Voluntary Remediation Program Compliance Status Report

Atlanta Gas Light Company

Project No. 74962

December 2013

Voluntary Remediation Program Compliance Status Report

prepared for

Atlanta Gas Light Company
Atlanta, Georgia

December 2013

Project No. 74962

prepared by

Burns & McDonnell Engineering Company, Inc.
Wallingford, Connecticut

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STATEMENT OF FINDINGS

This Voluntary Remediation Program (VRP) Compliance Status Report (CSR) is submitted by Atlanta Gas Light Company (AGLC) for the former manufactured gas plant (MGP) site located in Rome, Georgia (the Site) (HSI Site #10109, Rome Coal Tar Pit). The VRP CSR was prepared by Burns & McDonnell on behalf of AGLC. This documvent is to satisfy the requirements of the Georgia VRP Act (GVRPA) and Consent Order #EPD-HSR-091 and to document the various stages of site assessment and remediation. This VRP CSR also documents investigation and remediation activities at the Site, as well as compliance of Site soil, groundwater, and sediment with the site-specific, non-residential cleanup criteria.

Soil, groundwater, sediment, and surface water samples from all phases of the Preliminary Assessment (PA), Site Investigation (SI), Remedial Investigation (RI), Compliance Status Investigation, as well as supplemental investigations were analyzed for site constituents of interest (COI [Tables 2-2 and 2-3]) and the results of these analyses were used to determine the extent of the constituents associated with the MGP. Results of these investigation activities were used in preparation of the 1999, 2000, and 2001 Corrective Action Plans (CAPs), and documented in this VRP CSR.

As part of the VRP application process, site-specific Risk-Based Clean-up Goals (RBCGs) for soil and groundwater were developed based on non-residential use of the specific parcels, construction/excavation worker contact and vapor intrusion from subsurface soil and groundwater using the Johnson & Ettinger model. The Site soils and sediment were investigated and remediated under the Hazardous Response Act (HSRA) Rules. The remediation plan included in the VRP Application did not require further investigation or remediation of Site soils, groundwater, or sediment. The remediation plan included execution of engineering or institutional controls in the form of Universal Environmental Covenants (UECs) on the qualifying properties in accordance with O.C.GA. 44-16-1, et seq. (the Georgia Uniform Environmental Covenants Act) and the implementation of an Operations, Maintenance, and Monitoring (OM&M) Plan that would provide management of future land disturbing activities..

Soil

An evaluation of the results of all investigation and remediation performed to date on Site soil indicates that soil is in compliance with the site-specific RBCGs. Institutional controls restricting these parcels to non-residential use using environmental covenants to monitor Site use will be executed on Parcels 1, 2, 3, 3A, 4,through 8, Right-of-Way under 2nd Avenue bridge, and Portions of the Right-of-Way of West 1st Street, as per the Georgia Uniform Environmental Covenants Act, OCGA 44-16-1.

Future monitoring required will be outlined in the CAMP and consist of annual inspections to ensure property use or Site conditions have not changed. The CAMP will be implemented after the Site is delisted from the Hazardous Site Inventory (HSI).

Groundwater

As presented in Table 7-2 of this report, comparison of the most recent (April/ October 2012) groundwater monitoring data to groundwater RBCG values protective of the hotel worker and Broad Street retail worker show that groundwater is in compliance with the RBCG values. Institutional controls

using environmental covenants to prohibit groundwater use will be executed on the Parcels 3, 4, and portions of the Right-of-Way of West 1st Street properties, as per the Georgia Uniform Environmental Covenants Act, OCGA 44-16-1.

Sediments

The sediments are certified to site-specific clean-up criteria for sediments developed with the EPD during the development of the CAPs for the Site. Future monitoring required will be outlined in the CAMP and consist of monthly rainfall monitoring and river surveys, as required. The CAMP will be implemented after the Site is delisted from the HSI.

CERTIFICATION OF COMPLIANCE WITH VRP STANDARDS

I certify under penalty of law that this report and all attachments were prepared under my direction in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Based on my review of the findings of this report with respect to the risk-based clean-up goals developed under the Voluntary Remediation Program (VRP) under the Georgia Voluntary Remediation Program Act (GVRPA), 12-8-108(5),(6), I have determined that the following properties (identified by Floyd County, Georgia, Tax Parcel ID numbers, if applicable, and as outlined in this report) are in compliance with the VRP Standards:

Parcel No. 1
Parcel No. 2
Parcel No. 3
Parcel No. 3A
Parcel No. 4
Parcel No. 5
Parcel No. 6
Parcel No. 7
Parcel No. 8
Right-of-Way under 2nd Avenue bridge
Portions of Right-of-Way of West 1st Street

Certified by: Date:

Donald F. Carter
Atlanta Gas Light Company

December 4, 2013

GROUNDWATER SCIENTIST STATEMENT

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

Christie J. Battenhouse, P.G.
(Georgia PG001681)

Date: December 4, 2013

1.0 INTRODUCTION

This Voluntary Remediation Program (VRP) Compliance Status Report (CSR) is submitted by Atlanta Gas Light Company for the former manufactured gas plant (MGP) site located in Rome, Georgia (Hazardous Site Inventory [HSI] Site #10109, Rome Coal Tar Pit [Site]). This VRP CSR was prepared by Burns & McDonnell on behalf of AGLC. This document is to satisfy the requirements of the Georgia VRP Act (GVRPA) and Consent Order #EPD-HSR-091 and to document the various stages of site assessment and remediation. This VRP CSR contains summaries of all soil, groundwater, and sediment investigation and remediation activities at the Site. The VRP CSR also summarizes the status of compliance of Site soil, groundwater, and sediment with the site-specific, non-residential cleanup criteria protective of direct contact, indoor air, or other specified criteria.

The site is located in downtown Rome, near the intersection of West 1st Street and North 2nd Avenue and adjacent to the Oostanaula River. In this report, "site" is used to denote the property that was formerly occupied by the MGP while "Site" denotes e all areas of the property affected by the release exceeding a reportable quantity, not just those areas of property where MGP operations were located.

An original CSR for the Site was submitted under HSRA in 2001, then revised in 2004 (RETEC, 2004). The Site soil, groundwater, and sediment investigations and remediation were all completed under HSRA; therefore, the sampling results of Site media were previously compared to risk reduction standards (RRS) under HSRA Rule 391-3-19-.07 for all regulated substances associated with releases at the Site. All Site media, with the exception of groundwater on Parcels 3 and 4 were certified to a HSRA Type 1 RRS (default, residential) or Type 4 RRS (site-specific, non-residential) in the 2004 CSR.

On May 16, 2011, AGLC submitted an application to enter all parcels not previously certified to HSRA Type 1 RRS of the Rome former MGP Site into the VRP (AECOM, 2011). The EPD provided comments and granted a conditional approval for the revised VRP application in January 2012. With the conditional approval, the Site was entered in the VRP, under the GVRPA. Parcels covered by this VRP CSR are Parcels 1, 2, 3, 3A, 4,through 8, Right-of-Way under 2nd Avenue bridge, and Portions of the Right-of-Way of West 1st Street (Figure 2-4).

The remediation plan described in the VRP Application did not require further investigation or remediation of Site soils, groundwater, or sediment. Rather, the remediation plan required execution of engineering or institutional controls in the form of Universal Environmental Covenants (UECs) on the qualifying properties in accordance with O.C.GA. 44-16-1, et seq. (the Georgia Uniform Environmental Covenants Act) and the implementation of an Operations, Maintenance, and Monitoring (OM&M) Plan that would provide management of future land disturbing activities.

As discussed with and agreed to by EPD in several meetings to resolve outstanding issues and comments received on the VRP Application, the OM&M Plan will include a long-term monitoring plan for the River sediments, which will be implemented under the Continued Action Monitoring Plan (CAMP) for the Site. Finally, the remediation plan included preparation and submittal of the VRP CSR to document Site delineation and conditions at closure. Pending execution of the environmental covenants, this VRP CSR is the final part of the remediation plan included in the VRP Application required for Site closure and

delisting from the HSI. The CAMP (including the OM&M Plan) will be submitted and implemented at the time the Site is delisted.

As part of the VRP Application process, site-specific Risk-Based Cleanup Goals (RBCGs) based on non-residential use of the parcels and construction/excavation work direct contact (from 2 to 20 feet) were developed. Additionally, in the VRP Application, the transfer of a contaminant from subsurface soil and groundwater into indoor air (vapor intrusion) was evaluated through use of the Johnson and Ettinger (J&E) vapor intrusion model (Johnson and Ettinger 1991, USEPA 2004). Inhalation of indoor air volatile organic compounds (VOCs) is considered a complete pathway for the current/future on-site commercial/industrial workers for subsurface and groundwater vapor intrusion COI noted in Tables 2-9 and 2-10 of the VRP. The J&E model was used to calculate subsurface soil and groundwater concentrations that are protective of a current/future commercial/industrial worker (non-residential) breathing indoor air during the workday for a period of 25 years. The detailed vapor intrusion evaluation is included in Appendix E (corresponding Appendix E of the VRP Application, [AECOM, 2011]).

Site-specific RBCG values based on construction/excavation work protection (direct contact from 2 to 20 feet) are included in Table 2-2 of this VRP CSR. The final soil and groundwater RBCG values protective of non-residential use, indoor air are summarized in Section 2.5 of the VRP and presented in Table 2-3 of this report.

Soil, groundwater, sediment, and surface water samples from all phases of the Preliminary Assessment (PA), Site Investigation (SI), Remedial Investigation (RI), Compliance Status Investigation, as well as supplemental investigations were analyzed for site constituents of interest (COI) and the results of these analyses were used to determine the extent of the constituents associated with the MGP. The PA and SI were documented in January and June of 1992 (Law, 1992a,b). Additional investigation was conducted in December 1998 and January 1999 in response to EPD's comments on the RI/CSR submitted in 1997. Supplemental investigations were conducted in 2003 in response to EPD comments on the 2001 HSRA CSR and in 2007, at EPD's request, based on continued groundwater impacts on Parcels 3 and 4. Results of these investigation activities were used in preparation of the Site Corrective Action Plans (CAPs), which are summarized below, and in the 2004 CSR. The status of each of the corrective actions completed at the Site, as well as compliance of Site media with VRP standards are documented in this VRP CSR.

In an effort to facilitate the investigation and remediation of the Site, as well as the subsequent reporting of results, the Site was separated into four operable units (OUs): OU1 – On-site Soils, OU2 – Oostanaula River Sediments, OU3- Soils in Basement of Rivers Place Building, and OU4 – Groundwater; the definition of each are further explained below. As stated previously, the Site investigation and remediation was conducted and completed under HSRA. The submittal and approval dates for the Corrective Action Plans (CAPs) for each OU and the date of the each of the remediation completion report are also summarized below, with the exception of groundwater (OU4). This VRP CSR will serve as the remediation completion report for groundwater.

OU #1 - Unsaturated zone soil in Parcels 1, 2, 3, 4, 6, 7 and 8, Central of Georgia ROW, and W. 1st Street. The investigation and design for remediation of on-site soils was submitted in February 1999 (revised in April 1999) in the *Corrective Action Plan* (ThermoRetec, 1999). RETEC, on behalf of AGLC,

prepared and submitted the CAP in February 1999 (revised in April 1999, [ThermoRetec, 1999]). The EPD approved this CAP in June 1999. The impacted soil removal was initiated in June 1999 and completed in September 2000. Remediation of this OU was documented in the 1999 *Soil Removal Completion Report – OU1* (ThermoRetec, 1999a) and 2004 CSR.

OU #2 - Oostanaula River sediments and surface water. The results of the investigation on this OU were used to develop the sediment removal plan, which was included in the *Corrective Action Plan for Sediments in the Oostanaula River* (ThermoRetec, 2000). The CAP for Sediments was approved on January 2, 2001. The remediation of this OU was completed in 2001 and documented in the S*ediment Remediation Completion Report, Oostanaula River* (Retec, 2002) and 2004 CSR.

OU #3 - Unsaturated zone soils in the basement of the Rivers Place Building and under the office building attached to the Rivers Place Building. The results of the investigation of this OU were used to develop the remediation plan, which was contained in the *Corrective Action Plan – Operable Unit 3 – Rivers Place Building (Parcel 5)*, [ThermoRetec, 2000a]. This CAP was approved in June 2000. Soil remediation on this OU was completed in 2000 and documented in the S*oil Removal Completion Closure Report – Operable Unit 3 – River Place Building*, (ThermoRetec, 2000c) and 2004 CSR.

OU #4 - Site Groundwater. The investigation results and remediation plan were included in the *Groundwater Corrective Action Plan - OU4* (ThermoRetec, 2000b) submitted to the EPD on December 4, 2000, which was approved on December 12, 2000. Subsequently, the *Groundwater Corrective Action Plan Addendum – OU4* (ThermoRetec, 2001a) was prepared for the Site and submitted on April 19, 2001.). This Groundwater CAP Addendum was approved by EPD on June 8, 2001, and included groundwater monitoring for monitored natural attenuation (MNA). Implementation began immediately upon approval and continued until October 2012.

This VRP CSR will serve as documentation that all of the milestones that were required in EPD's approval of the VRP have been met. The complete horizontal and vertical delineation on all impacted properties was demonstrated and approved in the 2004 CSR and completion of the soil and sediment remediation plans occurred in 2001 and groundwater remediation in 2012. The VRP CSR includes certifications and will also serve as the remediation completion report for groundwater (OU4).

This VRP CSR is organized in ten (10) sections. Following this introduction, Section 2 provides the Site background, including a history of the MGP facility and includes an overview of previously completed environmental investigations. Section 3 provides the scope of the investigation and environmental setting of the Site. Sections 4, 5, and 6 summarize the various stages and results of the soil, sediment, and groundwater investigations, respectively, completed to date. Section 7 summarizes the remedial actions completed at the Site to date and the status of compliance with the VRP standard (RBCGs) for each OU. The results of receptor studies performed as part of RI/CSR activities is included in Section 8. The conclusions of past Site activities and recommendations for future Site activities are summarized in Section 9. The references cited in this document are listed in Section 10.

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND DESCRIPTION

The Rome MGP Site is located on West 1st Street, between 2nd and 3rd Avenues, in the City of Rome, Floyd County, Georgia. The geographic coordinates are 34° 15'14" Northern Latitude and 85° 10'25" Western Longitude (United States Geological Survey (USGS) Topographic Quadrangle, Rome North and Rome South, 1985). The location of the Site is shown in Figure 2-1. The layout of the Site, both pre-excavation and post-excavation, is shown in Figures 2-2 and 2-3, respectively. Figure 2-3 shows the historical lay-out of the Site in 2001, immediately following soil excavation on OU-1 and OU-3.

The Site consists of 11 parcels whose ownership is shown on Figure 2-4 and in Table 2-1. The former manufactured gas plant (MGP) operations were primarily conducted on Parcel 3. This parcel, along with Parcels 4 and 7 is currently a parking lot for the hotel and downtown Rome visitors. Parcel 4 is located south and west of Parcel 3 and adjacent to Parcels 5 and 8 and Parcel 7 is located to the east of the former MGP facility. Parcel 1, which is located to the east of Parcel 7, was recently developed as a parking deck for downtown Rome businesses and the Forum, a local civic center for Floyd County. A former Central of Georgia Railroad right-of-way (ROW) runs from the northeast to the southwest through the Site. The vegetated, steep bank of the Oostanaula River slopes to the northwest of the railroad ROW and has been partially developed with a concrete walkway used for local pedestrian traffic as a "River Walk". The Rivers Place building (Parcel 5) is currently developed and operates as a hotel on the second and third floors, with retail space at the ground level and a former restaurant (Parcel 8) are located to the west of the former MGP process area. Three-story commercial brick buildings occupy Parcels 9 and 11 to the south of the former MGP facility, and Parcel 10 consist of an asphalt parking lot. An aerial photograph that shows the current site layout is included as Figure 2-5.

2.2 HISTORY OF THE MGP FACILITY

From the mid-1800s until the 1950s, MGPs were widely used throughout the country for producing gas from coal, coke, or oil. The gas was primarily used for lighting and heating. Most of the gas manufactured in the United States was generated by one of the following processes including:

- Coal gas (retort gas)
- Water gas/carbureted water gas
- Oil gas

The coal gas processes involved the carbonization of coal in retorts (ovens) that produced gas consisting of hydrocarbon elements of the coal. The water gas process involved heating coke or coal in a generator, and subsequently injecting steam into the heated vessel, which produced gas consisting of hydrogen and carbon monoxide. The carbureting process further included the injection and cracking of oil, creating a gas with hydrocarbon elements and a higher BTU content. The oil gas process involved injecting oil into a heated vessel, producing a gas consisting of the hydrocarbon elements of the oil. In all processes, the resultant gas was cooled and purified before distribution. As a result, various process residuals such as tars, liquors, sludges, coal fragments, and gas-purifying wastes were produced, some of which were released into the soil, groundwater, and sediment. The coal gas and carbureted water gas processes described above were used at the former MGP site in Rome.

The materials of interest at MGP sites include tar, oil, slag, coal fragments, ash, and associated sludges that are complex mixtures of different polyaromatic hydrocarbons (PAHs), lesser amounts of phenolics and volatile organic compounds (VOCs), and some inorganic compounds such as various metals and cyanide. The ash and slag are considered to be essentially inert material, as the organic constituents are burned off in the process of producing gas. The Gas Research Institute (Management of Manufactured Gas Plant Sites, Volume I, Wastes and Constituents of Interest, October 1987 and later revisions) identifies a list of chemicals present at most MGP sites. Analytical data from previous investigations indicates that some of those chemicals on the list are present in Oostanaula River sediment near the site.

Manufactured gas operations in Rome began in approximately 1860. Gas was produced at the Rome MGP initially from pine wood or knots, but was converted to a coal gas operation in approximately 1875. Around 1923, the manufacturing process was changed from coal gas only to a combination of coal gas and water gas. In 1930, natural gas became available in Rome and manufactured gas operations substantially ceased.

Review of the MGP operation indicated that these plants typically generated by-products and other residuals that included a range of constituents in the categories of volatile aromatics, polynuclear aromatic hydrocarbons, phenolics, inorganics, and trace metals. A sequence of assessment studies at the Rome site revealed that releases of these residuals occurred at the site; these releases included constituents from each of the above categories. No specific releases from the Rome MGP were conclusively identified. However, historical accounts indicate that one of the gas holders was overturned in a flood in 1887. Additionally, construction-related activities on the site in 1984-1985 could have contributed to the release of regulated substances.

The Sanborn Maps included as Appendix A (also Figures 2-2 to 2-10 of the March 1997 RI/CSR) show the progression of the MGP facility from 1885 to 1950. All of the former MGP structures are also shown on Figures 2-2 and 2-3 of this report. The above-ground MGP facilities were removed from the facility sometime between 1930 and 1941. The remaining structures that formerly held the gas or by-products of the former MGP operations were partially removed in May 1985, with the soil and structure removal in OU-1 being completed in June to September 1999. Additional excavation of impacted soil in OU-3 was completed in August 2000. The results from the soil and source removal operations can be found in the *Soil Removal Completion Report – OU1* (ThermoRetec, 1999a), *Soil Removal Completion Report – Rivers Place Building - OU3* (ThermoRetec 2000c), and *Soil Removal Completion Report for Soil under the 2nd Avenue Bridge*, (RETEC, 2004a).

2.3 PREVIOUS INVESTIGATIONS

In April 1985, prior to the time AGLC acquired ownership of the property, workers redeveloping the Rivers Place Shopping Center near the Rome MGP Site uncovered a subsurface holder structure in the parking lot area of the property. The USEPA was called to investigate, and the USEPA on-scene coordinator's field log reported the discovery of a second pit. During May of 1985, the USEPA removed approximately 236 cubic yards of coal tar sludge from the holder and managed it off site. A stabilizing compound was placed in the bottom of the holder to solidify the remaining sludge, estimated at 10 tons. The excavation was then filled and the parking lot was paved.

In 1986, a preliminary site reconnaissance was performed by LAW. No visible evidence of the former MGP was detected. However, settling of the pavement in the parking lot was noted. This settling was believed to have occurred over the holder that had been excavated and back-filled by the USEPA. Based on the lack of visible evidence and LAW's understanding that the source material had been removed by USEPA, no further evaluation of the Site was conducted by LAW at that time. A report of the LAW's observations was submitted to the EPD in October 1986. The preliminary site reconnaissance did not include groundwater or soil sampling and analysis.

