carefully, wiping excess moisture, and/or LNAPL from the tape

## 4 Fluid Gauging Calculations



*Figure 4.1 Subsurface Cross-section*

**where:**

DTW = Measured Depth to Water

DPT = Depth to Product

TOC = Top of Casing Elevation

PT = Product Thickness

Note = The above is a schematic only and LNAPL will actually displace water.

### 4.1 WATER TABLE ELEVATION (NO LNAPL)

Groundwater Elevation = TOC - DTW

**where:**

TOC = Top of Casing Elevation

DTW = Measured Depth to Water

## 4.2 CORRECTED DEPTH TO WATER (LNAPL PRESENT)

This calculation is performed to remove the effect of LNAPL on the measured depth to water because LNAPL will depress the water table beneath it.

$$\text{CDTW} = \text{DTW} - (\text{PT} \times \text{SG})$$

$$\text{PT} = \text{DTW} - \text{DTP}$$

**where:**

CDTW = Corrected Depth to Water

DTW = Measured Depth to Water

DTP = Measured Depth to Product (LNAPL)

PT = Product Thickness (Depth to Water (-) Depth to Product)

SG = The Product's Specific Gravity

(LNAPL present)

This calculation is performed to convert the water level in each well to an elevation that is relative to a common datum (see Figure 4.1 above). Therefore a groundwater elevation contour gradient map for the site can be prepared.

$$\text{CWE} = \text{TOC} - \text{CDTW}$$

**where:**

CWE = Corrected Water Elevation

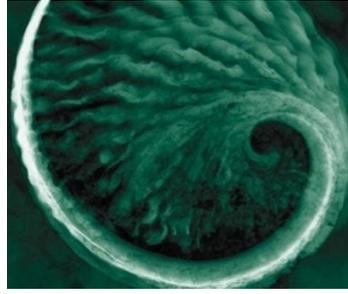
TOC = Top of Casing Elevation (Determined by a Survey)

CDTW = Corrected Depth to Water

**Table 4.1**      *Example Specific Gravities*

| <b>Compound</b>           | <b>Approximate Specific Gravity</b>   |
|---------------------------|---|
| BTEX                      |   |
| Benzene                   | 0.88  |
| Toluene                   | 0.87  |
| m-xylene                  | 0.88  |
| p-xylene                  | 0.86  |
| o-xylene                  | 0.88  |
| Common Petroleum Products |   |
| Gasoline                  | 0.73  |
| Kerosene                  | 0.80  |
| Diesel                    | 0.83  |
| 1.                        | Source: Total Petroleum Hydrocarbon Criteria Working Group Series.  |
| 2.                        | <a href="http://www.simetric.co.uk/si_liquids.htm">http://www.simetric.co.uk/si_liquids.htm</a>                       |
| 3.                        | <a href="http://www.csgnetwork.com/specificgravliqtable.html">http://www.csgnetwork.com/specificgravliqtable.html</a> |