In 1989, the USEPA contractor, NUS, evaluated the site and recommended that no further remedial action be planned for this facility. The recommendation was accepted by the USEPA project manager.

In November 1991, a preliminary assessment (PA) was conducted by LAW at the site and surrounding property. The scope of this work included a review of available file material, on-site and off-site reconnaissance, development of a historical ownership narrative, collection and analysis of six surface soil samples, and a limited water pathway survey (LAW, 1991).

A site investigation (SI) was conducted in February through May 1992, and included the exploration of subsurface soils, groundwater monitoring well installation, collection and analysis of 30 subsurface soil and five groundwater samples, evaluation of soil physical characteristics, ambient air monitoring, and review of available geologic literature (LAW, 1992a and 1992b).

A Remedial Investigation (RI) was also conducted at the site in January through April 1996. The scope of the RI included the exploration of subsurface soils; monitoring well and piezometer installation; collection and analysis of 24 surface soil samples, 42 subsurface soil samples, 18 groundwater samples from monitoring wells, and 5 groundwater samples from open boreholes; and ambient air monitoring. The RI/CSR report was completed by LAW and Remediation Technologies, Inc. (RETEC), in March 1997 (RETEC/LAW, 1997).

Additionally, in response to EPD comments dated April 30, 2002 to the February 2002 revisions of the September 2001 CSR, as well as subsequent discussions with EPD in a meeting held in August 2003, supplemental soil investigations were conducted in April and October 2003. The scope of the investigation was based upon EPD's comments on the CSR as well as discussions with EPD. This work scope included the following:

- Six soil borings advanced for analysis of semivolatile organic compounds (SVOCs) in the City Right-of-Way under the 2nd Avenue Bridge, adjacent to Parcel 6, and
- Two soil borings advanced in Parcel 7 and seven soil borings in Parcel 1 for background delineation of select inorganic compounds.

The revised CSR was submitted in June 2004.

2.4 SITE-SPECIFIC CONSTITUENTS OF INTEREST

The materials of interest at MGP sites include tar, oil, and associated sludges that are complex mixtures of different PAHs, lesser amounts of phenolic and VOCs, and some inorganics such as various metals and cyanide. The source of these constituents has been removed, but groundwater impacts remain. Over ten

years of quarterly and semiannual groundwater samples have been collected and analyzed for all or subsets of VOCs by EPA Method 8260B, semivolatile organic compounds (SVOCs) by EPA Method 8270C, or metals by EPA's Target Analyte List (TAL), and cyanide by EPA Method 9012A. The results indicate that one or more the site-specific MGP-related constituents of interest (COI) from this set of constituents had been detected in one or more groundwater monitoring wells at the Rome Site during the post-remediation period of June 2000 through October 2012. A list of potentially MGP-related COI were developed and summarized in the CAPs and 2004 CSR.

The Site COI list was re-evaluated for the VRP Application process (AECOM, 2013), based on the results of a human-health risk assessment (HHRA) that included construction/excavation worker safety (direct contact), as well as vapor intrusion. Site-specific, risk-based clean-up goals (RBCGs) for surface and subsurface soil were calculated to be protective of worker safety and goals for subsurface soil and groundwater were calculated to be protective of indoor air exposure.

The selection process for construction/excavation worker surface and subsurface soil COI exposure by direct contact was presented in Table 2-8 of the VRP (AECOM, 2013). A total of 20 constituents were retained as COI for the construction/excavation worker direct contact exposure pathway to unsaturated soils in or near utility corridors and West 1st Street. These constituents were selected based on the fact that the maximum detected concentration (remaining after soil excavation) was above the screening criteria which were the HSRA Type 1 RRS (equal to the HSRA Notification Concentration). As a result, site-specific RBCG values protective of construction/excavation worker contact with soil from 2 to 20 feet were calculated for these 20 COI.

The selection process for construction/excavation worker subsurface soil COI for vapor intrusion is presented in Table 2-9 of the VRP. From the 20 constituents retained for the construction/excavation worker direct contract criteria, a total of 19 constituents were identified as unsaturated subsurface soil COI for soil from 2 to 20 feet below ground surface (bgs) and volatile and therefore, a vapor intrusion evaluation of those COI was conducted as part of the HHRA (AECOM, 2013).

The selection process for the groundwater COI was presented in Table 2-10 of the VRP Application (AECOM, 2013). Only four constituents (benzene, cyanide, methane, and naphthalene) were retained as groundwater COI for the vapor intrusion pathway, while four constituents (benzene, cyanide, 2,4-dimethylphenol, and naphthalene) were detected at concentrations above the HSRA Type 1/3 or 4 RRS in groundwater over the last five years. Of these four constituents, only the volatile ones were retained as COI; 2,4-dimethylphenol is not volatile, and therefore, not retained as a groundwater COI.

The COI and RBCGs for the subsurface soil protective of construction/excavation work direct contact exposure pathway are summarized in Table 2-2. The soil and groundwater COI that were evaluated in the VRP and the RBCGs protective of indoor air are listed in Table 2-3.

2.5 POTENTIAL SOURCE

Although a number of releases at the Site were identified during the initial phases of the RI, substances at the Site cannot be attributed to any one particular release. Potential releases include the following: overturning of one of the gas holders in a flood in 1887; construction related activities on the site in 1984-1985; placement of fill associated with raising the levee and other activities; and general construction,

demolition, renovation, and other ongoing operating activities throughout the 70-year plant history. The former structures and components of the manufactured gas plant are shown on Figures 2-2 and 2-3. However, none of the potential sources of release remain as source removal was mostly completed in June to September 1999, and then fully completed in August 2000.

3.0 SCOPE OF REMEDIAL INVESTIGATION AND ENVIRONMENTAL SETTING

3.1 GENERAL SCOPE OF THE REMEDIAL INVESTIGATION

Investigations to supplement the RI/CSR were performed in September of 1997 and March of 1998. During the September 1997 investigation, an area along the slope of the Oostanaula River bank adjacent to the MGP Site was sampled in anticipation of a construction project proposed by the City of Rome. Seventeen hand auger borings were advanced, and 29 samples were collected and analyzed for selected MGP-related constituents. Although this area is relatively inaccessible to the public, the sampling program was conducted to ascertain shallow soil conditions in this area. During the March 1998 investigation, two monitoring wells were installed (MW-01R and MW-04R) in Parcel 1 to determine whether concentrations of beryllium, cadmium, lead, and thallium in groundwater detected during previous groundwater sampling events were representative of background conditions proposed at that time. The preliminary investigation report for these sampling events was presented by RETEC in the version of the Corrective Action Plan (CAP) dated May 27, 1998 (RETEC, 1998).

In response to EPD comments to the May 1998 version of the CAP, further investigation of the Site was conducted in December 1998 through January 1999. This investigation was designed to determine the vertical extent of impacts in soil at this Site, to complete the delineation of groundwater impacts, and to further investigate the river and riverbank. This investigation included the installation of two additional wells and the collection and analysis of 6 groundwater samples, 18 sediment samples, 13 surface soil samples, and 90 subsurface soil samples. These data were presented to EPD in a meeting on January 22, 1999. Figure 3-1 shows all of the borings and monitoring wells installed prior to soil excavation. The results of these investigations showed that the highest concentrations of these constituents were limited to an area of about 0.5 acre near the center of the MGP site in Parcel 3, and that the overall extent of impacts was generally limited to the former MGP plant site and a small area surrounding the MGP site. Results of these investigation activities were used in preparation of the 1999 CAP, and eventually documented in the September 2001 CSR.

An ecological risk assessment (ERA) was conducted in August 2000, in which three sediment and surface water samples were collected. Additional sediment investigations to determine the extent of impacts to sediments in the Oostanaula River adjacent to the former MGP facility and to delineate the impacts to sediments to background concentration were performed in November 2000.

Baseline groundwater sampling events pre- and post-excavation were performed in June 2-3, 1999 and June 6-10, 2000, respectively. Groundwater investigations since the soil remediation was completed were performed in October 23-27, 2000; January 10-17, 2001; April 2-9, 2001; and July 9-12, 2001. The primary objectives of these investigations were to establish groundwater quality before and after the soil removal, and to determine the vertical and horizontal extent of COI in groundwater.

Twenty-three (23) monitoring wells were installed during post-remediation phases of the groundwater investigation (since the 1997 RI/CSR and 2001 CSR reports). Samples were collected from some of the wells on site during each monitoring event prior to excavation and all of the wells following excavation, unless the well was dry at the time of sampling. In July 2001, slug tests were also performed to establish the hydraulic conductivity of soils in the shallow water table aquifer following soil remediation. A

supplement slug test was performed in MW-404 (which was replaced by MW-404R in October 2002) had a measured hydraulic conductivity of 1 x 10^{-3} centimeters per second (cm/sec [RETEC, 2004]).

The post-remediation monitoring program developed in the Groundwater CAP Addendum (ThermoRetec, 2001a) approved by EPD on June 8, 2001, continued with subsequent revisions, until October 2012. Additional monitoring wells were installed at subsequent mobilizations, either as replacement wells due to well damage (MW-404R in October 2002 and MW-505R in March 2009), or for additional delineation (MW-507 and MW-508 in August 2004).

Based on a request from EPD in 2007 to evaluate groundwater remediation alternatives due to persistent groundwater impacts above the HSRA RRS, AGLC conducted additional soil and groundwater characterization activities to collect data to support a groundwater Focused Feasibility Study (FFS). From May 8 to June 7, 2007, forty (40) soil borings (SB-400 through SB-439) were advanced using a direct-push technology rig. The borings were advanced until refusal was met, which was typically between 28 and 48 feet bgs. The conclusion from the FFS was to continue MNA as the ongoing groundwater remedy due to Site groundwater geochemical conditions and recent or pending site development that limited the effectiveness or implementability of groundwater alternatives.

3.2 ENVIRONMENTAL SETTING

3.2.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

Floyd County is underlain by up to 20 geologic formations ranging in age from early Cambrian to Pennsylvanian. The county is crossed by two major faults, the Rome and the Coosa, that trend generally southwest-northeast in the Site area. Compressional and tensional forces associated with the faults warped and broke these formations into a series of faulted folds. Erosion of the folded and faulted formations produced the varied outcrop pattern present today. The fault zones appear to be high, and probably either offer no avenue for groundwater movement or act as barrier to it (Cressler, 1970).

Several formations present in the area provide adequate water to meet domestic needs. These formations include the Lavender Shale Member of the Fort Payne Chert, the Armuchee and Fort Payne Cherts, the Knox Group, the Eastern and Western belts of the Conasauga Formation, and the Rome Formation (Cressler, 1970; USGS, 1992).

The Mississippian-age Lavender Shale member of the Fort Payne Chert consists of massively bedded mudstone, shale, and impure limestone. Groundwater occurs mainly in joints, and yields of less than 10 gallons per minute (gpm) are common, though no well depth information is available since the Lavender Shale member is not widely used as an aquifer. The Mississippian-age Fort Payne Chert and the Devonian-age Armuchee Chert constitute one hydrologic unit in west-central Floyd County. The Armuchee Chert consists of sandy, ferruginous, thinly bedded chert and the Flort Payne Chert consists of thinly bedded chert with thin accumulations of silt and clay. Wells commonly derive water from both formations and yields range from 5 to 50 gpm to wells usually less than 150 feet deep, with yields of up to 100 gpm possible (Cressler, 1970).

The Cambrian and Ordivician-age Knox Group consists of a thickly- to massively-bedded cherty dolomite bedrock with some limestone and a thick chert and clay residuum. Bedrock wells are usually

160 feet deep and yield 5 to 80 gpm. Wells completed in the residuum yield from 1 to 15 gpm. The Knox Group overlies the Cambrian-age Conasauga Formation (Cressler, 1970). The Conasauga Formation consists of the Eastern and Western belts that are separated by the Coosa Fault. The Eastern Belt consists of thickly bedded limestone and shale. The average well depth is 120 feet and yields range from 2 to 25 gpm. The Western Belt consists of silty shale with layers of siltstone and sandstone, shale with thinly bedded limestone and calcareous siltstone, massively bedded limestone interlayered with shale, and interlayered, calcareous silty shale and sandstone. Well depths range from 100 to 175 feet and yields range from 3 to 20 gpm (Cressler, 1970).

The Cambrian-age Rome Formation consists of 500 to 1,000 feet of interbedded shale, siltstone, sandstone, and quartzite. Groundwater occurs mainly in fractures and joints. Well depths range from 80 to 140 feet and well yields average 5 to 10 gpm (Cressler, 1970).

3.2.2 SITE GEOLOGY

The Site area, as mapped by Cressler (1970), is underlain by rocks of the lower unit of the Western Belt of the Conasauga Formation. The two major faults crossing Floyd County (the Rome and the Coosa) are both located within one mile of the Site (Cressler, 1970).

The rocks encountered at depth during field work for the RI/CSR are interpreted to belong to the middle unit of the Western Belt of the Conasauga Formation due to the presence of limestone and minor amounts of shale in the rock core obtained from the Site (MW-06B, MW-08, MW-406B, and MW-406C) and the absence of significant amounts of chert or sandstone. The rock cores from the Site are highly fractured and the openings filled with white calcite, similar to nearly all of the limestone of the Conasauga Formation in Georgia (Cressler, 1970). Additionally, folding of the limestone unit prior to calcite infilling was evident in the rock cores from the Site. This folding and faulting are believed to be a result of the compressional and tensional forces associated with the Rome and Coosa faults. Fracturing, jointing, and iron staining were observed in the rock cores, indicating the potential for movement of groundwater in the bedrock underlying the site.

The Rome former MGP Site is underlain by approximately 20 to 25 feet of fill, which is thickest near the Oostanaula River, gradually thinning to a thickness of about 10 feet to the south, in the proximity of West 1st Street. A layer of silty clay/clayey silt, containing occasional discontinuous sand and gravel lenses, underlies the fill. Beneath the silty clay/clayey silt, a layer of siliceous gravel is encountered at a depth of approximately 24 to 26 feet bgs. A gray, dry siltstone is encountered at a depth of approximately 32 feet bgs. The siltstone is fairly weathered in the uppermost section of the unit, with the weathering ranging from a soft, orange-brown clayey silt to partially weathered bedrock consisting of gravel-sized pieces of the siltstone mixed in with the more weathered clayey silt. This weathering can occur at depth to approximately 55 to 60 feet bgs. The siltstone is also interbedded in places with thin lenses of shale, which is generally partially to mostly weathered to a clay to a silty clay. The siltstone is believed to act as a semi-confining unit, which inhibits vertical groundwater movement due to its low permeability. The siltstone unit is underlain by a gray to dark gray limestone.

Detailed information on the Site geology was obtained from several phases of RI/CSR and supplemental investigations. These data were used to generate conceptual geologic cross section views of the Site's subsurface stratigraphy. Cross sections that depict the geology of the Site before soil excavation are

provided in the two previous RI/CSRs (Law, 1996 and ThermoRetec, 1997). These cross sections have been updated to reflect the change in geology due to soil removal activities and replacement of impacted soil with clean, fill material. Figure 3-2 presents the location map for cross sections A-A', B-B', and C-C'. These three geologic cross sections depicting the current Site geology and hydrogeological conditions are presented in Figures 3-3 through 3-8, respectively. Logs of borings advanced since the March 1997 RI/CSR report is included in Appendix B.

3.2.3 SITE HYDROGEOLOGY

Shallow groundwater exists under water table conditions beneath the Site. In general, groundwater is first encountered within the siliceous gravel layer at a range of 20 to 25 feet bgs. Shallow groundwater flow patterns at the Site are relatively complex and are subject to influence by the water level in the adjacent Oostanaula River. Under normal conditions, the river appears to be a shallow groundwater discharge point. Instances of elevated river levels (approaching flood stage) can cause a reversal in the shallow groundwater flow direction, with the river serving as a recharge point. The data derived from the RI/CSR indicated that the wells located closest to the river responded more quickly to river levels than wells in the central and southern portions of the Site. This differential response was interpreted to result in a temporary shallow groundwater mound or divide in the central portion of the Site, with groundwater north of this divide flowing to the north toward the river, and groundwater south of the divide generally flowing to the south-southwest or south-southeast.

The siltstone unit located beneath the siliceous gravel layer is believed to act as a semi-confining unit to vertical groundwater flow. A limestone bedrock unit underlies the siltstone. Groundwater has been observed to exist within both of these lithologic formations. Groundwater levels observed in the siltstone unit indicate a divide in the south-central portion of the Site, with flow to the northwest and southeast from this divide.

4.0 SOIL INVESTIGATION

4.1 GENERAL APPROACH AND RATIONALE

This section describes soil investigation activities performed in December 1998 through January 1999 at the former MGP Site in Rome, Georgia, and the supplemental investigation performed in April through October 2003. The soil investigation activities were performed to investigate potentially impacted areas on site using direct-push technology (DPT) and power and manual augering. The main purpose for the investigation was to address comments (received by AGLC on September 16, 1998) made by the EPD on the CAP (dated May 1998), and to supplement existing Site information to aid in the selection of a remedial alternative(s) for the Site. The work plan for this investigation (ThermoRetec 1998) was submitted to the EPD on November 13, 1998. Additional samples were collected via DPT in April and October 2003, and again from May 8 to June 7, 2007, based on EPD's comments, as well as discussions with EPD. Samples were collected in accordance with previous investigations.

This section provides an overview of the CSR and supplemental investigation activities. The field methods and quality assurance/quality control procedures were performed in accordance with the U.S. Environmental Protection Agency's Standard Operating Procedures. Throughout this section the word "Site", as per the HSRA definition (i.e., all areas of property affected by the release exceeding a reportable quantity), is used to define those parcels between West 1st Street, 2nd Avenue, 3rd Avenue, and the Oostanaula River.

The objectives of the CSR investigations and subsequent groundwater evaluations included the following:

- To more completely determine the vertical and horizontal extent of Site COI in soil (Parcels 1, 2, 3, 7 and 8); and
- To characterize the materials in the below-ground gas holders.
- To characterize soil and groundwater in the area around MW-404R and MW-507 to collect data to support a groundwater FFS.

4.2 SOIL SAMPLING METHODS

This section describes the methods and procedures used to obtain soil samples to ensure collection of representative samples for laboratory analysis. All field instruments used to take measurements during soil sampling were calibrated before sampling and at regular intervals during sampling, as specified by the manufacturer.

Soil borings that did not extend to the water table were filled with bentonite pellets. The soil borings extending below the water table were grouted immediately following the completion of sampling to prevent carry-down of potentially impacted materials in the unsaturated zone to the saturated zone. A cement/bentonite grout mixture was pumped through a rigid tremie pipe placed approximately 6 inches from the bottom of the borehole. The tremie pipe was slowly withdrawn during the grouting procedure. After a 24-hour period, the hole was inspected for settlement of the grout, the depth of settlement was noted, and more grout was poured into the hole as needed to make it flush with the surrounding ground surface.

4.2.1 SOIL SAMPLE COLLECTION

In most sampling locations, surface and subsurface soil samples were collected using DPT. In locations that are not accessible using a direct-push rig (i.e., beneath the restaurant and on the riverbank), surface and subsurface samples were collected using a power auger in combination with a split-spoon sampler. When it was not feasible to use a power auger (i.e., low overhead clearance or unstable bank), a hand auger was used to collect the soil samples.

Borings collected via DPT were named "GP" followed by a dash and a number. Borings advanced during this investigation began with the number 300 and increase sequentially with each sample taken. Borings advanced using a hand auger were designated "HA" followed by a dash and a number beginning with 300. Those advanced using a power auger were designated "PA" followed by a dash and a number beginning with 300. Gas holder borings were designated by "GH" followed by a dash and a number beginning with 300. Soil confirmation sampling results are designated with a "SC" followed by a dash and a number beginning with 1.

A boring log was maintained for each boring installed during the SI, RI/CSR, and subsequent CSR or groundwater investigations. Each log contained general Site information and specific information about each boring, including: date sampled, sampling method, sampler, sample identification number, sample interval, moisture content, field-screening, a complete lithologic description, and comments. Boring logs for all borings installed since 1997 are included in Appendix B. The soil borings advanced in October and November 2003 were not logged for soil lithology.

The soils from each boring were logged continuously by a geologist according to the Unified Soil Classification System (USCS). In addition to the USCS, the following soil logging protocol was used to describe the soil conditions consistently and to determine the extent to which the soils have been impacted.

- Soils with strong odors were noted with the associated head-space organic vapor monitor (OVM) readings. By-product like material (BPLM) is associated with strong odors, but strong odors alone do not necessarily indicate the presence of BPLM.
- Soils were described as stained if there was black to brown, clearly non-natural soil discoloration.
- Soils were described as having a sheen if a shiny, sometimes iridescent liquid was evident.
- Soils were described as fluorescent if they fluoresced when exposed to a portable UV light. This is evidence of PAHs in the soil, since PAHs fluoresce when exposed to ultraviolet (UV) light.
- Soils were described as containing residual BPLM if an immobile non-aqueous phase liquid was identified. This residual BPLM would be contained within the pore spaces of the soil; therefore, it would not be considered mobile or free-flowing. This liquid may be identifiable by rubbing the soil between fingers.
- Soils were described as containing saturated BPLM if a separate non-aqueous phase liquid was present that was clearly free-flowing and not bound within the pore space (i.e., dripping from the sample).

4.2.2 BORING LOCATION AND RATIONALE

Figure 4-1 shows locations of the soil borings both before and after soil excavation, as well as the soil confirmation samples collected during remediation. Soil borings HA-1 through HA-6 and the SB-100 and SB-400 series of borings are the only soil samples collected after completion of the primary soil excavation activities in 2000.

PARCEL 1

Seven additional soil borings (SB-102, SB-102A, and SB-103 through SB-107) were advanced on Parcel 1 via DPT in October 2003, based on EPD comments. These samples collected in Parcel 1 were used to define background delineation of arsenic, chromium, lead, and zinc.

PARCEL 2

Soil samples collected with a direct-push rig were used to determine whether this parcel has been impacted by MGP COI and to determine a location for the groundwater monitoring well to be installed on this parcel (see Section 2.2.1). The first boring was advanced at the proposed primary location in the southwest corner of the parcel. Direct-push borings were advanced on this parcel through each soil horizon until bedrock (siltstone) was reached. Hand auger or power auger borings were advanced to a depth of 6 to 8 feet on this parcel in the locations shown in Figure 4-1, as was similarly done along the riverbank on Parcels 3 and 6.

PARCEL 3 (EXCEPT GAS HOLDERS)

To determine whether the soil-bedrock (siltstone) interface has provided a pathway for the migration of BPLM, most of the borings on this parcel were advanced until the bedrock (siltstone and/or limestone) was reached [approximately 30 feet below ground surface (bgs)]. Borings located outside the gas holders and south of the Central of Georgia Railroad easement on this parcel were sampled continuously over 2-foot intervals. Each sample was field-screened using an OVM and UV light to determine which samples were sent to the laboratory for analysis.

To delineate the extent of impacted soils, samples were selected for chemical analysis from locations that exhibit relatively low or undetected concentrations of VOCs based upon OVM readings. A total of three to four samples were selected from each boring. Borings located in the riverbank area were sampled continuously over 2-foot intervals; all samples were analyzed.

Twenty-seven (27) soil borings were advanced using a DPT rig from May to June 2007 to characterize soil and groundwater residual impacts (SB-400 series). The borings were advanced until refusal was met, which was typically between 28 and 48 feet bgs. Qualitative analyses of organic impacts were measured by photoionization detector (PID) readings via a Mini Rae and logged for lithology and impacts. Soil samples were not collected as impacts were observed at or below the water table.

PARCEL 4

Two soil borings were advanced using a DPT rig around the area of MW-404R and MW-504 to characterize soil and groundwater residual impacts (SB-432 and SB-439). The borings were advanced until refusal was met, which was typically between 28 and 48 feet bgs. Qualitative analyses of organic

impacts were measured by PID readings via a Mini Rae and logged for lithology and impacts. Soil samples were not collected as little to no residual MGP impacts were observed on Parcel 4.

PARCEL 7

Direct-push borings were advanced to the depth of the water table (approximately 20 to 25 feet bgs) in sample locations shown on Figure 3-1. The purpose of these borings was to further delineate the extent of impacted soil on this parcel. Soil samples were collected continuously over 2-foot intervals for laboratory analysis. If BPLM was detected, the boring was advanced to the top of the siltstone.

Two additional soil borings were advanced on Parcel 7 with a direct-push rig in 2003 based on EPD comments. Samples collected from these borings were used for delineation to background of lead, zinc, and mercury.

One soil boring (SB-424) was advanced using a DPT rig in 2007 to characterize soil and groundwater residual impacts around the area of MW-404R and MW-504. The borings were advanced until refusal was met, which was typically between 28 and 48 feet bgs. Qualitative analyses of organic impacts were measured by PID readings via a Mini Rae. The boring was logged for lithology and impacts. Soil samples were not collected as residual MGP impacts were not observed on Parcel 7.

PARCEL 8

Five power auger borings were advanced on Parcel 8 to determine/confirm that it is in compliance with HSRA Type 4 risk RRS. Borings advanced on this parcel were located beneath a restaurant that occupies it. A power auger in combination with a split-spoon sampler was used to advance borings as deep as possible (10 to 12 feet) using this method. When it was not feasible to use a power auger, a split-spoon (or comparable device) was manually advanced to retrieve the soil samples. Soil samples were collected continuously over 2-foot intervals for laboratory analysis.

WEST 1ST STREET

One direct-push boring was advanced to the siltstone in the right-of-way at a location near former direct-push boring GP-127 to confirm the presence/absence of any MGP impacts in this area. Soil samples were collected continuously over 2-foot intervals for laboratory analysis of Site COI.

Ten (10) soil borings were advanced using a DPT rig from May to June 2007 in road or right-of-ways to characterize soil and groundwater residual impacts (SB-400 series). The borings were advanced until refusal was met, which was typically between 28 and 48 feet bgs. Qualitative analyses of organic impacts were measured by PID readings via a Mini Rae and logged for lithology and impacts. Soil samples were not collected as residual MGP impacts, if observed, were observed at or below the water table.

2ND AVENUE BRIDGE

Six hand augers were advanced until refusal for analysis of SVOCs in the City Right-of-Way under the 2nd Avenue Bridge (adjacent to Parcel 6) to delineate SVOC impacts reported in soil confirmation sample SC-64 to background concentrations.

GAS HOLDERS

Initially, two direct-push borings were advanced in each of the two easternmost gas holders on Parcel 3 as shown in Figure 2-1. Each soil boring was advanced from the ground surface to near the bottom of the gas holder(s). Caution was exercised when investigating near the base of the holder to ensure that the integrity of the structure was not compromised. Soil samples were collected continuously over 2-foot intervals. If the borings were free of BPLM, no more borings were advanced in the holders, and the soil samples were analyzed for site COI (GH-301, GH-302, GH-304, GH-306, GH-307, GH-309, GH-310, Gas Holder 1-1, Gas Holder 1-2, Gas Holder 2-1, and Gas Holder 2-2).

If the borings indicated that one or both of the holders contain tar or material completely saturated with BPLM, drilling into the holder(s) ceased and the holder(s) were considered characterized. However, if these borings largely contained soil/fill, but portions of the soils/fill contained residual BPLM (e.g., the materials have the potential to be characteristically hazardous), a complete holder material characterization was performed (see below).

HOLDER CHARACTERIZATION

SAMPLING OF GAS HOLDERS FOR CHARACTERIZATION OF MATERIALS

A total of five direct-push soil borings were advanced in each of the holders in the locations shown in Figure 3-1. The borings were logged by a geologist to document the location, quantity, and physical characteristics of various types of material (waste, oil/tar or debris), and provide information on the depth of the units.

Each of the grab samples were split four ways. The first three aliquots were used to form three replicate composite samples, which was representative of the contents of the individual units as a whole. These samples were subjected to a phased analytical approach that is described below. The remaining aliquot (representative of each 2-foot interval at each boring location) was held in reserve and analyzed, if required, to validate data or to provide additional information on stratification and variability within the holder. To support an optional treatability study, a bulk sample was collected by retaining a sample from any interval of material from the gas holders and areas of BPLM that exhibit a significant impact based upon field screening procedures (i.e., odor and visual contamination). The initial composite samples were collected in triplicate to ensure that the results are defensible.

4.2.3 SAMPLE HANDLING AND PRESERVATION TECHNIQUES

Immediately following collection, each sample jar was labeled with the sample location designation, time and date of collection, and a list of laboratory analyses to be performed. The sample container was then wrapped in bubble wrap and placed on sufficient ice to chill the samples to 4° Celsius (C) in a cooler for storage throughout the day.

To establish the documentation necessary to trace the sample possession from the time of sample collection, a chain-of-custody record was filled out for each sampling event. The record contained the following information:

- Sampling and site identification
- Sample Identification

- Sampling date and time
- Identification of sample collector
- Sample description (type and quantity)
- Analysis to be performed
- Signatures of persons involved in the chain of possession
- Date and times of possession

Samples were shipped overnight courier to the appropriate laboratory at the end of each day or picked up by a laboratory courier each morning.

In general, a trip blank, field blank, rinsate blank, and a duplicate were included with each sample delivery group. One rinsate sample, collected from decontaminated or new sampling equipment, was collected each day. A sample was collected from the distilled or deionized water or potable water supply used for decontamination procedures for analysis for the COI.

4.2.4 DECONTAMINATION PROCEDURES

Non-disposable sampling equipment was decontaminated before and between each sample by washing with phosphate-free detergent and water and rinsing with tap water, deionized water, isopropanol, and organic-free water. Equipment transported to a sampling point from the decontamination area was wrapped in aluminum foil. Large equipment, such as the drilling rig and ancillary tools, was decontaminated at the beginning of each day and between boreholes. Decontamination water was collected and placed into a wastewater tank and/or drums on the AGLC or other-owned property until it was characterized for disposal.

4.2.5 LABORATORY METHODS

Soil sampled collected during the RI/CSR investigation in December 1998 through January 1999, and supplemental CSR investigations in 2001 and 2003 were performed according to Contract Laboratory Program (CLP) procedures with adherence to Quality Assurance/Quality Control (QA/AC) and analytical data validation requirements. The analyte list for soil sampling included known or suspected MGP target compounds and elements. The laboratory methods to analyze soil samples for the Site COI were as follows:

- Volatile Organic Compounds by EPA Method 8260B
- Semivolatile Organic Compounds by EPA Method 8270C
- Cyanide by EPA Method 9012A
- Metals by EPA Method 6010B

Soil samples were sent to an appropriate laboratory for analysis of site-related COI. A copy of the laboratory analytical results for the soil samples collected in October and November 2003 was included in Appendix C-1 of the 2004 CSR. No soil samples were collected during the 2007 investigation; therefore, additional laboratory analytical reports are not included.

4.3 BACKGROUND CONCENTRATION STUDY

A background concentration study was conducted on soil for the 1996 RI/CSR and revised in the 1997 RI/CSR. EPD gave comments on the study in a letter dated February 12, 1998. The background study for soil was revised to incorporate those comments and to include the data collected in December 1998, January 1999, April 2003, and October 2003. The background study was also revised to incorporate a statistical analysis on all of the data considered to be included in the background set. The background limit for organic COI is considered to be the detection limit.

The range of background concentrations of potential MGP-related inorganic constituents in the soil was evaluated from off-site soil samples collected from surrounding and potentially topographically upgradient locations. Background sampling locations were selected based on the absence of site-specific organic substances. Background borings include MW-09A, SB-01, SB-103, GP-129, MW-01R, and MW-12.

If the background data set contained detectable levels of a COI, and since the data was not normally distributed, the highest concentration of each constituent from the data set is proposed for the background concentration. Table 4-1 provides a summary of the established background limits, and Table 4-2 shows the background data set and statistical distribution. For those constituents that did not contain detectable levels, the background concentration was set as the detection limit.

4.4 HORIZONTAL AND VERTICAL EXTENT OF CONSTITUENTS OF INTEREST IN SOIL

Data tables summarizing the soil analytical results from soil investigations completed at the site prior to soil remediation were included in Appendix C of the 2001 CSR. Soil confirmation sample analytical results for OU1 and OU3 were compared to the Type 4 RRS in the 2004 CSR for non-residential properties (and subsequently, background concentrations), and are included in Tables 4-3 and 4-4, respectively. Tables 4-5 and 4-6 show the data collected during the final background delineation investigations for soil under the 2nd Avenue Bridge and on Parcels 1 and 7, respectively.

Figures 4-2 through 4-18 show the horizontal extent of COI in soil and the analytical results of borings used to determine background limits in soil at the Site. Impacts reported above the background concentration on the northern, western, and northwestern edge of the Site, adjacent to the Oostanaula River, were delineated through the sediment investigation. Additional samples were collected in the west-southwestern corner in the vicinity of SC-64 in April 2003 to complete the delineation of SVOCs to background concentrations.

In addition, EPD requested additional sampling in the basement of the River's Place Building to delineate barium, copper, and zinc, if possible, but it was not practicable to sample under the building in the area where samples were needed due to physical constraints. Therefore, these compounds are delineated by SC-64, since that is the outermost boring in that area that was sampled for barium, copper, and zinc.

4.4.1 VOLATILE ORGANIC COMPOUNDS

Background concentrations for VOCs in the soils are determined to be the detection limit. Figure 4-2 is a contour map of the horizontal extent of total detected VOCs in soils. The red, dashed line on Figure 4-2 represents the most likely location of the background isoconcentration line and is drawn to points where

the total VOC concentrations are known to be below the detection limit. The horizontal extents of VOCs in soil are delineated in all directions.

VOCs associated with the Site have been delineated in the soil to the south and southeast in borings MW-9A, SC-172, GP-321, and GP-128. The extent of Site-related VOCs is delineated from the east to the north by the following soil borings: GP-334, GP-130, SC-1, MW-01R, SB-11, SS-04, MW-04R SC-169, SC-13, and SC-52. The extent of VOCs are delineated from the north to the west of the Site with samples taken in the bank of and from within the Oostanaula River (between HA-302 and HA-203). Borings SC-64, GP-328, GP-331, and HA-107 delineate the VOCs to the west and southwest.

4.4.2 SEMIVOLATILE ORGANIC COMPOUNDS

Background concentrations for SVOCs in the soils are determined to be the detection limit. Figure 4-3 is a contour map of the horizontal extent of total detected SVOCs in soils. The red, dashed line on Figure 4-3 represents the most likely location of the background isoconcentration line and is drawn to points where the total SVOC concentrations are known or estimated to be below the detection limit. The horizontal extent of SVOCs in soil is delineated in all directions following the collection of samples in the vicinity of SC-64 in April 2003.

SVOCs associated with the Site have been delineated in the soil to the south and southeast in borings MW-9A, GP-321, SC-172, SC-173, and GP-128. The extent of SVOCs is delineated from the east to the north by the following soil borings: GP-130, MW-01R, SB-11, SS-04, MW-04R SC-169, SC-13, and MW-12. The extent of SVOCs are delineated from the north to the west of the Site with samples taken in the bank of and from within the Oostanaula River (between HA-302 and HA-203). Borings HA-5, HA-6, and HA-107 delineate the SVOCs to the west and southwest.

4.4.3 INORGANIC COMPOUNDS

Background concentrations for inorganic compounds associated with the Site in the soils are listed in Table 4-1. Figures 4-4 through 4-18 are maps that show the horizontal extent of inorganic compounds in soils. The red, dashed line on Figures 4-4 through 4-18 represent the most likely location of the background isoconcentration line and is drawn to points where concentrations of individual inorganic concentrations are known or estimated to be below the background concentration. Delineation soil samples analyzed for chromium, lead, mercury, and zinc were analyzed via the inductively coupled plasma (ICP) method. Due to discrepancies in the results for arsenic in SB-102 and after discussions with the laboratory and EPD, it was decided that the arsenic samples would be analyzed via the atomic absorption/graphite furnace (AA/GF) method due to the possibility of interferences of other metals in the results.

The inorganic compounds considered to be associated with the Site have been delineated in the soil from the south to the southeast in borings MW-9A, GP-322, SC-172, SC-173, GP-321, and GP-128. Barium, chromium, copper, or mercury were reported at a concentration slightly above background in the samples taken from 0-5 feet in GP-128 or 2-6 feet in GP-130; however the concentrations of barium, cadmium, chromium, or mercury are below background in the deeper samples collected from the respective boring. In addition, detections of several inorganic compounds were detected above the background concentration in SC-172; however, this boring was collected against the wall of the adjacent buildings and further

sampling was not possible in this location. In each instance where there is an exceedance reported in SC-172, the concentration of each inorganic compound was detected below the background concentration in SC-173. This shows that exceedances of the background concentrations of these inorganic compounds are not likely to extend below or beyond the building on the eastern side of West First Street.

The extent of the Site-related inorganic compounds is delineated from the east to the north by most or all of the following soil borings: GP-334, GP-130, SC-1, MW-01R, SB-11, SS-04, MW-04R SC-169, MW-12, SB-103, and SC-52. Lead was reported at a concentration above background in the sample collected at 3-4 feet in SB-101; however it was reported at a concentration below background in the deeper sample collected from that same boring. Subsequently, the sample collected from 3-4 feet in SB-101A was analyzed for lead, and the reported concentration was below background. Therefore, lead is delineated to background in this area by SB-101A.

The extent of the Site-related inorganic compounds is delineated from the north to the west of the Site with samples taken in the bank of and from within the Oostanaula River (generally defined by HA-302 to HA-203). The delineation line on Figures 4-4 through 4-18 (for inorganic compounds) is drawn along the bank of the Oostanaula River for consistency and as directed by EPD. Borings SC-64, GP-331, and HA-107, along with Second Avenue, delineate the limits of the inorganic compounds to the west and southwest.

4.4.4 SUMMARY OF IMPACTS IN SOIL

Impacts in soil have been delineated to background both horizontally and vertically. Impacts reported above the background concentration on the northern, western, and northwestern edge of the Site, adjacent to the Oostanaula River, were delineated through the sediment investigation. Additional samples were collected in the west-southwestern corner in the vicinity of SC-64 in April 2003 to complete delineation of SVOCs to background concentrations (HA-1 through HA-6).

5.0 SEDIMENT INVESTIGATION

5.1 GENERAL APPROACH AND RATIONALE

This section describes investigation activities performed on sediments and surface water in the Oostanaula River at the former MGP site. The river is located northeast and adjacent to the former MGP facility and flows towards the southwest.

Williams Environmental Inc. (Williams) performed the investigation of the riverine sediments during two field phases. The first phase was conducted between December 30, 1998 and January 6, 1999. The second was conducted between November 29, 2000 and December 21, 2000. The investigation was performed to define the extent of COI in sediments.

The main purpose for the initial investigation was:

- To determine whether sediments and surface water in the Oostanaula River had been impacted by former MGP operations;
- To address comments (received by AGLC on September 16, 1998) made by the EPD on the CAP (dated May 1998), and
- To supplement existing site information to aid in the selection of a remedial alternative(s) for the site.

Three sediment and surface water samples were collected as part of the ERA conducted during August and September 2000. As a result of the December 1998 and January 2000 investigation, impacts from the former MGP site were determined to have extended into the river. Williams conducted additional sampling in November 2000 to assess the extent of impacts of the COI on sediments in the Oostanaula River.

5.2 SAMPLING LOCATIONS AND RATIONALE

Sediment samples were collected during all phases of the investigation at a total of 40 locations (Figure 5-1). Selected samples were analyzed for the COI, PCBs, and pesticides.

5.3 SEDIMENT SAMPLING ANALYSIS AND METHODS

5.3.1 SEDIMENT SAMPLING METHODS

During the first phase of the investigation sediment samples were collected using a vibracore system. These samples were collected from 0 to 2 feet below sediment surface (bss) and five foot intervals thereafter to refusal. Samples were collected to depths based on boring evidence from deep samples collected from Parcel 3. If it was determined that BPLM did not migrate to the siltstone, borings were advanced a minimum of 6 to 8 feet. If indicated from the preceding soil investigation that BPLM had migrated downward and toward the river, borings were advanced to siltstone.

The second phase of the investigation involved using a sediment sampling dredge for sediment surface samples collected from 0 to 0.5 feet bss and DPT methods for samples collected greater than 0.5 feet bss. Samples collected greater than 0.5 feet were collected from 0.5 feet to two feet bss and two foot sample intervals thereafter to refusal. Dual-wall sampling methods were utilized in areas where flowing sands

were not encountered. Split-spoon piston samplers with sand catchers were used in areas where flowing sands occurred. These methods allowed continuous sediment sampling to a sediment depth of one to ten feet bss.

5.3.2 SEDIMENT SAMPLING LOCATIONS

Initially, borings were advanced at ten locations along the Oostanaula riverbank. One sample was collected upgradient of the site at the 5th Street Bridge and another from approximately 250 feet downgradient at the railroad bridge. The majority of the samples were collected every 50 feet beginning at the boundary between Parcel 1 and Parcel 2 and finishing when the end of Parcel 6 is reached.