## 5 References

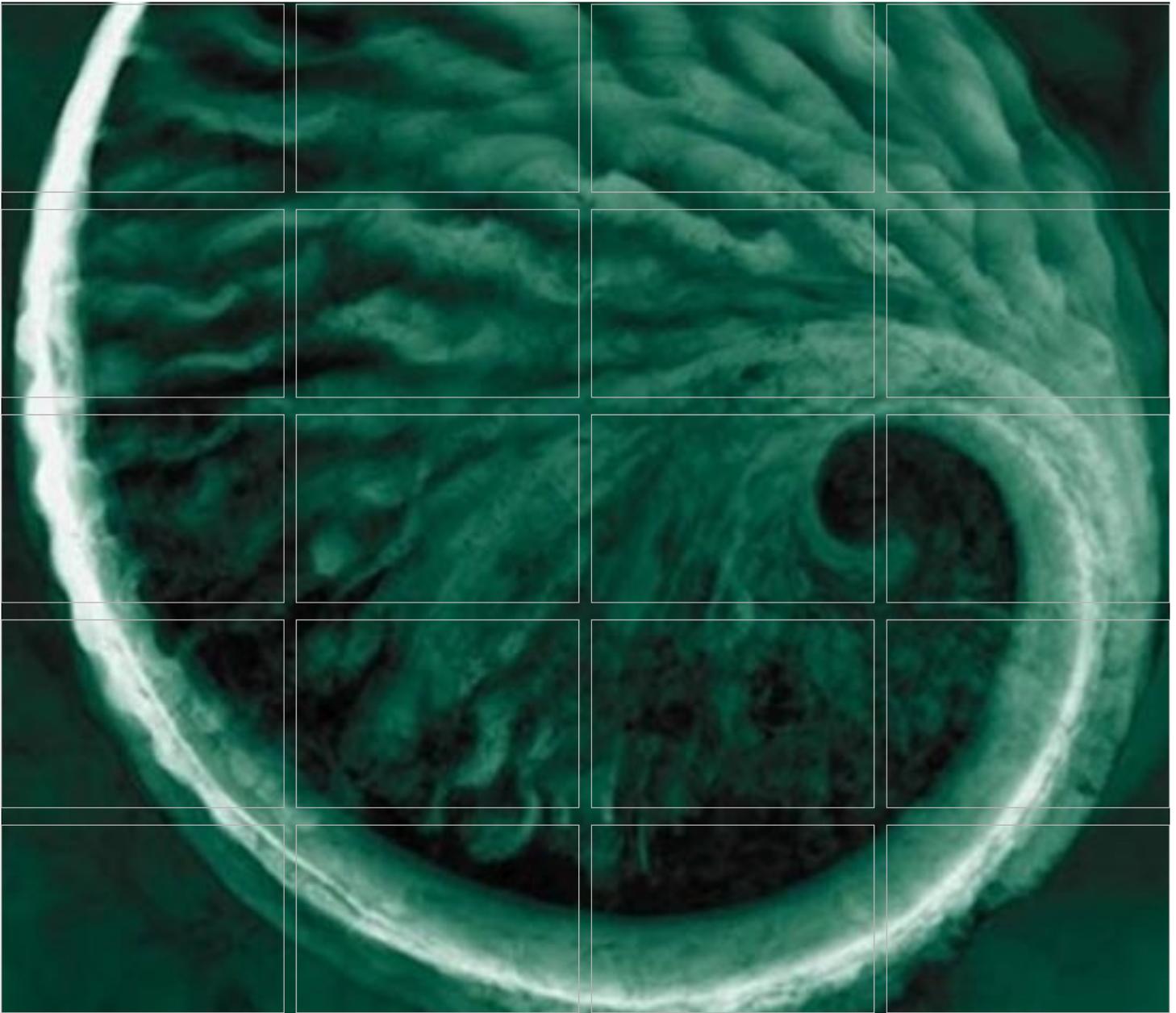


The following references provide guidance for the development of operating procedures for fluid level gauging undertaken by ERM personnel. ERM personnel are responsible for determining if additional region-specific or client-specific standards or guidance are available.

American Society of Testing and Materials (ASTM) D4448 - 01(2013) Guide for Sampling Ground-water Monitoring Wells.

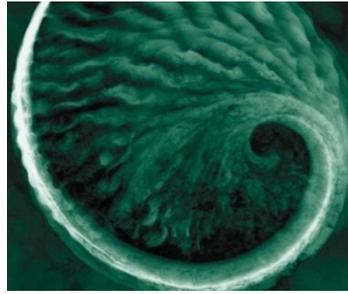
United States Environmental Protection Agency (USEPA). 2013. Groundwater Level and Depth Measurement Operating Procedure. SESDPROC-105-R2. Region 4, Science and Ecosystem Support Division, January.

<http://www.epa.gov/region4/sesd/fbqstp/Groundwater-Level-Measurement.pdf>  
(accessed 24 Jun 2013).



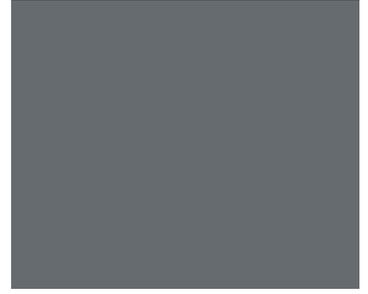
**CSM SOP 05  
Groundwater Sample  
Collection  
Version 1.0  
1 October 2013**

# Table of Contents



|          |  |           |
|----------|--|-----------|
| <b>1</b> | <b>INTRODUCTION</b>                            | <b>1</b>  |
|          | 1.1 PURPOSE AND OBJECTIVES                     | 1         |
|          | 1.2 HEALTH AND SAFETY                          | 1         |
|          | 1.3 ABBREVIATIONS                              | 2         |
| <b>2</b> | <b>MATERIALS</b>                               | <b>4</b>  |
| <b>3</b> | <b>METHODOLOGY</b>                             | <b>8</b>  |
|          | 3.1 PREPARATION FOR GROUNDWATER SAMPLING EVENT | 8         |
|          | 3.2 PRE-SAMPLING ACTIVITIES                    | 9         |
|          | 3.3 PURGING AND SAMPLING ACTIVITIES            | 10        |
| <b>4</b> | <b>REFERENCES</b>                              | <b>18</b> |

# 1 Introduction



## 1.1 PURPOSE AND OBJECTIVES

The purpose of groundwater sample collection is to obtain representative data and samples that meet project data quality objectives and industry acceptable standards of accuracy, precision, comparability, and completeness. Data collected during the purging and sampling process (e.g., measurement of fluid level depths or of groundwater field parameters like pH, electrical conductivity or temperature) can also be used to infer conditions within the aquifer or groundwater-bearing zone useful in interpreting laboratory analytical results and developing a conceptual site model.

The objective of this document is to describe field procedures for collecting groundwater samples from monitor wells. The field procedures described herein present the general methodology for sample collection, but formal field training by personnel experienced in groundwater sampling is required to supplement the procedures described.

This SOP is issued for global use; however, industry standards, equipment availability and regulatory requirements may vary regionally. This series of SOPs was developed by senior CSM practitioners across ERM to provide our staff with a means of applying “best practice” to completion of tasks commonly performed during site investigation and other site management activities. Although referred to as “operating procedures”, the procedures may not be implementable in their entirety on every project or every location. All CSM practitioners are, therefore, responsible for identifying instances where region-specific or client-specific procedures, guidance and/or regulations may supersede ERM’s internal SOPs and complying with the local requirements.

In the United States and some other countries, the preferred method for collection of samples is using low-flow (minimal drawdown) procedures as described in Puls and Barcelona, 2006 or other applicable local guidance. However, site-specific sampling and analysis plans, local regulatory agencies, or available equipment may dictate the sampling method to be used.

## 1.2 HEALTH AND SAFETY

Standard operating procedures (SOPs) are designed to provide technical guidance for conducting work associated with Contaminated Site Management (CSM) and do not provide detailed or comprehensive guidance related to health and safety nor do they

represent guidance on safe work procedures for the tasks described. Where considered, appropriate tips related to health and safety issues associated with specific tasks may be included within technical descriptions for information's sake only.

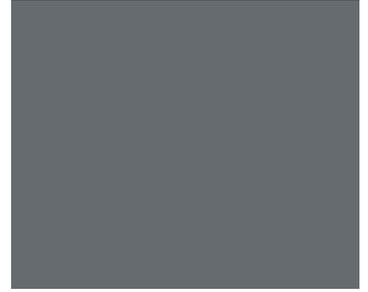
Health and safety aspects of all projects and project tasks should be assessed and planned using ERM's established Health and Safety planning procedures, including the WARN system.

### 1.3 ABBREVIATIONS

|       |  |
|-------|--|
| ASTM  | American Society of Testing and Materials      |
| COCs  | Constituents of Concern                        |
| CSM   | Contaminated Site Management                   |
| DQO   | Data Quality Objective                         |
| DO    | Dissolved oxygen                               |
| EC    | Electrical Conductivity                        |
| FRC   | Flame-resistant clothing                       |
| H&S   | Health and Safety                              |
| HASP  | Health and Safety Plan                         |
| ISO   | International Organization for Standardization |
| LNAPL | Light Non-Aqueous Phase Liquid                 |
| mS/cm | millisiemens/centimeter                        |
| mV    | millivolts                                     |
| NTU   | Nephelometric Turbidity Units                  |
| NAPL  | Non-aqueous Phase Liquid                       |
| ORP   | Oxidation-Reduction Potential                  |
| PAH   | Polycyclic Aromatic Hydrocarbon                |
| PIC   | Partner in Charge                              |
| PM    | Project Manager                                |

|       |   |
|-------|---|
| PPE   | Personal Protective Equipment                 |
| QA/QC | Quality Assurance / Quality Control           |
| SAP   | Sampling and Analysis Plan                    |
| SOP   | Standard Operating Procedure                  |
| SC    | Specific conductance                          |
| SVOC  | Semivolatile Organic Compound                 |
| USEPA | United States Environmental Protection Agency |
| VOC   | Volatile Organic Compound                     |
| WARN  | Work Activity Risk Assessment                 |

## 2 Materials



The below items are typically required for collection of groundwater samples from monitor wells (depending upon the methodology adopted):

- Sampling and Analysis Plan (SAP) or local equivalent and previous monitoring results for reference;
- WARN Form/Health and Safety Plan (HASP);
- Field forms or field log book;
- A table with monitoring well completion information; alternatively borehole logs and/or well completion diagrams;

### Equipment

- Pens;
- Keys for any locks on well boxes or well caps;
- Hand tools, such as:
  - o wrench to open bolt-down well covers;
  - o Large wrench (or spanner) to open drum lids;
  - o Pry bar or screwdriver to lift manway (well) covers; and
  - o Bolt cutters to cut locks from wells without keys or locks that are inoperable.
- Water level meter or, if product is present or suspected, an oil-water interface probe;
- Bailers and string or rope if needed;
- Purging/sampling pump, examples include:
  - o peristaltic,

- o submersible bladder pump,
- o submersible centrifugal pump.