If the soil investigation and primary sediment investigation shows that BPLM has migrated to siltstone near the edge of the river, samples were advanced in the secondary locations. The secondary locations were at the same point along the river as the primary locations, but these borings were advanced in the deepest part of the river channel. Sediment samples were taken in locations to delineate the impacts of the former MGP site to the Oostanaula River. Sediment samples were collected at a total of 40 locations from both phases of the investigation (Figure 5-1). Selected samples were analyzed for the COI, PCBs, and pesticides.

5.3.3 FIELD SCREENING

Field-screening of sediment samples was conducted using closed-headspace procedures by placing a portion of the sample into a sealable plastic bag. The sample was placed in the sun and allowed to warm. After sufficient time was allowed for organic compounds to volatilize (a minimum of 30 minutes), the sample was screened with Flame Ionization Detector (FID) or PID. The FID/PID probe tip was inserted through the bag opening into the headspace of each container and the maximum reading was recorded. The FID/PID was calibrated at the beginning and end of each day of use with either methane or isobutylene. The FID/PID reading of each sample is noted on the boring logs (Appendix B).

5.3.4 SAMPLE HANDLING AND PRESERVATION TECHNIQUES

Samples collected during the investigation were placed in ice-filled coolers, which were temporarily stored in a locked storage area (first phase) or at night on the guarded sampling barge until a determination of samples to be analyzed was made. Sediment samples selected for laboratory analysis were recorded on chain-of-custody forms. Those samples selected for analysis were organized into sample delivery groups (SDGs), which were secured in ice-filled coolers and shipped to an off-site laboratory (STL Savannah Laboratories in Savannah, Georgia or Analytical Environmental Services, Inc. in Atlanta, Georgia), for analysis. In general, a trip blank, field blank, rinsate, and a duplicate sample were included with each SDG.

To establish the documentation necessary to trace the sample possession from the time of sample collection, a chain-of-custody record was filled out for each sampling event. The record will contain the following information:

- Sampling and site identification

- Sample Identification
- Sampling date and time
- Identification of sample collector
- Sample description (type and quantity)
- Analysis to be performed
- Signatures of persons involved in the chain of possession
- Date and times of possession

Samples were shipped overnight courier to the appropriate laboratory at the end of each day or picked up by a laboratory courier each morning.

5.3.5 DECONTAMINATION PROCEDURES

Non-disposable sampling equipment was decontaminated before and between each sample by washing with phosphate-free detergent and water and rinsing with tap water, deionized water, isopropanol, and organic-free water. Equipment transported to a sampling point from the decontamination area was wrapped in aluminum foil. Decontamination water was collected and placed into drums on the AGLC or other-owned property until it could be characterized for disposal.

5.3.6 LABORATORY METHODS

Analyses were performed according to current approved EPA methods at the times of the investigations. This analyte list includes known or suspected MGP target compounds and elements as follows:

- Volatile Organic Compounds by EPA Method 5035/8260B;
- Semivolatile Organic Compounds by EPA Method 8270C;
- Total Cyanide by EPA Method 9012A;
- Metals by EPA Method 6010B;
- Mercury (EPA Method 7471);
- Polychlorinated Biphenols (PCBs) by EPA Method 8082; and
- Pesticides EPA Method 8081A (pesticides).

Samples collected for delineation of SVOCs and inorganics in sediment were sent to STL Savannah Laboratories, in Savannah, Georgia, for analysis of SVOCs and inorganics using EPA method 8270 and 6010B, respectively. Samples collected for analysis of PCBs and pesticides were sent to Analytical Environmental Services, Inc. in Atlanta, Georgia, for analysis of PCBs using EPA method 8082 and for analysis of pesticides using EPA method 8081A.

The CRQL for each compound was based on the laboratory's self-determined Practical Quantitation Limit (PQL). Tables 5-1 through 5-4 are summary tables of analytical results from the sediment investigation conducted in December 1998, January 1999, August 2000, and November 2000.

A copy of the laboratory analytical reports for the December 1998 and January 1999 sediment investigation were included in the CAP for OU1 (ThermoRetec 1999). Copies of the analytical reports for the August 2000 sampling event were included in the ERA (LAW, 2000). Copies of analytical reports

for the November 2000 sediment delineation investigation were included in a letter report to EPD submitted in February 2001.

5.4 DETERMINATION OF UP-STREAM LIMITS

The up-stream limits for VOCs and SVOCs in sediments were determined to be the detection limit.

5.5 HORIZONTAL AND VERTICAL EXTENT OF CONSTITUENTS OF INTEREST IN SEDIMENTS

Figure 5-2 contains plan view maps depicting the vertical and horizontal relationship of SVOCs. Volatile organic compounds were not contoured since there were not enough detections of Site-related constituents above the detection limit to give adequate data for contouring. Inorganic compounds were not contoured since they were not horizontally delineated to up-gradient limits.

5.5.1 VOLATILE ORGANIC COMPOUNDS

Volatile organic compounds were detected in two sample locations along the riverbank adjacent to the former MGP facility. The compound 2-butanone (a known laboratory contaminant) was detected at SD-306 from 0 to 8 feet bss and at SD-313 from 0 to 2 feet bss. These areas are horizontally delineated to detection limits by sediment borings SD-307, SD-317, SD-305, SD-319, SD-320, SD-321, and SD-303. Refusal at apparent bedrock was encountered at ten feet bss at SD-306 and at two feet bss at SD-313. These locations are also vertically delineated to bedrock.

5.5.2 SEMIVOLATILE ORGANIC COMPOUNDS

Figure 5-2 is a contour map of the horizontal extent of detected SVOCs in sediments. SVOCs were detected in two primary areas along the river bank adjacent to the former MGP facility. These areas are horizontally delineated by sediment borings SD-338, SD-333, SD-325, SD-324, SD-323, SD-319, SD-321, SD-330, and SD-336. SVOCs were also detected at sample location SD-300 from 0 to 6 feet bss. However, this sample was collected next to the river bank approximately 1,275 feet up-stream of the former MGP facility. During the first phase of field work,

SVOCs were detected in samples collected to depths of eight feet bss. This information may be misleading because five-foot sample intervals were used deeper than two feet bss. During the second phase, SVOCs were detected no greater than four feet bss while using two-foot sample intervals. Detected SVOCs are delineated vertically by analysis or bedrock refusal.

5.5.3 INORGANIC COMPOUNDS

Inorganics in sediments were not horizontally delineated to up-gradient limits per advice of the EPD because of up-stream metal impacts detected at sample locations SD-300 and SD-301. Also, levels of metals detected during each phase of the sediment investigation were generally below, or delineated to levels below, those detected during the Ecological Risk Assessment (ERA). As a result of the ERA and discussions with EPD, SVOCs were determined to be the group of constituent that affected the outcome of the biotoxicity testing.

6.0 GROUNDWATER INVESTIGATION

6.1 GENERAL APPROACH AND RATIONALE

The purpose of the investigation conducted in December 1998 was to determine the vertical and horizontal extent of Site COI in groundwater (Parcels 2 and 3 and off site), which included the installation of two additional off-site wells and the collection and analysis of 6 groundwater samples.

Baseline groundwater sampling events pre- and post-excavation were performed in June 2-3, 1999 and June 6-10, 2000, respectively. Groundwater investigations since completion of the soil remediation were performed in October 23-27, 2000; January 10-17, 2001; April 2-9, 2001; and July 9-12, 2001. The primary objectives of these investigations were to establish groundwater quality before and after the soil removal, and to determine the vertical and horizontal extent of COI in groundwater.

Groundwater quality at this Site was evaluated using eight permanent monitoring wells before soil remediation and 21 wells following remediation. Figure 3-1 shows the groundwater monitoring network before the soil removal, and Figure 6-1 shows the current monitoring well network. Only three of the wells (MW-9A, MW-9B, and MW-14A) installed during previous RI/CSR investigations currently exist. Eight wells (MW-401A, MW-401B, MW-402A, MW-402B, MW-403A, MW-403B, MW-404, and MW-405) were installed in May 2000 following the soil remediation, in groundwater areas that were both impacted or off site.

Seven additional wells (MW-401AR, MW-404B, MW-406C, MW-501, MW-502, MW-503, and MW-504) were installed in March 2001, two wells (MW-505 and MW-506) were installed in July 2001, and two wells (MW-507 and MW-508 in August 2004) to further horizontally and vertically delineate the impacts in groundwater. Table 6-1 lists the final monitoring well network and sampling rationale and Figure 6-1 shows the current monitoring well network layout. After installation and during each monitoring event, groundwater samples were collected and analyzed for organic constituents using EPA SW-846 Methods 8260 and 8270, and inorganic constituents via EPA Methods 6010B for Target Analyte List (TAL) metals, and EPA Method 9012A for cyanide.

In accordance with the 2001 CAP Addendum, groundwater monitoring was performed on a quarterly basis until June 2002. In 2003, the monitoring frequency was reduced to semiannual, with quarterly monitoring performed for cyanide only. Monitoring events include water level gauging, sampling and analysis of VOCs, SVOCs (PAH and alkylphenols), metals, cyanide, and MNA parameters. Results of the groundwater monitoring, as well as statistical evaluations of COI concentration trends and estimates of the length of time required for COI concentrations to reach levels below the applicable RRS, have been presented in the Annual Groundwater Monitoring Reports (RETEC 2002 to 2008 and ERM 2008 to 2012) and submitted to the EPD. Groundwater monitoring has continued at the Site, with reports submitted on a semiannual basis, the most recent report was the Semiannual Groundwater Monitoring Report was submitted in October 2012 (ERM, 2012). The analyte list was reduced over time to only COI that were consistently detected throughout the years of monitoring. The final analyte list of groundwater COI for MNA monitoring as of October 2012 is listed in Table 6-2.

6.2 MONITORING WELL INSTALLATION AND RATIONALE

All monitoring wells were installed in accordance with state monitoring well guidelines (EPD, 1991) and the Environmental Investigation Standard Operating Procedures and Quality Assurance Manual (EISOPQAM), (EPA, 1996). Soil samples were collected continuously in the shallow well boreholes and on 5-foot centers in the intermediate and deep well boreholes and logged by the field geologist. Boring and well construction logs are located in Appendix B.

Each well was constructed using 2-inch diameter PVC risers and screens. The screens were 10 to 20 feet long with machine-slotted 0.010-inch or 0.006-inch openings. The following sections present the methods for installing the shallow, intermediate, and deep wells. Monitoring well construction details for each well are shown on Table 6-3.

6.2.1 METHOD OF INSTALLING SHALLOW WELLS

Wells screened in the shallow aquifer (MW-401AR, MW-501, MW-502, MW-503, MW-504, MW-505, MW-506, MW-507, and MW-508) were installed with a drill rig using a hollow stem auger. Clean silica sand was used as filter-pack material to fill the annular space between the well screen and the borehole. Sand was poured in the annulus between the borehole and the well casing from the bottom of the monitoring well to at least two feet above the top of the screen. A two-foot thick bentonite seal was installed above the sand. The remainder of the annular space around the well riser pipe was filled with cement grout. The well piping was either cut off approximately 2.5 feet above ground surface and covered with a protective aluminum casing or cut flush with the ground surface and covered with a steel well cover as detailed in Table 6-3.

6.2.2 METHOD OF INSTALLING INTERMEDIATE DEEP WELLS

Wells screened in the lower aquifer (e.g., MW-404B and MW-406C) were installed using a double-cased method so that water from the upper aquifer was not carried to the lower one. Well MW-406C was expected to be a triple-cased well, but a competent unit to key the outer casing was not reached until the limestone was encountered at 63 feet bgs, so the double-cased method was employed. The double-cased wells were also constructed in accordance with the EISOPQAM. The outer well borings were advanced using 6¼-inch inside diameter (ID) hollow stem augers for MW-404B and 4¼-inch ID augers for MW-406C. The outer well boring was advanced approximately two feet into the confining unit. Six-inch ID and 4-inch ID PVC casings for MW-404B and MW-406C were installed and grouted in place to the ground surface. After the grout set (a minimum of 24 hours), the well borings were completed through the outer casing using mud rotary methods for MW-404B and HQ Coring methods and a 3¾-inch bit for MW-406C. At this point, the wells were completed similar to the shallow wells.

6.3 SITE HYDROGEOLOGY

6.3.1 WATER LEVEL MEASUREMENTS

Water levels were measured in all wells on site before each sampling event began. Water level measurements were taken from the pre-existing surveyed measuring point on the top of the casing of each well. The tape was decontaminated between wells by wiping the line with a cloth containing isopropanol, and followed by a cloth containing deionized water. The probe was decontaminated with an Alconox/deionized water mixture wash followed by a deionized water rinse. Table 6-4 summarizes the

groundwater elevations for the monitoring wells that existed prior to the soil remediation, and Table 6-5 summarizes depths to water and groundwater elevation for the last gauging event on October 8, 2012, monitoring wells that are currently present (and not destroyed) following the remediation at the site. Historical groundwater elevations are included in the summary of groundwater monitoring data in Appendix C.

6.3.2 GROUNDWATER FLOW

A groundwater contour map of the shallow aquifer for the October 8, 2012, groundwater monitoring event is shown in Figure 6-2. Potentiometric surface maps for the intermediate aquifer for the same dates as the post-excavation shallow monitoring event are shown in Figure 6-3. The last groundwater monitoring well gauging event was on October 8, 2012.

SHALLOW AQUIFER

The December 1998 and June 1999 groundwater elevation surveys were performed before the soil removal activity, conducted in the summer of 1999. The groundwater flow interpreted from shallow groundwater levels measured during the December 1998 and June 1999 monitoring events exhibit a groundwater divide clearly evident in the central portion of the site, with general groundwater flow in a radial pattern from the northwest to the southeast of this divide.

Based on groundwater levels measured in the first three quarters of post-soil removal monitoring (June 2000, October 2000, and January 2001), groundwater flow in the shallow aquifer consistently flowed north toward the Oostanaula River. However, during the fourth quarter (April 2001), the shallow groundwater exhibited an anomalous flow pattern, possibly as a result of heavy rains in late March 2001. Shallow groundwater contours inferred from the data indicate two groundwater mounds in the central portion of the Site with groundwater flow northwest toward the Oostanaula River, south toward downtown Rome, and west toward the Coosa River.

A similar groundwater flow pattern to the April 2001 was observed during all subsequent monitoring events since July 2001, through October 2012. The shallow groundwater levels indicate a groundwater high, or mound, in the south-central area of the site, near wells MW-404R and MW-501. Shallow groundwater flows radially from this mound in all directions (Figure 6-2). This same groundwater flow regime was confirmed with continued groundwater monitoring at the Site through October 2012.

INTERMEDIATE AQUIFER

Only two intermediate zone monitoring wells were installed at the Site prior to the soil removal activities (i.e., MW-06B and MW-09B). This number of wells does not provide sufficient data to confidently determine the groundwater flow regime within the intermediate zone at the site during that time.

The post-remediation monitoring of the intermediate groundwater zone has indicated consistent flow patterns in all monitoring events through October 2012. The water level data indicates a groundwater divide in the vicinity of wells MW-402B and MW-404B. The intermediate groundwater appears to flow to the northwest and southeast from this divide. The potentiometric surface in the intermediate zone is depicted on Figure 6-3. An anomalous groundwater flow pattern was seen in July 2001 in the vicinity of MW-406B, which is probably influenced by elevated river water levels at that time.

6.3.3 GROUNDWATER GRADIENTS

HORIZONTAL GRADIENTS

Horizontal shallow groundwater gradients for all post-excavation monitoring events have ranged from approximately 0.014 feet per foot (ft/ft) to 0.029 ft/ft, with an average of 0.024 ft/ft. The slope is generally in a north-northwestern direction, toward the Oostanaula River. The calculation of the groundwater gradient for the shallow aquifer was determined using upgradient well MW-402A and downgradient well MW-406A.

Horizontal gradients for the intermediate aquifer for the five post-excavation monitoring events ranged from approximately 0.019ft/ft to 0.038 ft/ft , with an average of 0.026 ft/ft. The calculation of the groundwater gradient for the intermediate aquifer was determined using upgradient well MW-402B and downgradient well MW-406B.

VERTICAL GRADIENTS

Adjacent well pairs screened in both the shallow and lower aquifers were used to evaluate the vertical groundwater gradient at this site. The water elevation data in these adjacent well pairs indicate that a downward vertical gradient typically existed between the uppermost and deeper water-bearing units. Water levels in the wells screened in the shallow aquifer are typically higher than adjacent wells screened in the lower one. A downward vertical gradient between the uppermost and deeper water-bearing zones, ranging from 0.09 to 0.23 ft/ft, was measured during the RI activities, prior to soil removal. However, an upward vertical gradient was generally observed between the shallow and intermediate water-bearing zones at wells MW-09A and MW-09B, respectively, during all post-remediation monitoring events.

6.3.4 HYDRAULIC CONDUCTIVITY

The hydraulic conductivity in the uppermost hydrogeologic zone, based on slug tests conducted during the RI activities, prior to soil removal activities, ranged from approximately 4 x 10-6 to 7 x 10-5 cm/sec.

Slug tests were also conducted on three monitoring wells (MW-402A, MW-403A, and MW-404) in July 2001 to determine the change, if any, in hydraulic conductivity of the shallow aquifer following soil removal. All three of these wells are located in the area of the identified groundwater plume at the Site, and are screened partially in the backfill material. The hydraulic conductivity in the uppermost hydrogeologic zone, based on these data, was determined to be approximately 1 x 10-5 cm/sec in well MW-403A, 9 x 10-5 cm/sec in well MW-402A, and 1 x 10-3 cm/sec in well MW-404. Well MW-404 is partially screened in a medium-grained sand formation below the fill material, whereas, the other two wells are screened in mostly silty and clayey sands. This is most likely the cause for the much higher conductivity observed in well MW-404, as compared to the other two wells. Therefore, an average hydraulic conductivity of 5 x 10-5 cm/sec is probably more representative of the overall general Site conditions. Appendix D presents the July 2001 slug test data.

Groundwater also exists beneath the siltstone. From slug tests performed prior to excavation, it was observed that the deeper water-bearing zone exhibits a significantly higher hydraulic conductivity than the uppermost zone, ranging from approximately 2 x 10-4 to 2 x 10-3 cm/sec. Slug tests of the deeper zones were not conducted in July 2001 since this zone was not affected by the soil removal.

6.4 GROUNDWATER SAMPLING AND ANALYSIS

This section describes the methods and procedures used to obtain groundwater samples to ensure collection of representative samples for laboratory analysis. All field instruments used to take measurements during groundwater sampling were calibrated before sampling and at regular intervals during sampling, as specified by the manufacturer.

6.4.1 WELL PURGING

Low-flow, micropurging techniques were used to purge and sample the wells. New tubing and a peristaltic pump or decontaminated submersible bladder pump were used to purge each well. The submersible pump or tubing was lowered to the middle of the screened interval. The wells were purged at rates that minimized drawdown in the well, and avoided disturbing the fine-grained soil in the well casing, sandpack, or surrounding formation.

Groundwater was pumped from the well into a sealed, flow-through chamber containing probes to measure the water temperature, pH, specific conductance, oxidation-reduction potential (ORP), and dissolved oxygen (DO). At regular intervals, grab samples were obtained from the discharge tubing to measure turbidity using a field meter. After it passed through the flow-through chamber, the water was discharged to a five-gallon bucket and ultimately, a 55-gallon drum where it was stored at the site for future disposal. The purge water was considered to be representative of the surrounding aquifer when the change between three consecutive readings of temperature was less than 0.2 degrees Celsius, pH was less than 0.1 pH unit, specific conductivity was less 3 percent, ORP was less than 10 millivolts, DO was less than 10 percent, and the turbidity was reduced to 5 NTUs or as low as possible in a reasonable time period. Stabilization of groundwater measurements is considered indicative of sampling fresh formation water and is a more reliable indicator of the completion of purging than removal of a standard volume of water.

In the October 2000, January 2001, and April 2001 monitoring events, the turbidity could not be reduced below 5 NTUs in several wells, even after purging the wells approximately 4 to 5 hours each. These wells were re-developed following the sampling event to eliminate this problem in future sampling events. Field parameter values of pH, specific conductance, temperature, DO, ORP, and turbidity and the corresponding purge volume were recorded on the groundwater sampling form for each well.

In the event that the well was completely evacuated during pumping, the well was allowed to fully recharge, a set of water quality parameters recorded, and the groundwater samples collected immediately after recharge. If complete recharge exceeded two hours, the sample(s) was extracted as soon as sufficient water volume was available to obtain samples for each analysis.