Note that pump type will be contingent on well diameter, depth-to-water, permeability of formation, and purging/sampling methodology;

- Power source for pump (e.g., battery, generator, air compressor) and extra batteries for instruments;
- Tubing – inert tubing compatible with constituents of concern in the ground water (commonly polyethylene, nylon, or Teflon®). If using a peristaltic pump, silicon or other manufacturer’s recommended compatible tubing is required to pass through the pump head. Check to ensure tubing diameter(s) are of proper size;
- Flow measuring equipment (e.g., measuring container and watch);
- Flow-through cell (if available, closed cell with probe ports preferred);
- Note that combination (multi-parameter) meters are preferred if using a flow-through cell; individual meters may be used in a container if flow-through cells/multi-parameter meters are not available (See water quality meters section below).
- Water quality measuring instruments:

**Minimum requirement:**

- o Temperature,
- o pH

**Recommended additional (as available/required):**

- o Specific Conductance (SC) or Electrical Conductivity [EC],
- o Oxidation-Reduction Potential [ORP],
- o Dissolved Oxygen [DO],
- o Turbidity.

- Field filtration equipment if required. Several options are available including in-line disposable filter units, air-pressurized filter units, reusable filter holder cartridges for use with disposable filter papers and syringes. Consult local regulations for which type and size of filtration is acceptable;
- Container to collect purge water at well head (such as a 5-gallon (20 liter) plastic bucket);
- Large volume vessel(s) (such as 55-gallon drums (~200 liter) or plastic totes) to store purge water pending characterization and disposal; and
- Decontamination supplies.

**PPE - See HASP, but may include:**

- Surgical gloves, powder-free Nitrile, (8 mil thickness preferred);
- Cut-resistant or other sturdy gloves for use when opening drums and well covers;
- Flame-resistant clothing (FRC) - if required by the site;
- Chemical resistant coveralls (tyvek, for example)- if required by the HASP;
- Safety glasses or goggles (see HASP); and
- Respirator (half-faced or full-faced) and appropriate cartridges (if required by the HASP).

**Sample bottles and supplies:**

- Sample bottles, to be requested from laboratory or other source:
  - o sufficient number of bottles for all wells to be sampled plus 10 percent extra for potential breakage;
  - o bottles for QA/QC samples as required:
    - Blind duplicates;
    - Matrix spike/Matrix spike duplicates;
    - Field blanks (if required, generally one per field day);
    - Rinsate blanks (if required);

- Equipment blanks (if required); and
- Trip Blanks – one for each cooler that will hold samples for volatile organic compound analyses.
- o Chain-of-custody forms;
- o Sufficient number of ice chests (coolers) to hold samples and sufficient ice to maintain temperature at 4 degrees Celsius; and
- o Distilled (or VOC-free) water for field, rinsate and equipment blanks. Deionized water (if available) is preferred for field, rinsate and equipment blanks if samples will be analysed for metals (see SAP).

## 3 Methodology



### 3.1 PREPARATION FOR GROUNDWATER SAMPLING EVENT

The following tasks should be completed prior to undertaking a groundwater sampling event:

Develop SAP, with Data Quality Objectives (DQOs) clearly defined to ensure that the required groundwater data are collected and that the laboratory detection limits are suitable for the adopted site assessment criteria.

Contact facility site manager or property owner to confirm date of sampling event and arrange for clear access to wells and work permits (if required). Confirm any site-specific health and safety training or PPE requirements (e.g., FRC) or other facility requirements (e.g., inspection of equipment).

Perform all necessary health and safety pre-planning as dictated by ERM and client-specific requirements. Pre-planning should include a review of the project HASP by all field team members.

Check availability of equipment and supplies either from in-house or outside sources and place order for rental and purchased equipment/supplies at least one week in advance of the sampling event to allow for shipping/stock delays. Longer lead time may be needed.

Ensure that you have keys for any locks on well boxes or well caps. If the condition of the locks is not known, bolt cutters and replacement locks may be required.

Upon receipt of equipment and supplies, check for proper operation, calibration of equipment, and quantities and sizes of supplies.

Place bottle order with laboratory at least one week in advance of field work – include enough bottle sets to cover all wells in the sampling program, all QA/QC samples, and a few ‘contingency’ bottles. If shipping bottles or samples via air freight, check with laboratory regarding special handling and shipping requirements.

Prepare paperwork for the field event, including HASP, field forms or field log books, site plan showing all sample locations, and previous monitoring data (if available), and any other required permits, forms, etc.