6.4.2 GROUNDWATER SAMPLE COLLECTION

Upon completion of purging, the in-line flow-through cell was removed from the discharge tubing. The samples were collected from the discharge line in the following order of decreasing degree of volatilization: VOCs, SVOCs, and metals/other inorganic compounds. The samples were preserved upon collection and placed immediately into a cooler containing sufficient ice to chill the samples to 4° Celsius (C) shipment to the laboratory for analysis. Sample container information, preservatives, and holding times for each analyte sampled during the groundwater sampling events are provided in Table 6-6.

6.4.3 SAMPLE HANDLING AND PRESERVATION TECHNIQUES

Immediately following collection, each sample jar was labeled with the sample location designation, time and date of collection, and a list of laboratory analyses to be performed. The sample container will then be wrapped in bubble wrap and placed on ice in a cooler for storage throughout the day.

To establish the documentation necessary to trace the sample possession from the time of sample collection, a chain-of-custody record was filled out for each sampling event. The record will contain the following information:

- Sampling and site identification
- Sample Identification
- Sampling date and time
- Identification of sample collector
- Sample description (type and quantity)
- Analysis to be performed
- Signatures of persons involved in the chain of possession
- Date and times of possession

Samples were shipped overnight courier to the appropriate laboratory at the end of each day or picked up by a laboratory courier each morning.

6.4.4 DECONTAMINATION PROCEDURES

The tape used on the water level indicator was decontaminated by wiping the line with cloth containing isopropanol and followed by a cloth containing deionized water. The probe on the water level indicator was decontaminated by spraying it with an Alconox/deionized water mixture and rinsed with distilled or deionized water. If a bladder pump was used for sampling, a mixture of Alconox and deionized water was run through the pump, followed by a rinse with deionized water until the water ran clear. Finally, after the inside of the bladder pump was decontaminated, the outside of the bladder pump was sprayed with isopropanol, followed by a rinse with distilled or deionized water. New tubing was used for each well where a peristaltic pump was used for collecting the groundwater samples.

6.4.5 LABORATORY METHODS

This section describes the methods that were used to analyze the groundwater samples collected during the RI/CSR investigation and subsequent post-remediation groundwater monitoring events. During each event, each groundwater sample was analyzed for all or a subset of the Site COI (VOCs, SVOCs, metals, and cyanide) with the exception of the samples from monitoring wells MW-9A and MW-9B collected during the December 1998 sampling event.

MGP CONSTITUENTS OF INTEREST

This analyte list included known or suspected MGP target compounds and elements as follows:

- Volatile Organic Compounds by EPA Method 8260B
- Semivolatile Organic Compounds by EPA Method 8270C

- Cyanide by EPA Method 9012A
- Metals by EPA Method 6010B

Samples were sent to Analytical Environmental Services, Inc. (AES) in Atlanta, Georgia, or TestAmerica- Savannah for analysis of Site-related COI. The final analyte list for groundwater monitoring was reduced over time from the list of VOCs, SVOCs and inorganic compounds that were analyzed during the first years of groundwater sampling at the site to include only those VOCs, SVOCs, and inorganic compounds that were consistently detected, HSRA regulated, and MGP-related. These include:

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260B

- Benzene
- Ethylbenzene
- Isopropylbenzene
- Toluene
- Total Xylenes

SEMI-VOLATILE COMPOUNDS BY EPA METHOD 8270C

- 2,4-Dimethylphenol
- 2-Methylphenol
- 4-Methylphenol
- Acenaphthylene
- Naphthalene
- Phenanthrene

INORGANIC CONSTITUENTS

- Cyanide by EPA Method 9012A

The list of VOCs and SVOCs includes all those compounds that were detected at least once during the last few years of sampling and considered to be MGP-related. If a constituent was detected, but not detected again in the re-sampling event or is not MGP-related (e.g. acetone, chloroform, etc.), it was not included on the final list of COI for groundwater monitoring.

The list of inorganic compounds included only cyanide, which was the only HSRA-regulated compound that was consistently detected above the Type 1 RRS.

BIOLOGICAL INDICATOR PARAMETERS

Routine monitoring of biological activity was performed using the field measurements and by laboratory analysis of the following potential electron acceptors or metabolic by-products:

- Ferrous Iron by EPA Method 3500-Fe-D
- Total Iron by EPA Method 6010B
- Manganese (total and dissolved) by EPA Method 6010B

- Nitrate by EPA Method 353.2
- Sulfate by EPA Method 375.4
- Sulfide by EPA Method 376.1
- Carbon dioxide by Microseeps Method AM 15.01G
- Methane by Microseeps Method AM 15.01G
- Nitrogen by Microseeps Method AM 15.01G
- Dissolved Oxygen by Microseeps Method AM 15.01G

Samples were sent to AES or TestAmerica- Savannah for analysis of the natural attenuation parameters; however, analysis for dissolved gases was subcontracted through AES to Microseeps Laboratory in Pittsburgh, Pennsylvania or TestAmerica Pensacola.

The final monitoring list was reduced from the list of monitored natural attenuation (MNA) parameters that were analyzed during the first years of groundwater sampling at the site (Table 6-2). The final list for MNA parameters include:

- Ferrous Iron by EPA Method 3500-Fe-D
- Total Iron by EPA Method 6010B
- Methane by Microseeps Method AM 20GAX
- Dissolved Oxygen by Microseeps Method AM 20GAX

All analyses were performed by TestAmerica- Savannah with the exception of dissolved gases, which were analyzed by TestAmerica Pensacola.

6.5 DETERMINATION OF BACKGROUND CONCENTRATIONS

Background concentrations are proposed to equal the detection limit for groundwater at this time since a location for a background monitoring well was not found.

6.6 GROUNDWATER ANALYTICAL RESULTS

Volatile and Semivolatile Organic Constituent Concentrations

Analysis of groundwater samples collected from selected wells at the Site during the December 1998 sampling event indicates that VOCs and PAHs were detected in a narrow band of groundwater extending from the center of the MGP site (MW-06) to the south (MW-07) (see Figure 3-1 for historical monitoring well locations). Cyanide was detected in a narrow band of groundwater extending from the south at monitoring well MW-07 to the north at monitoring well MW-08A. The data were similar for the June 1999 sampling event.

The summary of historical groundwater analytical results for sampling events (June 2000 through October 2012) conducted after soil remediation was complete is included in Appendix C. Groundwater analytical data packages from each post-remediation groundwater sampling event were included in the subsequent groundwater monitoring report. No new analytical data has been collected since the October 2012 sampling event; therefore, no analytical data packages are included in this submittal. Figures 6-4, 6-5, and 6-6 illustrate the distribution of organic constituents for the most recent monitoring event in each well (July or October 2012). Since that was a semiannual event, only a subset of all Site monitoring wells

were sampled; therefore, the July 2012 results were used to show final distribution of groundwater concentrations. However, the contours would remain the same since VOCs or SVOCs have not been detected in the "annual only" wells not sampled in over eight years, or since installation. The following summarizes the results of the October 2012 groundwater sampling event.

One or more VOCs (benzene, toluene, ethylbenzene and total xylenes (BTEX), and isoproplybenzene were detected in groundwater samples in one or more wells in the October 2012 sampling event. Benzene, ethylbenzene, and xylenes were detected in MW-402A, benzene and xylenes were detected in MW-504and all of the VOCs were detected in MW-404R. Various SVOCs were historically detected in eight wells, including MW-401B, MW402A, MW-402B, MW-403B, MW-404/MW-404R, MW-404B, MW-502, and MW-504 (Appendix C). Acenaphthene was detected in well MW-405 in one event and was the only SVOC that was detected in groundwater samples from this well. Recently, over the last three or more years, 2,4-dimethylphenol and naphthalene were the only SVOCs detected in three on-site monitoring wells: naphthalene in MW-402A and MW-404R and 2,4-dimethylphenol and naphthalene in MW-504.

It should be noted that no VOC or SVOC had been detected in MW-402A in the last 10 years until benzene was detected in April 2012. The groundwater elevations were the second lowest that had been measured since its installation in 2000, which may have resulted in the detections.

Both VOCs and SVOCs were detected in groundwater in MW-502 in past monitoring events. Based on observed groundwater flow patterns since July 2001, monitoring well MW-9A is downgradient of MW-404R and MW-504, and MW-502 is downgradient of MW-9A. Neither VOCs nor SVOCs have been detected in MW-9A since its installation in 1996. Therefore, AGLC does not believe that the VOCs or SVOCs detected in MW-502 are related to former MGP operations. Potential sources for impacts in this area were evaluated, but not located; this well was taken off the sampling list after April 2003.

Inorganic Constituent Concentrations

Eleven HSRA regulated inorganic constituents have historically been detected in groundwater samples from this Site in one or more sampling events, including: arsenic, barium, beryllium, chromium, copper, lead, mercury, nickel, thallium, zinc, and cyanide (Appendix C). Cyanide was the only inorganic constituent that was analyzed for during the last several years of groundwater monitoring.

The concentrations of cyanide in the April or October 2012 sampling events ranged from not detected (MW-401AR, MW-401B, MW-403B, MW-502 through MW-506, and MW-406C) to 340 µg/L (MW-403A). Cyanide was not detected in any of the shallow off-site shallow wells, except MW-9A. Cyanide has not detected above the detection limit (10 µg/L) in MW-9B since June 2000. Figure 6-7 depicts the distribution of cyanide in April and October 2012. Since that was a semiannual event, only a subset of all Site monitoring wells were sampled; therefore, the July 2012 results were used to show final distribution of groundwater concentrations in the wells that were not sampled in October. However, the contours would remain very similar since cyanide has not been detected in those "annual only" wells in over eight years, or since installation.

Indicators of Natural Attenuation

Geochemical indicators of natural attenuation have been measured and evaluated in groundwater at this Site since before the implementation of soil remediation in 1999. Evidence exists that intrinsic biodegradation is a significant attenuation mechanism that is limiting dissolved constituent migration at the Rome site; hence, MNA has been selected as the corrective action for groundwater at this site. Figures 3-7 through 3-9 of the *Semiannual Groundwater Monitoring Report* (ERM, 2012) depicting the distribution of MNA parameters were included all groundwater monitoring reports since June 2000, the most recent report was submitted in December 2012. The figures are not included in this document since the groundwater remedy is considered complete.

Both laboratory and field-measured DO and ORP values indicate that DO and ORP are elevated in portions of the site where the groundwater is not impacted and depressed in impacted areas (Appendix C). The patterns suggest that biodegradation of organic COI is consuming oxygen in the impacted areas of the site and is creating a reducing geochemical environment.

An evaluation of the data also suggests that ferric iron (Fe3+) is supporting natural attenuation. There has been an observed accumulation of soluble ferrous iron (Fe2+), a by-product of the reduction of Fe3+, in impacted groundwater relative to portions of the site that are not impacted. There has also been an observed increase in methane concentrations in groundwater in the impacted areas [Figure 3-8 of the October 2012 Semiannual Groundwater Monitoring Event (ERM, 2012a]. Methane is only produced through anaerobic microbial processes and provides a clear indication that natural biodegradation of organic COI is occurring. An evaluation of carbon dioxide, nitrate, nitrogen, sulfate, and manganese data from both pre- and post-remediation monitoring reveal no evidence that these constituents are involved in natural attenuation processes at this Site.

6.6.1 HORIZONTAL AND VERTICAL EXTENT OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

Figure 6-8 is a contour map of the horizontal extent of total detected VOCs in groundwater at the Site in October 2012. Figures 3-3, 3-5, and 3-7 are cross sections that show the horizontal and vertical extent of total VOCs at the Site. Volatile organic compounds associated with the Site have been delineated in the shallow aquifer to the south/southeast in monitoring wells MW-9A and MW-503, and to the east and northeast, respectively, in MW-506, MW-507, MW-508, and MW-501. Monitoring wells MW-401AR and MW-406A, in the shallow aquifer, delineate the VOCs to the north and west, respectively. Volatile organic compounds are delineated in the intermediate aquifer to the south in MW-9B, and in the intermediate and deep aquifers in monitoring wells MW-406B and MW-406C.

6.6.2 HORIZONTAL AND VERTICAL EXTENT OF SEMIVOLATILE ORGANIC COMPOUNDS IN GROUNDWATER

Figure 6-9 shows the horizontal extent of total detected SVOCs in groundwater at the Site in October 2012. Figures 33, 3-5, and 3-7 are cross sections that show the horizontal and vertical extent of total SVOCs at the Site. Semivolatile organics compounds associated with the Site have been delineated in the shallow aquifer to the south/southeast in monitoring wells MW-9A and MW-503, and to the east and northeast, in MW-506, MW-507, MW-508, and MW-501, respectively. Monitoring wells MW-401AR

and MW-406A, in the shallow aquifer, delineate the SVOCs to the north and west, respectively. Semivolatile organic compounds are delineated in the intermediate aquifer to the south in MW-9B and to the north in MW-401B, and in the intermediate and deep aquifers to the west/northwest in monitoring wells MW-406B and MW-406C. Figure 6-6 was included to show the distribution of total VOCs and SVOCs in the last groundwater monitoring event collected at the Site (April/October 2012).

6.6.3 HORIZONTAL AND VERTICAL EXTENT OF INORGANIC CONSTITUENTS IN GROUNDWATER

Figure 6-7 depicts the horizontal extent of total cyanide in groundwater at the Site as of October 2012. Figures 3-4, 3-6, and 3-8 are cross sections that show the horizontal and vertical extent of cyanide at the Site. Isoconcentration maps to show the horizontal extent of arsenic, beryllium, lead, mercury, and nickel were not developed since all concentrations were reported as not detected consistently and were removed from the sampling program following the submittal of the 2004 CSR. Arsenic, beryllium, lead, mercury, nickel, and cyanide were delineated to the detection limit in the shallow aquifer to the south/southeast in monitoring wells MW-503 and MW-502, respectively. Cyanide has been delineated to the detection limit to the east and northeast, respectively, in MW-506 and MW-501. Arsenic, beryllium, lead, mercury, nickel, and cyanide are delineated to the detection limit in the shallow aquifer in monitoring wells MW-401AR and MW-406A, to the north and west, respectively. Arsenic, beryllium, lead, mercury, nickel, and cyanide are delineated to the detection limit in the intermediate aquifer to the south/southeast in MW-9B, and in the intermediate and deep aquifers to the west/northwest in monitoring wells MW-406B and MW-406C.

7.0 COMPLIANCE WITH SITE-SPECIFIC RISK-BASED CLEANUP GOALS

7.1 RISK-BASED CLEANUP GOALS

As mentioned in Section 1(Introduction), as part of the VRP Application process, site-specific RBCGs based on non-residential use and construction/excavation work direct contact (from 2 to 20 feet) were developed. Additionally, in the VRP Application, the transfer of a contaminant in subsurface soil and groundwater into indoor air (vapor intrusion) was evaluated through use of the Johnson and Ettinger (J&E) vapor intrusion model (Johnson and Ettinger 1991, USEPA 2004). Inhalation of indoor air VOCs is considered a complete pathway for the current/future on-site commercial/industrial workers for subsurface and groundwater vapor intrusion COI noted in Tables 2-9 and 2-10 of the VRP. The J&E model was used to calculate subsurface soil and groundwater RBCGs that are protective of a current/future commercial/industrial worker (non-residential) breathing indoor air during the workday for a period of 25 years. The detailed vapor intrusion evaluation is included in Appendix E (corresponding Appendix E of the VRP Application, [AECOM, 2011]).

Site-specific RBCG values based on construction/excavation work protection (direct contact from 2 to 20 feet) are included in Table 2-2 of this VRP CSR. The final soil and groundwater RBCG values protective of indoor air are summarized in Section 2.5 of the VRP and presented in Table 2-3 of this report.

As a result of the soil remediation on OU1, OU3 and under the 2nd Avenue Bridge (HA-2), the soil on all of these parcels is in compliance with the RBCGs under the GVRPA Rules.

Parcels 1, 2, 3, 3A, 4 through 8, the Right-of-Way under 2nd Avenue bridge, portions of the Right-of-Way of West 1st Street of Land District 23, Section 3, Area 1, Sheet Number 349 are currently in compliance with the RBCGs for soil and groundwater that are protective of non-residential use and construction/ excavation worker safety or indoor air developed under the GVRPA Rules. Parcel locations are depicted on Figure 2-4 and summary of parcel compliance for each parcel are listed Table 7-3 for soil and Table 7-5 for groundwater.

The COI and RBCGs for the subsurface soil protective of non-residential use and construction/excavation work direct contact exposure pathway are summarized in Table 2-2. The soil and groundwater COI that were evaluated in the VRP and the RBCGs protective of indoor air were calculated for those COI are listed in Table 2-3.

7.2 SITE SPECIFIC RBCGS FOR SOIL

The Vapor Intrusion Evaluation (Appendix E) presents the selection and calculation of RBCGs protective of non-residential use and construction/excavation worker safety and indoor air for soil at the Rome Site. RBGCs for a non-residential, commercial worker were calculated for site COI to be protective of construction/excavation worker (direct contact 2 to 20 feet) and indoor air and are presented on Tables 2-2 and 2-3, respectively.

7.3 COMPARISON OF SOIL DATA TO RBCGS

As a result of soil removal activities in July – September 1999, August 2000, and December 2003 soil in parcels 1, 2, 3, 4, 5, 6, 7, and 8 and in the Right-of-Way under the 2nd Avenue Bridge were certified to be

in compliance with the HSRA Type 4 RRS (RETEC, 2004). In addition, a comparison of subsurface soil RBCG values protective of non-residential use and indoor air to the maximum remaining concentrations also indicate no RBCG exceedances for the Broad Street retail buildings or the hotel (Table 7-1). In addition, as a result of the soil removal activities conducted in December 2003, soil in the ROW of under the 2nd Avenue Bridge was remediated to a HSRA Type 4 RRS; this is also in compliance with the RBCGs for construction/excavation worker safety (direct contact) for soil. Table 7-2 shows the comparison of the soil confirmation sample collected for the removal under the 2nd Avenue Bridge with the direct contact RBCGs. Soil remediation activities are summarized below.

Operable Unit 1

Soil remediation in OU1 was completed in September 1999 under HSRA, and the following summarizes the soil removal activities on OU1 for the former MGP Site located in Rome, Georgia. The final limits of excavation for OU1 with soil confirmation locations are shown in Figure 7-1.

- A total of 55,175 tons of non-hazardous soil and debris was excavated and properly disposed in a landfill. Many areas beyond the proposed excavation limits were excavated to remove subsurface debris and highly impacted soil.
- A total of 90,000 gallons of groundwater and stormwater runoff that accumulated within excavated areas was stored on site and discharged to the City of Rome POTW after proper treatment.
- Soil confirmation sample analytical results were compared to the HSRA Type 4 RRS for non-residential property and are shown in the Soil Removal Completion Report-OU1 (ThermoRetec, 1999a) and Table 4-3 of this report.
- Air monitoring results indicated no concentrations of COI above action levels during Site activities. Perimeter air monitoring indicated COI were below the action levels for the Site.

Operable Unit 3

Soil remediation in OU3 was completed under HSRA in August 2001, and the following summarizes the soil removal activities on OU3 for the former MGP Site located in Rome, Georgia. The final limits of excavation for OU3 with soil confirmation locations are shown in Figure 7-2.

- The office building was demolished to provide access to impacted soils.
- A total of 1,520 tons of non-hazardous soil and approximately 1,300 tons of debris were excavated and properly disposed in a landfill. Many areas beyond the proposed excavation limits were excavated to remove subsurface debris and highly impacted soil.
- Soil confirmation samples were collected and compared to the HSRA Type 4 RRS for non-residential property and are shown in the Soil Removal Completion Report-OU3 (ThermoRetec, 2000c) and Table 4-4 of this report.

Right-of-Way under 2nd Avenue Bridge

Soil remediation under the 2nd Avenue Bridge was completed under HSRA in December 2003; the following summarizes the soil removal activities. The final limits of excavation for the area under the 2nd Avenue Bridge with the location of the soil confirmation sample collected are shown in Figure 7-3.

- A total of 4.09 tons of non-hazardous soil and debris was excavated and properly disposed in a designated landfill.
- Soil confirmation sample analytical results were originally compared to the HSRA Type 4 RRS for non-residential properties and are included in the *Soil Removal Completion Report for Soil Under the 2nd Avenue Bridge* (RETEC, 2004a) and in Table 7-2 of this report.