If shipping samples to another country for analysis, completion of customs forms may be required. Custom delays may result in exceeding holding times or temperature requirements. If available, select qualified local laboratories for time critical or temperature critical analyses (e.g., volatile organics). Provide ample packing material to make it easy for customs officials to adequately repack samples after inspection.

In order to reduce potential for cross-contamination, review previous groundwater monitoring results (if available), and if feasible, plan to sample wells in order of lowest to highest concentrations. *Note that samples for water analysis are not typically collected from wells with measurable Non-Aqueous Phase Liquids (NAPL), unless a sample of the NAPL is being collected for fingerprinting.*

### 3.2 PRE-SAMPLING ACTIVITIES

The following tasks should be completed prior to commencement of well purging or sampling:

1. Establish work area at each well upon arrival – ensure safety precautions are considered pursuant to HASP (e.g., traffic cones, barricades, positioning of vehicle);
2. Check the condition of the well(s) upon arrival, and make a note on the field form or in the field log book of any observed damage, water in flush (grade) mounted well enclosure (box or manway), or potential surface contamination. If there is water in the well box, remove all water to below the top of well casing before removing the well cap to avoid allowing potentially contaminated surface water from entering the well (safety note: it is not uncommon to encounter spiders or other harmful insects in well boxes; use caution when removing lids and perform an inspection prior to beginning activities);
3. Measure the depth-to-water (and light non-aqueous product [LNAPL], if present) and total depth of all wells before undertaking purging or sampling. Note: If sampling for metals, gauge total depth of well after sampling has been completed, so as to not disturb sediment that may have accumulated in the bottom of the well;
4. If bailers have been left in the wells from previous sampling events, measure the water level before removing a submerged bailer as the static water level will be in equilibrium with the submerged bailer. Remove the bailers and discard unless they are dedicated for permanent use; and
5. Verify calibration of water quality instruments and recalibrate if necessary using standard solutions in accordance with manufacturer's protocols.

### 3.3 PURGING AND SAMPLING ACTIVITIES

Field procedures for both low flow and volume-based purging are described in this section. The method of sampling to be adopted will depend upon a range of factors (including the DQOs) and these should be determined in consultation with the project manager (PM) and partner-in-charge (PIC). Low flow (micropurge) sampling is increasingly becoming the preferred method for the collection of high quality groundwater samples under most circumstances and use of this method is encouraged.

Note: "No purge" sampling techniques which are gaining acceptance in some regions (including passive diffusion samples and sleeve samplers, etc.) are not covered by this SOP. Procedures for sampling using these techniques are described by the equipment manufacturer. Prior to using one of these techniques, verification of data acceptance should be obtained from local regulatory agencies.

#### Low Flow Methodology

1. Once the well cap is removed and the depth-to-water has been recorded, lower the pump (if using submersible pump) and tubing into the well. The pump intake (or end of tubing if using a peristaltic pump) should be placed in the middle of the submerged portion of the well screen. If the well screen is greater than 10 feet (3 meters) in length and spans multiple permeable units, the project manager should be consulted regarding preferred depth of pump or tubing intake (Note: A table that includes water levels, intake depths, purge rates, etc. from previous sampling events is beneficial to maintain consistency between sampling events);
2. Measure the depth-to-water again with the pump/tubing in place, and use this measurement as your drawdown reference during purging. Leave the water level meter probe in the well to facilitate collecting water level measurements during purging;
3. Connect the discharge tube from the pump to the inlet of the flow through cell (if using a closed cell), or place the outlet of the discharge tube in the bottom of a container with the water quality probes. If using a container with probes placed within, care must be taken to limit turbulence (which may affect DO and, to some extent, ORP values). Ensure that the purge water ultimately discharges into a bucket or other collection vessel;
4. Start the pump (noting the time on the field forms or field log book) and measure and record the flow rate using a measuring container and stop watch (or similar). The ideal flow rate is less than 500 ml/min, and should be adjusted lower if excessive drawdown of the water level occurs (the US EPA guidelines indicate a maximum drawdown target of 10 cm, (approximately 0.33 feet). Note that one of the authors of the USEPA guidelines recently revised this guidance stating that the total

drawdown isn't as critical as ensuring that the water level eventually stabilizes above the top of the well screen;

5. Begin recording water quality parameters on the groundwater monitoring field form as soon as the probes are submerged. Each record should include: time of measurement, cumulative purge volume, depth-to-water and water quality parameters (note: record units for the parameters and whether the ORP reading is positive or negative). Also, it is important to note any changes to the visual clarity of the water during purging, as well as any unusual properties or odors. Plan to record this information every three to five minutes during purging, possibly more frequently at the beginning to record the larger changes that occur when purging is commenced.

If erroneous measurements are noted (e.g., negative DO readings or high DO along with negative ORP) check calibration of the instruments. If erroneous measurements continue, contact project manager to discuss whether the sampling should be discontinued until replacement meters are available; and

6. Continue purging until the water quality parameters stabilize over three consecutive readings. The stabilization criteria are as follows:

**Table 3.1**      *USEPA Recommended Water quality parameter stabilization criteria*

| Parameter   | Stabilization criteria   |
|-------------|--------------------------|
| pH          | ± 0.1 pH units           |
| SC/EC       | ± 3% (µS/cm or mS/cm)    |
| Temperature | ± 0.5°C                  |
| ORP         | ± 10 mV                  |
| DO          | ± 0.3 mg/L               |
| Turbidity   | ± 10% NTUs (if measured) |

Note that a well should not be considered stable after the first three or four readings. The well should be pumped at the highest sustained rate that does not induce drawdown that exceeds the criteria (with the exception of low-permeability wells). Generally, changes in water quality parameters are observed during initial pumping of the well. After a time, the parameters will begin to stabilize. This change is generally observed after 5 to 10 readings and represents equilibration with the formation water. If no changes are observed, this may indicate only casing water is being purged.

Also note that both ORP and DO are typically slower to stabilize than the other parameters, and may be particularly unstable when not using a closed flow-through cell. In this case, greater weight may be given to pH and EC as the 'stabilizing' parameters.

These criteria should be considered as a guide and failure to strictly adhere to the stabilization criteria for one or more parameters does not imply that a representative sample cannot be collected. The field personnel and project manager may use their professional judgment on a weight of evidence basis, in conjunction with the stabilization criteria to determine when a representative sample can be collected.

Guidance for low flow sampling indicates that the water level should never drop below the top of the well screen for wells with completely submerged screened intervals. In extremely low permeability formations this may be impossible, and in these cases the well can be purged dry and a sample collected once the well has recovered. Note the degree of recovery that is acceptable is generally dictated by the local regulatory agency. If no policy exists, sampling of water from the well within 24 hours of purging should be conducted. Also note that the integrity of the sample may be affected as air is allowed to enter the well screen and filter pack. Every attempt to collect a sample using a very low flow rate (<100 ml/min) should be made before resorting to this technique.

Once the parameters have stabilized, the sample(s) can be collected. Maintain or slightly reduce the pumping rate to minimize disturbance to the water column, put on fresh disposable gloves, and fill sample bottles directly from the discharge tube (Note: if using a closed flow through cell, disconnect the pump discharge tube from the flow through cell to ensure that water samples are collected before water passes through the cell), if using probes placed in a container, a short section of tubing should be removed prior to filling sample bottles as to avoid cross-contamination of the sample. The probes are often difficult to thoroughly decontaminate.

In general, samples should be collected in order of decreasing volatility. Vials for volatile organic compound (VOC) analysis should be collected first, followed by bottles for dissolved gases, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), pesticides and herbicides and finally inorganics (metals) and monitored natural attenuation samples (e.g., nitrate/nitrite, sulphates, alkalinity, etc.). If Quality Control/Quality Assurance (QA/QC) samples (blind duplicates and matrix spike/matrix spike duplicates) are to be collected from that well, samples should be collected in conjunction with the base sample (i.e., collect all VOC samples first, then all the SVOCs, etc.).

The pumping rate should be adjusted to provide a laminar (non-turbulent) flow into the sample bottles to reduce aeration of the sample, and the water should be allowed to run smoothly down the inside of the bottle. Additional tips for sample collection are provided below:

VOC vials must be filled with a positive meniscus (i.e., above the rim of the vial) to eliminate the formation of bubbles and headspace before capping (once the cap is screwed on, turn the vial upside down and gently tap the side of the bottle to see if any air bubbles are present. If there are bubbles, remove the cap, top off the vial and attempt

again). Use appropriate care while screwing on the cap, in tapping the vial, and in general handling of the glassware. Do not over tighten sample bottle lids as the bottles may shatter and become a cut hazard.

Care should be taken during sampling to prevent overflow of water in sample bottles containing acid preservative as the acid preservative may be washed out. If preserved sample bottles overflow, that bottle should be discarded, and replaced with a new bottle.

Note that in some areas, ground water may carry carbonate (limestone or dolomite) silt that will react with the acid preservative in VOC vials causing effervescence. If this occurs, empty the VOC vials and rinse with sample water. Fill the VOC vial as described above to create zero headspace. Submit to laboratory noting on the chain of custody that the sample is unpreserved. Be aware this significantly reduces the holding time for these samples and sample shipping schedules may need to be adjusted.

If the SAP specifies that the samples for inorganics are to be filtered, an in-line filter can be placed on the discharge tube and the sample can be pumped directly into the preserved sample bottles. Alternatively, the sample can be collected in "neat" bottles containing no preservative and later filtered into the preserved sample bottles.