A copy of the laboratory analytical reports for the soil confirmation sampling and the manifest for the soil disposal were included under separate cover in the letter dated June 8, 2004, that documented the soil removal completion activities conducted under the 2nd Avenue Bridge (RETEC, 2004a).

VRP Risk-Based Cleanup Goals

As discussed in Section 2.5 and presented in Table 2-25 of the VRP (AECOM, 2013) and Table 7-1 in this report, the comparison of soil RBCG values to all remaining, applicable soil concentrations show no concentrations above the subsurface soil RBCG values. This result indicates that potential construction/ excavation worker contact with soils down to 20 feet in the vicinity of utility corridors and West 1st Street is not a human health concern and further evaluation is not required. In addition, it indicates that soil at the Site also does not pose a vapor intrusion risk to human health.

Parcels (parcels 1, 2, 3, 3A, 4 through 8, the Right-of-Way under 2nd Avenue bridge, portions of the Right-of-Way of West 1st Street of Land District 23, Section 3, Area 1, Sheet Number 349 are currently in compliance with the RBCGs for soil that are protective of indoor air developed under the GVRPA. Parcel locations are depicted on Figure 2-4 and summary of parcel compliance for soil is listed on Table 7-3.

7.4 SITE SPECIFIC RBCGS FOR GROUNDWATER

The Vapor Intrusion Evaluation included in Appendix E presents the details of the selection of Site COI and calculation of RBCGs protective of indoor air for groundwater at the Rome Site. Draft environmental covenants for the properties where the site-specific, non-residential RBCGs for groundwater are required are included in Appendix F.

7.5 COMPARISON OF GROUNDWATER DATA TO RBCGS

Prior to soil remediation, the groundwater impacts were generally concentrated in the same area as MGP-related impacts in unsaturated zone soil, and were generally the same constituents as were detected in the soil. Groundwater data from each monitoring event since the 1997 CSR were previously compared to HSRA Type 1 or 4 RRS.

Appendix C presents the historical summary of groundwater quality data from the last twelve years of groundwater monitoring following soil remediation. Results that exceed the HSRA Type 1 and Type 4 RRS are shaded, as that was the value for comparison up through the October 2012 sampling event. As shown on Table 7-4 and Figure 7-4, there are currently no RBCG exceedances for any Site COI in groundwater at the Site. Table 7-5 shows the final parcel compliance status for groundwater.

Organic Constituent Concentrations

Benzene and isoproplybenzene are the only (potentially) MGP-related VOCs that have been detected in concentrations above the HSRA Type 4 RRS for this Site over the past three to five years of post-remediation monitoring. The maximum detected concentrations of benzene in October 2012 in each of these wells (510 µg/L, 2,800 µg/L, and 74 µg/L, respectively) are orders of magnitude below the final RBCG for benzene in groundwater (23,900 µg/L).

The only SVOCs that have been detected in concentrations above their respective Type 4 RRS over the past six to eight years are 2,4-dimethylphenol and naphthalene. The maximum detected concentrations of naphthalene in October 2012 in each of these wells (230 µg/L, 1,400 µg/L, and 33 µg/L, respectively) are orders of magnitude below the final RBCG for naphthalene in groundwater (23,300 µg/L).

Inorganic Constituent Concentrations

Eleven HSRA-regulated inorganic constituents were historically detected in groundwater samples from this site, including: arsenic, barium, beryllium, chromium, copper, lead, mercury, nickel, thallium, zinc, and cyanide (Table 4-9). Out of the inorganic constituents analyzed for, only cyanide has been detected above its HSRA Type 1 RRS for groundwater. Due to this, cyanide was the only inorganic constituent analyzed for since April 2003. The current maximum concentration of cyanide detected in MW-403A (340 µg/L) is orders of magnitude below the calculated RBCG value protective of indoor air for cyanide (14,900 µg/L).

In summary, as presented in Table 2-26 of the VRP Application and Table 7-4 of this report, comparison of the most recent (April/ October 2012) groundwater monitoring data to groundwater RBCG values protective of the hotel worker and Broad Street retail worker do not indicate any concentrations above the benzene, naphthalene, or cyanide RBCG values. Therefore, groundwater at the Site does not pose a vapor intrusion risk to human health assuming the land use restrictions prohibiting groundwater use are maintained. Therefore, no further monitoring, investigation, or remediation for groundwater is warranted.

Parcels (parcels 1, 2, 3, 3A, 4 through 8, the Right-of-Way under 2nd Avenue bridge, portions of the Right-of-Way of West 1st Street of Land District 23, Section 3, Area 1, Sheet Number 349 (Figure 2-4 and Table 7-5) are in compliance with non-residential, RBCGs for groundwater, with institutional controls, that are protective of indoor air developed under the GVRPA Rules.

7.6 SITE SPECIFIC CLEAN UP STANDARDS FOR SEDIMENTS

Since RRS are not applicable to sediments, remediation goals were developed for the sediments based on results of the ERA conducted for the Site and included in the *CAP for Sediments in the Oostanaula River* [River CAP, (ThermoRetec 2000)]. Remediation goals were developed for sediment in the Oostanaula River that are protective of human health and the environment, and also satisfy applicable laws and regulations. Specifically, sediment remediation goals were developed that consider two factors:

- Potential ecological risks
- Potential human health risks

The following sediment remediation goal was approved by the EPD for the Oostanaula River: surface sediment (i.e., sediment in the top 6 inches) exceeding the action level of 2.7 mg/Kg total PAHs will be removed, and all subsurface sediment (i.e., sediment below the top 6 inches) within the remediation area was covered with at least six inches of gravel and sand. The armoring addressed the issue of potential biotoxicity to benthic macroinvertebrates.

7.7 COMPARISON OF SEDIMENT DATA TO CLEAN UP STANDARDS

Investigations to delineate the impacts to sediments in the Oostanaula River were conducted in December 1998, January 1999, August 2000 (Table 5-1), and November 2000 (Tables 5-2 and 5-3). Table 5-4 presents the concentration of total PAHs in surface sediment samples and identifies those samples from December 1998, January 1999, August 2000, and November 2000 with exceedances of the action level of 2.7 mg/kg total PAHs. The exceedances were only detected in the upstream area, with one sample (SD-318) isolated from the rest (Figure 7-5).

In the upstream location, surface sediment samples SD-302, SD-304, SD-313, SD-314, SD-318, SD-322, SD-326, and SD-329 had concentrations of total PAHs that exceeded 2.7 mg/kg. In this same location, subsurface sediment samples SD-302 (2-8 ft), SD-304 (2-4 ft), SD-313 (0-2 ft), SD-318 (0.5-2 ft), SD-322 (0.5-4 ft), and SD-326 (0.5-2 ft) also had concentrations of total PAHs exceeding the action level of 2.7 mg/kg.

In the downstream location, boring SD-308 had an exceedance of the total PAH action level in the 0-2 foot surface sediment sample, but not in the sample taken from 0-0.5 feet. None of the remaining samples in this area from the December 1998, January 1999, August 2000, or November 2000 investigation exceeded the remediation goal of 2.7 mg/kg. Therefore, the downstream area did not require remediation.

The approval remedial activity focused on the impacted surface sediments. The overall approach was to remove impacted surface sediments from an approximately 145-foot by 35-foot area, enclosed within a silt curtain, by a mechanical dredging method using a barge-mounted excavator. The volume of sediments excavated was 142.82 tons. The remediated area was covered by clean sand and gravel-sized stone. The principal goal of this corrective action alternative was to address potential biotoxicity in surface sediment (i.e., sediment in the top six inches). This alternative removed this surface sediment, and the remaining impacted subsurface sediments are covered by at least eight or more inches of clean armor stone and sand backfill, however, long-term monitoring was required. The remediated area was to be surveyed once a year for five years, (2007), then again at the 10-year mark (2012). If no significant scouring has occurred within that time period, the need for continued monitoring was to be reassessed at that time.

A detailed description of the remedial alternatives and implementation can be found in the CAP for Sediments in the Oostanaula River (ThermoRetec 2000). Sediment remediation was completed in November 2001. A summary of the materials that were removed is listed below and the area of removal and the final survey data can be seen on Figure 7-5. Figure 7-6 shows the silt curtain layout and sediment removal area.

- Dredged Sediment and Impacted Debris 142.82 Tons
- Tree Limbs, Trash, Other Debris 2.21 Tons

- Silt Curtain (used, damaged) 1.26 Tons
- Impacted Water (solidified) 3,214 Gallons

River armor monitoring continued annually for the first five years, (through 2007), then at the ten-year mark after the completion of the sediment remediation and armoring (2012). The River CAP required that areas of the Oostanaula River adjacent to the site be monitored on a periodic basis to determine whether scouring had altered the elevation of the river bottom where residual MGP impacts are known to remain deep in the sediment. If scouring in excess of 6 inches was observed at any of a series of fixed points from baseline elevations obtained in 2001, actions were to be taken to restore the river bottom to those baseline elevations. The result of the 5-year annual river surveying event conducted in November, 2007 indicated that scouring had potentially occurred at three of the 20 monitored points. The survey data from that event and conclusions were summarized in the Results of the 5-Year Post-Remediation River Survey (ENSR, 2008b).

As a result, EPD required additional armoring to ensure no potential for exposure to the remaining impacts and from July 28, through August 8, 2008, ENSR (now AECOM) coordinated and oversaw the placement of 114.34 tons of scour protection armor stone in the affected and surrounding areas of the Oostanaula River. Additional stone was placed to deter future scouring in the monitored area. The work was performed per the *River Sediments Corrective Measures Work Plan – Oostanaula River* (ENSR, 2008d). The armoring activities and planned post-remediation activities are presented in presented in Table 1-1 of the *Scour Protection Report, Oostanaula River Scour Protection Placement Completion Repo*rt (ENSR, 2008c). The area of re-armoring and the results of the updated survey are illustrated on Figure 7-7.

In conclusion, sediments at the Rome former MGP site are in compliance with the site-specific remediation goals as developed with and approved by the EPD in the CAP for Sediment in the Oostanaula River (ThermoRetec, 2000).

8.0 RESULTS OF RECEPTOR STUDIES

The Rome MGP Site encompasses an area of approximately two acres. The Site is currently developed as a parking lot for the hotel and downtown Rome visitors (Figure 2-5). Parcel 1 was recently developed as a parking deck for downtown Rome businesses and the Forum, a local civic center for Floyd County. The southern portion of the Site is developed as a hotel on the upper three floors with commercial businesses on the first floor, within the Rivers Place Building and the wooden building that was formerly a restaurant.

8.1 ECOLOGICAL SETTING

Floyd County is located in the Great Valley of Georgia's Ridge and Valley province. As indicated in Hodler and Schretter (1986), the forests of Floyd County are a mixture of loblolly-shortleaf pine, oak-hickory, and oak-pine forests. Other trees commonly associated with these forest types include sweet gum, yellow poplar, elm, and maple. Winged elm, northern red oak, white oak, silver maple, and white ash are also common in this area. Common plants typically found in the area include wild black cherry, sassafras, mountain laurel, passion flower, Catesby's trillium, and maidenhair fern. Reptiles commonly found in this area of Georgia include timber rattlesnakes, kingsnakes, cottonmouth, copperhead, and the black rat snakes. Common birds found in this area include the red-tailed hawk, northern bobwhite, summer tanager, blue jay, downy woodpecker, dove, and wood duck. Other common mammals found in this area of Georgia are the whitetail deer, gray squirrel, fox, opossum, raccoon, and the eastern cottontail rabbit. Bobcats are often found in heavily forested mountains such as the Chattahoochee National Forest located in northern Floyd County (Hodler and Schretter 1986).

Information on protected animal and plant species was available on a county-wide basis. The ranges of several federally endangered species are found in Floyd County. These include: the American peregrine falcon (Falco Peregrinus), the red-cockaded woodpecker (Picoides borealis), the wood stork (Mycteria Americana), the gray bat (Myotis grisescens), the upland combshell mussel (Epioblasma metastriata), the Coosa moccasinshell mussel (Medionidus parvulus), the Southern clubshell mussel (Pleurobems decisum), the Southern pigtoe mussel (Pleurobems georgianum), the Ovate clubshell mussel (Pleurobema perovatum), the Triangular kidneyshell mussel (Ptychobranchus greeni), Tennessee yellow-eyed grass (Xyris tennesseensis) and the large-flowered skullcap (Scutellaria Montana) (Burt 1990; Radford, 1968; Patrick 1995; United States Fish & wildlife Service, 1996). More detailed information is presented in Table 8-1.

8.2 GROUNDWATER PATHWAY

Information obtained from a computerized search of USGS well records and from a Geological Survey of Georgia Information Circular indicated there are 17 water supply wells within a four-mile radius of the Rome MGP Site. One of the wells is designated for public supply, one well is unused, and the remaining 15 wells are designated for domestic use (USGS, 1992; Cressler, 1970). More complete details are provided in Table 8-2. The water supply wells listed in Table 8-2 are not expected to be affected by groundwater from the Site, as the average groundwater gradient from the Site is toward the river, which is believed to act as a hydraulic boundary to groundwater flow.

8.3 SURFACE WATER PATHWAY

8.3.1 HYDROLOGIC SETTING

Based on the Site reconnaissance and review of the topography in the vicinity of the Site, surface water runoff from the Site generally flows across the paved parking lot to storm sewer inlets and then to the Oostanaula River. The Oostanaula River flows southwest approximately 1,200 feet before joining with the Etowah River to form the Coosa River, which then flows to the southwest (USGS Topographic Maps.) Observations made at the Site during the reconnaissance did not indicate a specific surface-water pathway. The majority of the Site is paved and flat with an embankment sloping down to the Oostanaula River to the northwest.

8.3.2 SURFACE WATER PATHWAYS

Based on a review of records from the Georgia Environmental Protection Division, there are three permitted surface water intakes along the Oostanaula or Coosa Rivers within 15 miles downstream of the Site. These intakes are located approximately 14 miles downstream of the Site and are permitted for agricultural use only.

8.4 EVALUATION OF POTENTIAL RECEPTORS

Environmental pathways through which potential contaminants could transfer from one media to another near the Site are potentially present. Groundwater is discharged to the Oostanaula River and could be contacted by aquatic organisms. Fishing also may occur in the Oostanaula River adjacent to the Site. However, the potential or the transfer of regulated substances from the Site through the food web to human and ecological receptors was determined to be very low because of the asphalt parking lot covering the Site, the direction of groundwater flow at the Site toward the river, the unlikely probability of exposure to groundwater, and the low volume of Site groundwater entering the river relative to river flow (average discharge of 3,622 cubic feet per second at USGS gauging station 02388500 approximately 4.4 miles upstream of the site). In addition, while no restrictions on fish consumption have been placed on the Oostanaula River, the entire reach of the Coosa River in Floyd County (which begins about 1,200 feet downstream of the Site) is presently under guidelines limiting the consumptions of various species of fish (GADNR, 1996).

9.0 SUMMARY AND CONCLUSIONS

Activities that have been completed at the former Rome MGP Site since the original RI/CSR Report was submitted to EPD in March 1996 and revised in March 1997, September 2001, January 2002, and June/July 2004 have served to supplement the data collected during the RI and various stages of remediation or supplemental investigation and confirm our understanding of Site conditions. The fundamental conclusions that are derived from these activities consist of the following:

- The impacts above background concentrations in soil, groundwater, and sediment at the Site have been delineated horizontally and vertically
- As a result of soil removal activities in July – September 1999, August 2000, and December 2003, soil in parcels 1, 2, 3, 4, 5, 6, 7, 8, and in the right-of-way under the 2nd Avenue Bridge are in compliance with the RBCG values for soil. The original certification under HSRA (for Type 4 RRS) was approved by the EPD in letters dated January 13, 2000 and June 21, 2001. The certification page has been revised to reflect the updated certification standard for these parcels.
- Sediment remediation was completed in November of 2001. Approximately 143 tons of surface sediments above the Action Level of 2.7 mg/Kg for PAHs and debris from the Oostanaula River were removed. The sediments in the Oostanaula River are in compliance with the remedial goal determined in the Ecological Risk Assessment. The removal also met the goal of the ACOE Nationwide Permit.
- A re-armoring event was conducted on the area of excavated sediment in 2009 as a result of an appearance of scouring after a significant rainfall event. River rainfall and armor elevation monitoring (as required) will continue as part of the Operations, Monitoring, and Maintenance Plan provided in the VRP (as part of the Site Continued Action Monitoring Plan).
- Soil and groundwater on Parcels 9, 10, and 11, and portions of the Right-of-Way of Broad Street are in compliance with HSRA Type 1 RRS and were certified under the 2004 CSR.
- Groundwater in Parcels 1, 2, 3, 3A, 4, 5, 6, 7, 8, and portions of the Right-of-Way of West 1st Street are in compliance with the calculated RBCG values protective of indoor air for non-residential use.
- Installation of additional monitoring wells and the period of post-remediation groundwater monitoring have demonstrated that groundwater flow at the site is consistent in terms of flow direction and gradient.
- The monitoring of natural attenuation indicator parameters has provided strong evidence that natural biodegradation of MGP-related organic constituents has occurred and will continue to occur at the Site and is limiting the migration of these constituents.

As of the submittal of this VRP CSR and parcel certifications to the RBCGs for all qualifying parcels, AGLC is requesting that No Further Action be granted for the Site and that Site be delisted from the HSI. Necessary UECs for the affected parcels will be submitted once AGLC has met with the property owners and can execute the documents. The CAMP for the Site will be submitted under separate cover once approval of this document and the certifications are received.