Once all sample bottles have been filled, switch off the pump and remove the pump and tubing from the well. Take a final water level measurement (and total depth if required) once the pump has been removed.

The collected samples should be labeled with the appropriate information, and placed immediately in an ice-filled cooler pending shipment or delivery to the laboratory. Bottles should be wrapped in bubble pack or other comparable packing material to reduce the potential for breakage. Also, be careful not to overfill coolers with sample bottles as there is greater risk of breaking during transport and will have less room for ice to maintain temperature at 4 degrees Celsius. Be aware that coolers full of water samples and ice can be very heavy. Bring enough coolers to spread the load into manageable portions, and always use proper manual handling techniques when lifting or moving coolers.

Shipping samples (including shipping unfilled sample bottles containing preservative) requires the consideration of local regulations. Shipping samples internationally may add additional requirements. Determine requirements with the project PM/PIC prior to mobilization for the sampling event.

Any non-disposable equipment should be decontaminated between each well.

The purge water from each well should be stored in an appropriate container on site pending characterization and disposal. Ensure that the container is properly sealed before leaving site, and is labeled to identify its contents and provide contact details of

the client contact or PM in the event that site employees are unsure of the contents. Containers will become impossible to safely move without mechanical aid once full. Be sure to locate containers in a safe and accessible location on site that is suitable for short-term storage pending characterization and disposal of the waste water.

**Volumetric Purging Methodology**

The volumetric method of purging wells was used primarily prior to 2000 and prescribed removal of three casing (only the water inside the well casing) or borehole volumes (which includes casing volume plus the saturated portion of the filter pack) of water prior to sample collection. The rationale was to ensure that all the potentially stagnant water in the well was removed and replaced with fresh formation water. There is a range of conflicting and ambiguous guidance available in terms of how and why volumetric sampling should be undertaken. Generally, this method is dictated in older SAPs and may have been incorporated into older regulatory permits.

The method described below represents reasonable guidance. However, when adopting this methodology considerations include whether information is available regarding well diameter, screened interval, whether water is standing above the screened interval, whether it is appropriate to purge the casing volume or the casing volume plus the saturated volume of the annulus, and the potential to ‘over-purge’ the well which may result in heightened dilution or unnecessary alteration of the sample.

1. Before purging, the purge volume is either calculated as three times the volume of standing water in the well casing or the volume of the standing water in the well casing and pore space of the filter pack, according to the following equation:

***Metric Units***

$$V_{tot} = V_{well} \{casing\ volume\ only\}$$

$$V_{tot} = V_{well} + V_{filter} \{casing\ volume\ and\ saturated\ volume\ of\ the\ annulus\}$$

$$V_{well} = \pi r_1^2 h_1; \text{ and}$$

$$V_{filter} = \pi (r_2^2 - r_1^2) h_2 n$$

Where:

- $V_{tot}$  = Total Borehole volume (L);
- $V_{well}$  = Volume of water in well casing (L);
- $V_{filter}$  = Volume of water in filter pack (L);
- $r_1$  = Inner radius (half the casing diameter) of well casing and screen (m);
- $r_2$  = Radius of borehole (m);

$h_1$  = Height of water column in well casing (calculated as the difference between the total well depth and the water level depth) (m);  
 $h_2$  = Length of filter pack or height of water column in well (whichever is shorter) (m); and  
 $n$  = porosity (use 0.30)

**U.S./English Units**

$$V_{tot} = V_{well} \text{ \{casing volume only\}}$$

$$V_{tot} = V_{well} + V_{filter} \text{ \{casing volume and saturated volume of the annulus\}}$$

$$V_{well} = 7.48 \pi r_1^2 h_1; \text{ and}$$

$$V_{filter} = 7.48\pi (r_2^2 - r_1^2) h_2 n$$

Where:

$V_{tot}$  = Total borehole volume (G);  
 $V_{well}$  = Casing volume of water in well casing (G);  
 $V_{filter}$  = Volume of water in filter pack (G);  
 $r_1$  = Inner radius of well casing and screen (ft);  
 $r_2$  = Radius of borehole(ft);  
 $h_1$  = Height of water column in well casing (calculated as the difference between the total well depth and the water level depth) (ft);  
 $h_2$  = Length of filter pack or height of water column in well (whichever is shorter) (ft); and  
 $n$  = porosity (use 0.30)

**Table 3.2** *Approximate water volume per meter of well casing and filter pack*

| <b>Metric Units</b> |   |  |
|---------------------|---|--|
| Casing diameter     | Water volume in well per meter (L) <sup>a</sup> | Water volume in filter pack per meter (L) <sup>a</sup> |
| 50 mm <sup>b</sup>  | 2   | 1.5  |
| 100 mm <sup>c</sup> | 8   | 6  |
| 150 mm <sup>d</sup> | 18  | 13   |

- a. Volumes rounded to nearest whole number
- b. Assumes 100 mm borehole diameter
- c. Assumes 200 mm borehole diameter
- d. Assumes 300 mm borehole diameter

## U.S./English Units

| Casing diameter     | Water volume in well per foot (G) | Water volume in filter pack per foot (G) <sup>a</sup> |
|---------------------|-----------------------------------|---|
| 2-inch <sup>e</sup> | 0.16                              | 0.94  |
| 4-inch <sup>f</sup> | 0.7                               | 1.6   |
| 6-inch <sup>f</sup> | 1.5                               | 1.3   |

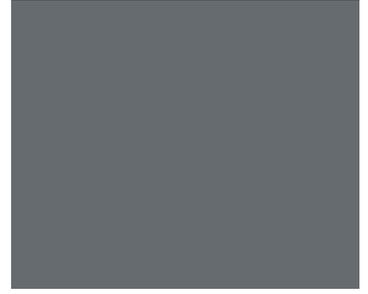
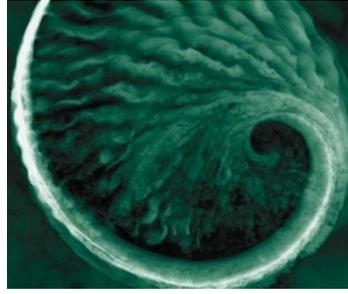
- e. Assumes 8-inch borehole diameter  
f. Assumes 12-inch borehole diameter

2. Proceed with set up and purging as per the low flow procedures described above, with the following exceptions:
  - For wells with a completely submerged screen, the pump intake should be set just below the water level so that the entire stagnant water column is purged and replaced with formation water drawn from the screened interval below (*Note: to avoid damaging the pump, the pump intake must remain underwater. As such, the pump may have to be lowered during purging to compensate for drawdown in the well*);
  - For wells where the water level is below the top of the well screen, set the pump intake half-way through the submerged portion of the screen and begin purging (*Note: to avoid damaging the pump, the pump intake must remain underwater. As such, the pump may have to be lowered during purging to compensate for drawdown in the well*);
  - The pumping rate can be increased to whatever the formation can support, although care should be taken to avoid drawing down the water level above the top of the well screen (for wells with fully submerged screens); and
  - Alternatively, bailers can also be used for this method of purging by carefully lowering the bailer repeatedly below the water level (just until it is submerged) and withdrawing water until the total volume is removed. Care should be taken to minimize disturbance of water in the well during the lowering and removal of the bailer.
3. While purging the well, record water quality parameters after each casing or borehole volume recovered. Regardless of the volume extracted, purging should continue until water quality parameters stabilize (pH and EC as a minimum). Dissolved oxygen (DO) measurements should not be taken (or should be treated with considerable caution) because they may be affected by aeration caused by the

purging method. It may be necessary to purge more than three casing volumes if water quality parameters have not stabilized.

4. Following purging, samples are collected in the same manner previously described (if using bailers, special care must be taken when decanting water into the samples bottles to minimize aeration of the sample during collection).
5. The volume-based method of purging has the following disadvantages over other methods that should be taken into account when planning a groundwater sampling event:
  - it generates a large volume of purge water that must be managed;
  - the higher pumping rates typically result in greater mobilization of suspended fines in the water, which can increase the potential for an analytical bias;
  - the higher pumping rate may result in a greater disturbance of the water column, and promote loss of VOCs or dissolved gases and changes in water quality; and
  - the greater purge volume results in water being drawn to the well from further out in the formation, and may result in dilution of the specific analytes being targeted by the well.

## 4 References



The following references provide guidance for the operating procedures for the collection of groundwater samples undertaken by ERM personnel. ERM personnel are responsible for determining if additional region-specific or client-specific standards or guidance are available.

American Society of Testing and Materials (ASTM). 2012. Standard Guide for Planning and Preparing for a Groundwater Sampling Event. D5903-96 (2012).

International Organization for Standardization (ISO). 2009. Water quality – Sampling – Part 18: Guidance on sampling of groundwater at contaminated sites. ISO 5667-11:2009

United States Environmental Protection Agency (USEPA). 2006. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures. (EPA/540/s-95/504). (Puls and Barcelona).

United States Environmental Protection Agency (USEPA). 2010. Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells. EQASOP-GW-001. Region 1. Revision No. 3.

<http://www.epa.gov/region1/lab/qa/pdfs/EQASOP-GW001.pdf> (accessed 24 Jun 2013).