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TABLES

Table 2-1

Summary of Property Owners
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parcel No.	Owner Name	Contact Name	Address	City/State/Zip
1	Floyd County	Jamie McCord	3 Government Plaza	Rome, GA 30162
3, 3A, 4, 5, 7, 8	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161
2, 6	City of Rome	Kirk Milam	601 Broad Street	Rome, GA 30161
9, 10	Larry Martin	Larry Martin	2004 Dean Street	Rome, GA 30161
11	G.H. Riddle	c/o Rome Leasing	1008 Shorter Avenue	Rome, GA 30165
Portions of Right-of-Way of West 1st Street	City of Rome	Kirk Milam	601 Broad Street	Rome, GA 30162
Right-of-Way under 2nd Avenue Bridge	City of Rome	Kirk Milam	601 Broad Street	Rome, GA 30162

Notes:

See Figure 2-4 for location of parcels in relation to Rome former MGP site

All parcels are located in Land District 23, Section 3, Area 1, (Parcel No.), Sheet Number 349

Table 2-2
Site Constituents of Interest and Risk-Based Cleanup Goals in Subsurface Soil Protective of Construction/Excavation Worker for Direct Contact
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Construction/ Excavation Worker Soil COI	CAS	Cancer Risk-Based Subsurface Soil RBCG[a] (mg/Kg)	Noncancer Risk-Based Subsurface Soil RBCG[b] (mg/Kg)	Final Type 4 Subsurface Soil RBCG (mg/Kg)	Basis	Maximum Detected Concentration (MDC) (mg/Kg)	Is MDC > RBCG?
4-Methylphenol	106-44-5	NA	10,219.99	**10,220**	**NC**	**20**	**NO**
Antimony	7440-36-0	NA	817.60	**818**	**NC**	**5.3**	**NO**
Arsenic	7440-38-2	953.59	611.97	**612**	**NC**	**27**	**NO**
Benzene	71-43-2	1,051.10	350.47	**350**	**NC**	**0.51**	**NO**
Benzo(a)anthracene	56-55-3	1,959.97	NA	**1,960**	**C**	**75**	**NO**
Benzo(a)pyrene	50-32-8	196.00	NA	**196**	**C**	**57**	**NO**
Benzo(b)fluoranthene	205-99-2	1,959.97	NA	**1,960**	**C**	**49**	**NO**
Benzo(k)fluoranthene	207-08-9	19,597.02	NA	**19,597**	**C**	**38**	**NO**
Chrysene	218-01-9	195,970.25	NA	**195,970**	**C**	**66**	**NO**
Cobalt	7440-48-4	1,577,791.61	610.13	**610**	**NC**	**22**	**NO**
Copper	7440-50-8	NA	81,760.00	**81,760**	**NC**	**190**	**NO**
Cyanide	57-12-5	NA	40,880.00	**40,880**	**NC**	**160**	**NO**
Dibenzo(a,h)anthracene	53-70-3	196.00	NA	**196**	**C**	**20**	**NO**
Dibenzofuran	132-64-9	NA	2,044.00	**2,044**	**NC**	**0.43**	**NO**
Indeno(1,2,3-cd)pyrene	193-39-5	1,959.97	NA	**1,960**	**C**	**28**	**NO**
Lead	7439-92-1	NA	NA	**1,962**	**ALM**	**810**	**NO**
Mercury	7439-97-6	NA	327.02	**327**	**NC**	**5.6**	**NO**
Naphthalene	91-20-3	3,905.31	561.25	**561**	**NC**	**440**	**NO**
Phenanthrene	85-01-8	NA	NA	**NA**		**270**	**NO**
Zinc	7440-66-6	NA	613,200.00	**613,200**	**NC**	**730**	**NO**

Notes:
[a] Assumes a Cancer Target Risk Level of 1E-05.
[b] Assumes a Noncancer Hazard Quotient of 1.0.
ALM = Adult Lead Model; see Table 2-14 for calculations
C = based on carcinogenic effects
COI = constituent of interest
MDC = maximum detected concentration
mg/Kg = milligrams per kilogram
NA = RBCGs could not be calculated because inhalation toxicity information is not available for anthracene.
NC = based on noncarcinogenic effects
RBCGs = Risk-Based Cleanup Goal

Table 2-3
Site Constituents of Interest and Risk-Based Cleanup Goals in Subsurface Soil and Groundwater Protective of Indoor Air
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

COI	CAS	Final Subsurface Soil RBCG (mg/Kg)	Basis	Final Groundwater RBCG (mg/L)	Basis
HOTEL WORKER					
2-Butanone	78-93-3	**22,520**	NC	Not a COI	
2-Methylnaphthalene	91-57-6	NA		Not a COI	
Acenaphthene	83-32-9	NA		Not a COI	
Acenaphthylene	208-96-8	NA		Not a COI	
Acetone	67-64-1	**101,697**	NC	Not a COI	
Anthracene	120-12-7	NA		Not a COI	
Benzene	71-43-2	**0.77**	C	**39.21**	C
Carbon Disulfide	75-15-0	**43.14**	NC	Not a COI	
Chlorobenzene	108-90-7	**47.64**	NC	Not a COI	
Cyanide	57-12-5	Not a COI		**14.90**	NC
Dibenzofuran	132-64-9	NA		Not a COI	
Ethylbenzene	100-41-4	**8.31**	C	Not a COI	
Fluorene	86-73-7	NA		Not a COI	
Methane	74-82-8	Not a COI		NA	
Methylene Chloride	75-09-2	**118.05**	C	Not a COI	
Naphthalene	91-20-3	**57.75**	C	**41.67**	C
Pyrene	129-00-0	NA		Not a COI	
Styrene	100-42-5	**4,319**	NC	Not a COI	
Toluene	108-88-3	**2,262**	NC	Not a COI	
Xylenes, total	1330-20-7	**88.56**	NC	Not a COI	
BROAD STREET RETAIL WORKER					
2-Butanone	78-93-3	**55,207**	NC	Not a COI	
2-Methylnaphthalene	91-57-6	NA		Not a COI	
Acenaphthene	83-32-9	NA		Not a COI	
Acenaphthylene	208-96-8	NA		Not a COI	
Acetone	67-64-1	**366,419**	NC	Not a COI	
Anthracene	120-12-7	NA		Not a COI	
Benzene	71-43-2	0.80	C	**23.94**	C
Carbon Disulfide	75-15-0	**31.02**	NC	Not a COI	
Chlorobenzene	108-90-7	**44.10**	NC	Not a COI	
Cyanide	57-12-5	Not a COI		**24.70**	NC
Dibenzofuran	132-64-9	NA		Not a COI	
Ethylbenzene	100-41-4	**7.11**	C	Not a COI	
Fluorene	86-73-7	NA		Not a COI	
Methane	74-82-8	Not a COI		NA	
Methylene Chloride	75-09-2	**180.12**	C	Not a COI	
Naphthalene	91-20-3	**51.84**	C	**23.31**	C
Pyrene	129-00-0	NA		Not a COI	
Styrene	100-42-5	**3,658**	NC	Not a COI	
Toluene	108-88-3	**1,947**	NC	Not a COI	
Xylenes, total	1330-20-7	**77.85**	NC	Not a COI	

Notes:

C = based on carcinogenic effects. Assumes a Cancer Target Risk Level of 1E-05.

COI = constituent of interest

mg/Kg = milligrams per kilogram

mg/L = milligrams per liter

NA = an RBCG could not be calculated because inhalation toxicity information is not available for anthracene.

NC = based on noncarcinogenic effects.

RBCG = Risk-Based Cleanup Goal

Table 4-1
Background Concentrations for Inorganic Compounds in Soil
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Analyte	Range	Percent of Nondetects	Statistical Method	Statistical Distribution	Upper Background Limit
Antimony	< 0.46 - 7.8	38%	Highest Value of Background Data	Nonparametric	**7.8**
Arsenic	2.2 - 23.7	0%	Highest Value of Background Data	Lognormal	**15**
Barium	78.1 - 234	0%	Highest Value of Background Data	Lognormal	**234**
Beryllium	< 0.24 - 1.5	13%	Highest Value of Background Data	Lognormal	**1.5**
Cadmium	< 0.04 - 1.6	75%	Highest Value of Background Data	Nonparametric	**1.6**
Chromium	11.4 - 46.6	0%	Highest Value of Background Data	Lognormal	**47**
Copper	13.8 - 23.8	0%	Highest Value of Background Data	Lognormal	**24**
Lead	2.80 - 69.7	0%	Highest Value of Background Data	Lognormal	**70**
Mercury	< 0.11 - 0.46	88%	Highest Value of Background Data	Nonparametric	**0.46**
Nickel	8.6 - 17.9	0%	Highest Value of Background Data	Lognormal	**18**
Selenium	< 0.24 - 2.30	38%	Highest Value of Background Data	Lognormal	**2.3**
Silver	< 0.09 - 0.590	88%	Highest Value of Background Data	Lognormal	**0.59**
Thallium	< 0.49 - 0.80	75%	Highest Value of Background Data	Nonparametric	**0.80**
Vanadium	22.6 - 52.3	0%	Highest Value of Background Data	Lognormal	**52**
Zinc	50.7 - 169	0%	Highest Value of Background Data	Lognormal	**169**
Cyanide, total	< 0.59 - < 0.67	100%	Detection Limit	Lognormal	**DL**

Notes:

All concentrations reported in milligrams per kilogram.

Number of significant figures reported may vary due to differences in analytical methods and reporting limits.

Table 4-2
Data Used to Determine Background Concentrations
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	BORINGS USED IN BACKGROUND ANALYSIS										Statistical Distribution
	SB-1A	SB-1B	SB-103		MW-9A	MW-12		GP-129			
	8.5 - 10.5	16.5 - 18.5	0 - 2	2 - 4	13 - 15	10 -16	22 - 24	0 - 5	5 - 9	13 - 17	
Antimony	5.6 U	6.3 J	NA	NA	0.44	**7.8 J**	0.62 J	0.62 J	0.46 U	0.46 U	Nonparametric
Arsenic	4.9 J	2.20	11	6.9	6.4	**23.7**	3.30	15.4	3.50	3.10	Lognormal
Barium	78.1	**234**	NA	NA	97	124	85.3	73.3 J	132 J	161 J	Lognormal
Beryllium	0.24 U	**1.5**	NA	NA	0.72	0.850	1.10	0.58	0.52 B	1.3 J	Lognormal
Cadmium	1.20	**1.60**	NA	NA	<0.05	0.05 U	0.04 U	0.05 U	0.05 U	0.05 U	Nonparametric
Chromium	38.9	**46.6**	NA	NA	21	35.4	31.9	11.4	24.2	30.3	Lognormal
Copper	17.9	14.5	NA	NA	22	**23.8**	19.4	20.5 J	13.8 J	22.2 J	Lognormal
Lead	27.2	2.80	NA	NA	37	47.9	13.1	31.0	**69.7**	15.6	Lognormal
Mercury	0.13 U	0.12 U	NA	NA	<0.11	0.13 U	0.11 U	0.11 U	**0.46**	0.12 U	Nonparametric
Nickel	8.6 B	14.0	NA	NA	13	**17.9**	13.1	13.8	10.2	16.8	Lognormal
Selenium	0.24 U	0.24 U	NA	NA	0.88 J	**2.30**	0.960	0.79 J	0.66 U	1.2 J	Lognormal
Silver	0.49 U	**0.590**	NA	NA	<0.16	0.09 U	0.075 U	0.16 U	0.18 U	0.18 U	Lognormal
Thallium	0.49 U	0.530	NA	NA	<0.81	0.9 U	**0.80 J**	0.81 U	0.89 U	0.89 U	Nonparametric
Vanadium	**52.3**	43.6	NA	NA	43.9	NA	NA	22.6	28.1	48.3	Lognormal
Zinc	50.7	80.6	**169**	58.2	86	163	53.8	58.7	107	73.4	Lognormal
Cyanide, total	0.63 U	0.61 U	NA	NA	< 0.60	0.63 U	0.67 U	0.59 U	0.63 U	0.62 U	Lognormal

Notes:

U = Analyzed for, but not detected

B and J = Estimated concentration

NA - Not analyzed or not applicable

All concentrations listed in milligrams per kilogram (mg/kg).

Bolded data represents highest value of data set.

Number of significant figures reported may vary due to differences in analytical methods and reporting limits.

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-1	SC-2	SC-3	SC-4	SC-5	SC-6	SC-7	SC-8	SC-9	SC-10	SC-11	SC-12	SC-13	SC-14	SC-15	SC-16	SC-17	SC-18	SC-19
Date Collected:		**6/28/1999**	**6/28/1999**	**6/28/1999**	**6/28/1999**	**6/28/1999**	**6/28/1999**	**6/28/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**	**6/29/1999**
Depth (feet):		**2.5, wall**	**5, floor**	**2.5, wall**	**2.5, wall**	**5, floor**	**2.5, wall**	**2.5, wall**	**5, floor**	**2.5, wall**	**2.5, wall**	**7.5, wall**	**10, floor**	**2.5, wall**	**7.5, wall**	**2.5, wall**	**7.5, wall**	**10, floor**	**2.5, wall**	**7.5, wall**
Constituents of Interest	**Type 4 RRS mg/Kg**																			
VOC																				
Benzene	14	<.0072	<.0062	<.0038	<.0038	<.0051	<.0040	<.0089	<.0073	<.0044	<.0065	<.0041	<.0036	<.0048	<.0042	<.0056	<.0037	<.0040	<.0049	<.0041
Ethylbenzene	15,000	<.0072	<.0062	<.0038	<.0038	<.0051	<.0040	<.0089	<.0073	<.0044	<.0065	<.0041	<.0036	<.0048	<.0042	<.0056	<.0037	<.0040	<.0049	<.0041
Styrene	22,000	<.0072	<.0062	<.0038	<.0038	<.0051	<.0040	<.0089	<.0073	0.013	<.0080	<.0041	<.0036	<.0048	<.0042	<.0056	<.0037	<.0040	<.0049	<.0041
Toluene	3,500	<.0072	<.0062	<.0038	<.0038	<.0051	<.0040	<.0089	<.0073	<.0044	<.0065	<.0041	<.0036	<.0048	<.0042	<.0056	<.0037	<.0040	<.0049	<.0041
Xylenes (total)	8,200	<.014	<.012	<.0077	<.0076	<.010	<.0080	<.018	<.015	<.0088	<.013	<.0082	<.0072	<.0096	<.0083	<.011	<.0075	<.0080	<.0098	<.0082
SVOC																				
4-Methylphenol	10,000																			
Acenaphthene	120,000	<.430	<.410	<.410	<.400	<.400	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	<.430	<.370	<.400
Acenaphthylene	61,000	<.430	<.410	<.410	<.400	<.400	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	<.430	<.370	<.400
Anthracene	610,000	<.430	<.410	<.410	<.400	2	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	<.430	<.370	<.400
Benzo(a)anthracene	64	<.430	<.410	<.410	<.400	4.9	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	2	<.370	<.400
Benzo(b)fluoranthene	70	<.430	<.410	<.410	<.400	3.2	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	3.2	<.370	<.400
Benzo(k)fluoranthene	580	<.430	<.410	<.410	<.400	3.8	<.400	<.400	0.41	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	2.9	<.370	<.400
Benzo(g,h,i)perylene	61,000	<.430	<.410	<.410	<.400	2.1	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	1.8	<.370	<.400
Benzo(a)pyrene	7.7	<.430	<.410	<.410	<.400	1.3	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	2.6	<.370	<.400
Chrysene	6,600	<.430	<.410	<.410	<.400	4.9	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	4	<.370	<.400
Dibenzo(a,h)anthracene	7.8	<.430	<.410	<.410	<.400	0.56	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	<.430	<.370	<.400
Fluoranthene	82,000	0.51	<.410	<.410	<.400	7.8	<.400	<.400	0.71	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	10	<.370	<.400
Fluorene	82,000	<.430	<.410	<.410	<.400	0.45	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	0.55	<.370	<.400
Indeno(1,2,3-cd)pyrene	78	<.430	<.410	<.410	<.400	2.2	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	2.3	<.370	<.400
Naphthalene	93	<.430	<.410	<.410	<.400	<.400	<.400	<.400	<.400	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	<.430	<.370	<.400
Phenanthrene	61,000	<.430	<.410	<.410	<.400	3	<.400	<.400	0.5	<.380	<.450	<.400	<.400	<.350	<.380	<.370	<.370	11	<.370	<.400
Metals																				
Antimony	820	<2.6	<2.5	<2.5	<2.4	<2.4	<2.5	<2.4	<2.3	<2.1	<2.5	<2.2	<2.4	<2.1	<2.3	<2.2	<2.3	<5.2	<2.2	<2.4
Arsenic	38	11	6.7	6.4	40	44	7.1	44	23	54	54	5.7	23	6.2	18	58	30	39	46	7.3
Barium	140,000	140	110	26	36	140	25	41	86	7.9	27	40	160	27	56	35	40	1600	28	35
Beryllium	13	0.52	0.82	<0.49	0.5	0.72	<0.49	0.64	<0.45	0.65	1.1	<0.44	0.50	<0.42	<0.47	0.82	<0.45	1.1	0.70	<0.49
Cadmium	1,000	<0.65	<0.62	<0.62	<0.61	<0.61	<0.62	<0.60	<0.57	<0.53	<0.62	<0.55	0.76	0.56	<0.58	<0.56	<0.57	1.8	0.83	<0.61
Chromium	10,000	19	38	31	190	110	30	170	24	5.0	21	33	44	10	16	13	26	24	20	38
Copper	76,000	32	26	15	38	42	14	34	30	26	22	5.8	41	7.9	10	38	10	53	17	13
Cyanide	41,000	<1.3	<1.3	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.4	<1.2	<1.2	<1.1	<1.2	<1.1	<1.1	<1.3	<1.1	<1.2
Lead	583	140	24	11	19	110	18	21	100	42	14	11	130	19	25	82	21	280	28	12
Mercury	17[1]	0.64	0.20	0.047	0.038	0.95	0.072	0.038	0.19	<0.023	0.032	0.045	0.057	0.027	0.055	0.13	0.041	0.32	0.026	0.059
Nickel	41,000	8.5	14	5.9	6.2	10	6.2	6.2	19	23	47	12	13	12	7.1	31	9.0	16	18	8.2
Silver	10,000	<1.3	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.1	<1.1	<1.2	<1.1	<1.2	<1.1	<1.2	<1.1	<1.1	<2.6	<1.1	<1.2
Thallium	160	<1.3	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.1	<1.1	<1.2	<1.1	<1.2	<1.1	<1.2	<1.1	<1.1	<2.6	<1.1	<1.2
Vanadium	14,000	23	63	53	89	79	49	110	33	32	44	28	49	7.4	38	34	50	45	63	52
Zinc	610,000	160	64	30	17	96	32	23	250	250	220	70	280	74	52	250	67	980	130	37

Notes:

All units are displayed in mg/Kg

Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean

Indicates COI exceed Type 4 RRS

December 1999
Revised May 30, 2002

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-20	SC-21	SC-22	SC-23	SC-24	SC-25	SC-26	SC-27	SC-28	SC-29	SC-30	SC-31	SC-32	SC-33	SC-34	SC-35	SC-36	SC-37	SC-38
Date Collected:		6/29/1999	6/29/1999	6/29/1999	6/29/1999	6/29/1999	6/30/1999	6/30/1999	6/30/1999	6/30/1999	6/30/1999	6/30/1999	6/30/1999	6/30/1999	6/30/1999	7/1/1999	7/1/1999	7/1/1999	7/1/1999	7/1/1999
Depth (feet):		2.5, wall	7.5, wall	10, floor	2.5, wall	7.5, wall	2.5, wall	7.5, wall	2.5, wall	7.5, wall	7.5, wall	2.5, wall	7.5, wall	10, floor	10, floor	2.5, wall	7.5, wall	2.5, wall	7.5, wall	2.5, wall
Constituents of Interest	**Type 4 RRS mg/Kg**																			
VOC																				
Benzene	14	<.0050	<.0038	<.0038	<.0084	<.0025	<.0031	<.0054	<.0037	<.0033	0.0058	<.0074	<.0061	<.0036	<.0035	<.0032	<.0037	<.0048	<.0042	<.0046
Ethylbenzene	15,000	<.0050	<.0038	<.0038	<.0084	<.0025	<.0031	<.0054	<.0037	<.0033	<.0041	<.0074	<.0061	<.0036	<.0035	<.0032	<.0037	<.0048	<.0042	<.0046
Styrene	22,000	<.0050	<.0038	<.0038	<.0084	<.0025	<.0031	<.0054	<.0037	<.0033	0.009	<.0074	<.0061	<.0036	<.0035	<.0032	<.0037	<.0048	<.0042	<.0046
Toluene	3,500	<.0050	<.0038	<.0038	<.0084	<.0025	<.0031	<.0054	<.0037	<.0033	0.0056	<.0074	<.0061	<.0036	<.0035	<.0032	<.0037	<.0048	<.0042	<.0046
Xylenes (total)	8,200	<.010	<.0076	<.0075	<.017	<.0050	<.0063	<.011	<.0074	<.0066	<.0082	<.015	<.012	<.0072	<.0069	<.0064	<.0073	<.0097	<.0083	<.0092
SVOC																				
4-Methylphenol	10,000																			
Acenaphthene	120,000	<.380	<.380	<.420	<.370	<.390	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Acenaphthylene	61,000	<.380	<.380	<.420	<.370	<.390	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Anthracene	610,000	<.380	<.380	<.420	<.370	<.390	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Benzo(a)anthracene	64	<.380	0.71	<.420	<.370	0.82	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Benzo(b)fluoranthene	70	<.380	0.73	<.420	<.370	0.64	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Benzo(k)fluoranthene	580	<.380	0.66	<.420	<.370	0.73	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Benzo(g,h,i)perylene	61,000	<.380	0.44	<.420	<.370	0.48	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Benzo(a)pyrene	7.7	<.380	0.63	<.420	<.370	0.66	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Chrysene	6,600	<.380	0.86	<.420	<.370	0.8	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Dibenzo(a,h)anthracene	7.8	<.380	<.380	<.420	<.370	<.390	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Fluoranthene	82,000	<.380	1.8	<.420	<.370	1.6	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Fluorene	82,000	<.380	<.380	<.420	<.370	<.390	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Indeno(1,2,3-cd)pyrene	78	<.380	0.53	<.420	<.370	0.54	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Naphthalene	93	<.380	<.380	<.420	<.370	<.390	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Phenanthrene	61,000	<.380	1	<.420	<.370	0.56	<.400	<.420	<.400	<.420	<.410	<.380	<.380	<.410	<.400	<.380	<.390	<.390	<.380	<.380
Metals																				
Antimony	820	<2.3	<2.3	<2.6	<2.3	<2.4	<2.4	<2.3	<2.3	<2.5	18	<2.1	<2.1	<2.5	<2.2	<2.3	<2.4	<2.4	<2.3	<2.3
Arsenic	38	36	8.6	2.9	46	6.6	8.1	5.7	6.4	9.5	9.2	93	40	3.8	23	87	48	61	41	30
Barium	140,000	39	59	270	48	45	47	310	37	340	280	36	45	300	130	66	33	42	35	41
Beryllium	13	<0.46	<0.47	1.4	1.0	<0.48	<0.49	0.75	<0.44	1.1	0.94	0.72	0.50	1.2	0.74	0.73	0.50	<0.48	<0.47	<0.47
Cadmium	1,000	<0.57	<0.58	<0.64	<0.57	<0.60	<0.61	<0.58	<0.55	<0.63	<0.57	<0.53	<0.53	<0.62	<0.55	<0.58	<0.60	<0.60	<0.58	<0.58
Chromium	10,000	150	11	24	18	31	37	25	23	24	23	500	130	24	89	350	140	120	140	130
Copper	76,000	29	8.3	24	22	14	15	20	11	33	32	48	30	12	29	42	38	29	33	38
Cyanide	41,000	<1.1	<1.2	<1.3	<1.1	<1.2	<1.2	<1.3	<1.2	<1.3	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Lead	583	26	22	60	33	17	14	82	12	120	290	19	22	14	32	21	17	18	16	16
Mercury	17[1]	0.028	0.047	0.64	0.037	0.087	0.077	0.56	0.089	1.8	0.44	0.036	0.095	0.065	0.49	0.047	0.033	0.038	0.037	0.039
Nickel	41,000	7.7	7.1	16	25	7.0	8.7	9.9	6.8	15	15	5.6	5.2	11.0	7.8	9.1	<4.8	5.2	5.0	4.9
Silver	10,000	<1.1	<1.2	<1.3	<1.1	<1.2	<1.2	<1.2	<1.1	<1.3	<1.1	<1.1	<1.1	<1.2	<1.1	<1.2	<1.2	<1.2	<1.2	<1.2
Thallium	160	<1.1	<1.2	<1.3	<1.1	<1.2	<1.2	<1.2	<1.1	<1.3	<1.1	<1.1	<1.1	<1.2	<1.1	<1.2	<1.2	<1.2	<1.2	<1.2
Vanadium	14,000	74	21	32	41	43	49	39	35	41	45	250	75	30	59	230	91	69	75	73
Zinc	610,000	43	49	81	160	54	45	78	41	130	100	23	27	54	90	36	18	15	18	15

Notes:

All units are displayed in mg/Kg

Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean

Indicates COI exceed Type 4 RRS

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-39	SC-40	SC-41	SC-42	SC-43	SC-44	SC-45	SC-46	SC-47	SC-48	SC-49	SC-50	SC-51	SC-52	SC-53	SC-54	SC-55	SC-56	SC-57
Date Collected:		7/1/1999	7/1/1999	7/1/1999	7/1/1999	7/1/1999	7/1/1999	7/1/1999	7/1/1999	7/1/1999	7/1/1999	7/6/1999	7/6/1999	7/6/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999	7/8/1999
Depth (feet):		7.5, wall	10, floor	2.5, wall	2.5, wall	2.5, wall	7.5, wall	4, floor	2.5, wall	2.5, wall	7.5, wall	3, wall	3, wall	8, floor	4, floor	4, floor	4, floor	2.5, wall	7.5, wall	7, floor
Constituents of Interest	**Type 4 RRS mg/Kg**																			
VOC																				
Benzene	14	<.0035	0.0048	<.0052	<.0038	<.0060	<.0040	<.0055	<.0056	<.0056	<.0057									
Ethylbenzene	15,000	<.0035	<.0047	<.0052	<.0038	<.0060	<.0040	<.0055	<.0056	<.0056	<.0057									
Styrene	22,000	<.0035	<.0047	<.0052	<.0038	<.0060	<.0040	<.0055	<.0056	<.0056	<.0057									
Toluene	3,500	<.0035	<.0047	<.0052	0.0064	<.0060	<.0040	<.0055	<.0056	<.0056	<.0057									
Xylenes (total)	8,200	<.0069	<.0095	<.010	<.0076	<.012	<.0079	<.011	<.011	<.011	<.011									
SVOC																				
4-Methylphenol	10,000																			
Acenaphthene	120,000	<.390	<.410	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Acenaphthylene	61,000	<.390	<.410	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Anthracene	610,000	<.390	<.410	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Benzo(a)anthracene	64	<.390	0.52	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Benzo(b)fluoranthene	70	<.390	0.51	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Benzo(k)fluoranthene	580	<.390	<.580	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Benzo(g,h,i)perylene	61,000	<.390	<.410	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Benzo(a)pyrene	7.7	<.390	0.64	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Chrysene	6,600	<.390	0.68	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Dibenzo(a,h)anthracene	7.8	<.390	<.410	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Fluoranthene	82,000	<.390	1.1	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Fluorene	82,000	<.390	<.410	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Indeno(1,2,3-cd)pyrene	78	<.390	<.410	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Naphthalene	93	<.390	<.410	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Phenanthrene	61,000	<.390	0.61	<.370	<.370	<.380	<.390	<.380	<.360	<.370	<.380									
Metals																				
Antimony	820	<2.4	<2.5	<2.3	<2.2	<2.4	<2.4	<2.3	<2.2	<2.2	<2.3	<2.4	<2.2	<2.5	<2.4	<2.4	<2.4	<2.3	<2.5	<2.3
Arsenic	38	93	14	45	28	64	42	50	75	65	40	6.4	61	5.4	18	45	8.6	38	16	4.0
Barium	140,000	54	300	75	52	46	100	62	40	68	52	140	35	84	87	40	31	50	140	330
Beryllium	13	0.65	0.74	0.54	<0.45	0.59	0.69	0.63	0.85	0.71	0.68	0.79	0.77	0.74	0.6	1.3	<.48	0.62	0.62	0.84
Cadmium	1,000	<0.60	<0.62	<0.57	<0.56	<0.59	<0.60	<0.58	<0.56	<0.56	<0.57	<0.61	<0.55	<0.62	<.60	<.61	<.60	<.58	<.62	<0.57
Chromium	10,000	300	38	98	74	190	110	200	150	200	170	27	170	36	34	44	24	140	50	21
Copper	76,000	49	36	33	21	42	35	35	33	42	35	17	34	22	18	27	12	39	36	28
Cyanide	41,000	<1.2	<1.2	<1.1	<1.1	<1.2	<1.2	<1.2	<1.1	<1.1	<1.1				<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
Lead	583	31	200	51	23	22	47	24	21	19	27	36	16	17		46	31	19	28	99
Mercury	17[1]	0.12	1.3	0.060	0.048	0.037	0.29	0.046	0.036	0.043	0.061	0.13	0.045	0.064	0.10	<0.024	0.54	0.11	2.1	0.20
Nickel	41,000	6.2	13.0	9.4	10.0	7.0	12	9.2	11.0	4.6	7.3	13	6.0	14	14	27	7.5	4.9	6.9	9.5
Silver	10,000	<1.2	<1.2	<1.1	<1.1	<1.2	<1.2	<1.2	<1.1	<1.1	<1.1	<1.2	<1.1	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.1
Thallium	160	<1.2	<1.2	<1.1	<1.1	<1.2	<1.2	<1.2	<1.1	<1.1	<1.1	<1.2	<1.1	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.1
Vanadium	14,000	160	34	62	41	100	74	100	100	110	95	51	110	52	53	48	35	70	37	25
Zinc	610,000	30	130	57	56	34	65	39	69	20	21	68	25	75	69	170	43	30	110	49

Notes:

All units are displayed in mg/Kg

Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean

Indicates COI exceed Type 4 RRS

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-58	SC-59	SC-60	SC-61	SC-62	SC-63	SC-64	SC-65	SC-66	SC-67	SC-68	SC-69	SC-70	SC-71	SC-72	SC-73	SC-74	SC-75	SC-76
Date Collected:		**7/8/1999**	**7/8/1999**	**7/8/1999**	**7/8/1999**	**7/8/1999**	**7/8/1999**	**7/9/1999**	**7/9/1999**	**7/9/1999**	**7/9/1999**	**7/13/1999**	**7/13/1999**	**7/13/1999**	**7/14/1999**	**7/14/1999**	**7/14/1999**	**7/14/1999**	**7/14/1999**	**7/14/1999**
Depth (feet):		**2.5, wall**	**7.5, wall**	**10, floor**	**2.5, wall**	**7.5, wall**	**10, floor**	**3, floor**	**3, floor**	**3, floor**	**3, floor**	**3, wall**	**3, wall**	**2.5, wall**	**3, floor**	**3, floor**	**7.5, wall**	**7.5, wall**	**12.5, wall**	**16, floor**
Constituents of Interest	**Type 4 RRS mg/Kg**																			
VOC																				
Benzene	14							<.0045	<.0046	<.0059	<.0041	<.0035	<.0048	<.0031	<.0050	<.0039	<.0035	<.0038	<.0046	<.0042
Ethylbenzene	15,000							<.0045	<.0046	<.0059	<.0041	<.0035	<.0048	<.0031	<.0050	<.0039	<.0035	<.0038	<.0046	<.0042
Styrene	22,000							<.0045	<.0046	<.0059	<.0041	<.0035	<.0048	<.0031	<.0050	<.0039	<.0035	<.0038	<.0046	<.0042
Toluene	3,500							<.0045	<.0046	<.0059	<.0041	<.0035	<.0048	<.0031	<.0050	<.0039	<.0035	<.0038	<.0046	<.0042
Xylenes (total)	8,200							<.0089	<.0092	<.012	<.0082	<.0069	<.0096	<.0062	<.0099	<.0079	<.0071	<.0075	<.0092	<.0084
SVOC																				
4-Methylphenol	10,000							<.410	<.420	<.350	<.430	<.380	<.460	<.370	<.380	<.380	<.400	<.380	<.390	<.400
Acenaphthene	120,000							<.410	0.7	<.350	<.430	<.380	<.460	<.370	0.41	0.87	<.400	<.380	<.390	<.400
Acenaphthylene	61,000							<.410	<.420	<.350	<.430	<.380	<.460	<.370	<.380	<.380	<.400	<.380	<.390	<.400
Anthracene	610,000							<.410	2.3	0.43	<.430	<.380	<.460	<.370	1.2	2	<.400	<.380	<.390	<.400
Benzo(a)anthracene	64							0.98	2.9	1.6	0.68	<.380	<.460	0.68	3.9	4.2	<.400	<.380	<.390	<.400
Benzo(b)fluoranthene	70							0.69	2.6	2.1	0.78	<.380	<.460	1.1	3	3	<.400	<.380	<.390	<.400
Benzo(k)fluoranthene	580							0.93	2.3	1.2	0.54	<.380	<.460	0.51	2.4	2.4	<.400	<.380	<.390	<.400
Benzo(g,h,i)perylene	61,000							0.52	1.7	1.1	0.46	<.380	<.460	0.57	1.9	2	<.400	<.380	<.390	<.400
Benzo(a)pyrene	7.7							0.93	2.7	1.5	0.7	<.380	<.460	0.8	2.9	3.2	<.400	<.380	<.390	<.400
Chrysene	6,600							0.92	2.9	2.1	0.89	<.380	<.460	0.99	3.6	3.8	<.400	<.380	<.390	<.400
Dibenzo(a,h)anthracene	7.8							<.410	0.92	0.53	<.430	<.380	<.460	<.370	0.78	0.8	<.400	<.380	<.390	<.400
Fluoranthene	82,000							1.6	7.2	4	1.6	<.380	<.460	2.2	7.1	8.1	<.400	<.380	<.390	<.400
Fluorene	82,000							<.410	1.1	<.350	<.430	<.380	<.460	<.370	0.54	1.2	<.400	<.380	<.390	<.400
Indeno(1,2,3-cd)pyrene	78							0.58	2.2	1	0.54	<.380	<.460	0.48	1.5	1.6	<.400	<.380	<.390	<.400
Naphthalene	93							<.410	2.1	<.350	<.430	<.380	<.460	<.370	0.48	1.1	<.400	<.380	<.390	<.400
Phenanthrene	61,000							0.55	6.3	2.4	0.81	<.380	<.460	1.7	4.7	7.1	<.400	<.380	<.390	<.400
Metals																				
Antimony	820	<2.4	3.3	<2.6	2.9	<2.1	<2.6	<2.2	<2.6	4.2	3.6	<2.1	<2.8	<2.1	4.4	3.0	<2.2	<2.4	<2.4	<2.5
Arsenic	38	57	95	13	55	24	9.6	4.0	6.2	10	13	12	46	54	33	52	5.6	13	17	6.7
Barium	140,000	67	30	180	43	26	300	90	120	180	140	39	19	28	1000	1300	170	54	190	190
Beryllium	13	0.72	0.64	1.0	0.57	0.57	1.2	0.65	0.92	1.0	0.90	<0.43	1.1	0.88	0.96	1.1	0.70	<0.47	0.85	0.82
Cadmium	1,000	<0.61	<0.62	<0.65	<0.59	<0.53	1.2	<0.56	<0.64	<0.56	0.99	<0.53	<0.70	<0.52	1.5	1.3	0.59	0.8	0.9	1.1
Chromium	10,000	300	250	18	150	71	100	15	21	45	39	12	19	17	38	22	21	55	46	26
Copper	76,000	37	40	260	33	42	36	22	59	260	710	7.5	52	32	58	52	16	4.0	20	19
Cyanide	41,000	<1.2	<1.2	7.7	<1.2	<1.2	<1.3	<1.2	<1.3	<1.2	<1.3	<1.2	<1.4	<1.1	<1.1	<1.1	<1.2	<1.2	<1.2	1.7
Lead	583	33	17	60	24	15	150	38	170	190	230	21	20	47	1300	110	72	33	81	85
Mercury	17[1]	0.038	0.037	0.53	0.036	<0.020	0.94	0.098	0.14	0.12	0.18	0.044	0.045	0.066	0.15	0.053	0.21	0.054	0.20	0.29
Nickel	41,000	7.8	5.0	13	7.2	<4.3	14	9.2	14	33	24	6.2	44	23	33	37	11	8.4	11	13
Silver	10,000	<1.2	<1.2	<1.3	<1.2	<1.1	<1.3	<1.1	<1.3	<1.1	<1.2	<1.1	<1.4	<1.0	<1.1	<1.0	<1.1	<1.2	<1.2	<1.2
Thallium	160	<1.2	<1.2	<1.3	<1.2	<1.1	<1.3	<1.1	<1.3	<1.1	<1.2	<1.1	<1.4	<1.0	<1.1	<1.0	<1.1	<1.2	<1.2	<1.2
Vanadium	14,000	140	160	25	82	48	34	20	29	30	32	25	37	43	42	34	37	59	54	39
Zinc	610,000	34	13	74	33	15	200	57	120	210	570	38	230	140	260	230	92	68	110	570

Notes:

All units are displayed in mg/Kg

Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean

Indicates COI exceed Type 4 RRS

December 1999
Revised May 30, 2002

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-77	SC-77A	SC-78	SC-79	SC-79A	SC-80	SC-81	SC-82	SC-83	SC-86	SC-87	SC-88	SC-89	SC-90	SC-91	SC-92	SC-93	SC-94	SC-94R
Date Collected:		7/14/1999	7/19/1999	7/14/1999	7/14/1999	7/19/1999	7/14/1999	7/14/1999	7/14/1999	7/15/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/20/1999	7/16/1999	7/20/1999
Depth (feet):		16, floor	16, floor	16, floor	16, floor	16, floor	12.5, wall	18, floor	12.5, wall	5, wall	6, wall	12, floor	12, floor	12, floor	12, floor	6, wall	12, floor	6, wall	12, floor	12, floor
Constituents of Interest	**Type 4 RRS mg/Kg**																			
VOC																				
Benzene	14	NA	<.0052	<.0060	NA	<.0057	<.0034	<.0058	<.0044	<.0036	<.0049	<.0053	<.0075	0.011	<.0052	<.0053	0.0081	<.0095	NA	<.0076
Ethylbenzene	15,000	NA	<.0052	<.0060	NA	<.0057	<.0034	<.0058	<.0044	<.0036	<.0049	<.0053	<.0075	<.0056	<.0052	<.0053	<.0068	<.0095	NA	<.0076
Styrene	22,000	NA	<.0052	<.0060	NA	<.0057	<.0034	<.0058	<.0044	<.0036	<.0049	<.0053	<.0075	<.0056	<.0052	<.0053	<.0068	<.0095	NA	<.0076
Toluene	3,500	NA	<.0052	<.0060	NA	<.0057	<.0034	<.0058	<.0044	<.0036	<.0049	<.0053	<.0075	<.0056	<.0052	<.0053	<.0068	<.0095	NA	<.0076
Xylenes (total)	8,200	NA	<.010	<.012	NA	<.011	<.0068	<.012	<.0089	<.0073	<.0098	<.011	<.015	<.011	<.010	<.010	<.014	<.019	NA	<.015
SVOC																				
4-Methylphenol	10,000	<.400		<.450	<.420		<.400	<.410	<.430	<.400	<.410	<.400	<.390	<.420	<.400	<.380	<.400	<.390	<.410	
Acenaphthene	120,000	<.400		<.450	<.420		<.400	<.410	<.430	<.400	<.410	<.400	<.390	<.420	<.400	<.380	<.400	<.390	<.410	
Acenaphthylene	61,000	<.400		0.51	<.420		<.400	<.410	<.430	<.400	<.410	<.400	<.390	<.420	<.400	<.380	0.47	<.390	<.410	
Anthracene	610,000	<.400		0.64	<.420		<.400	0.99	<.430	<.400	<.410	<.400	<.390	1.2	<.400	<.380	0.84	<.390	<.410	
Benzo(a)anthracene	64	0.72		6	0.99		<.400	2.7	<.430	<.400	<.410	<.400	<.390	3.5	<.400	0.94	6	<.390	<.410	
Benzo(b)fluoranthene	70	1.2		6	1.1		<.400	2.6	<.430	<.400	<.410	<.400	<.390	2.5	<.400	0.72	5.4	<.390	<.410	
Benzo(k)fluoranthene	580	1		6.5	0.72		<.400	1.6	<.430	<.400	<.410	<.400	<.390	3.1	<.400	1.3	6	<.390	<.410	
Benzo(g,h,i)perylene	61,000	0.72		3.8	0.59		<.400	1.4	<.430	<.400	<.410	<.400	<.390	1.8	<.400	0.82	3.2	<.390	<.410	
Benzo(a)pyrene	7.7	0.73		5.8	0.98		<.400	2.6	<.430	<.400	<.410	<.400	<.390	3.4	<.400	1.2	5.6	<.390	<.410	
Chrysene	6,600	0.79		6	1		<.400	2.6	<.430	<.400	0.42	<.400	<.390	3.4	<.400	1	6.3	<.390	<.410	
Dibenzo(a,h)anthracene	7.8	<.400		1.7	<.420		<.400	0.66	<.430	<.400	<.410	<.400	<.390	0.62	<.400	<.380	1.8	<.390	<.410	
Fluoranthene	82,000	1		7.5	1.4		<.400	4.5	0.57	<.400	0.89	<.400	<.390	7	<.43	1.3	7.9	<.390	<.410	
Fluorene	82,000	<.44		<.450	<.420		<.400	0.44	<.430	<.400	<.410	<.400	<.390	0.5	<.400	<.380	<.400	<.390	<.410	
Indeno(1,2,3-cd)pyrene	78	0.54		4.5	0.47		<.400	1.2	<.430	<.400	<.410	<.400	<.390	2	<.400	0.85	3.9	<.390	<.410	
Naphthalene	93	<.400		<.450	<.420		<.400	1.2	<.430	<.400	<.410	<.400	<.390	<.420	<.400	<.380	<.400	<.390	<.410	
Phenanthrene	61,000	<.400		2	0.45		<.400	2.9	<.430	<.400	0.74	<.400	<.390	3.9	<.400	<.380	3	<.390	<.410	
Metals																				
Antimony	820	<2.7		<2.7	<2.3		<2.4	<2.3	<2.4	<2.4	<2.3	<2.2	<2.4	<2.1	<2.4	<2.1	<2.4	<2.1	<2.5	
Arsenic	38	9.4		33	4.3		8.2	7.7	16	42	13	3.2	3.2	7.5	5.1	8.3	27	7.4	17	
Barium	140,000	110		130	130		76	220	38	40	62	290	220	200	230	120	360	46	45	
Beryllium	13	0.99		1.1	0.98		<0.49	1.2	0.77	<0.48	0.74	1.5	1.6	1.5	1.5	0.94	1.0	0.52	0.8	
Cadmium	1,000	<0.68		<0.68	0.66		<0.61	0.71	0.85	<0.60	<0.57	<0.55	<0.60	<0.53	<0.61	<0.53	<0.60	<0.53	0.84	
Chromium	10,000	24		16	22		51	27	76	130	45	26	33	26	27	34	23	29	54	
Copper	76,000	27		37	15		3.1	27	7.3	34	13	14	18	38	21	20	44	5.2	8.6	
Cyanide	41,000	15		42	<1.3		<1.2	28	<1.3	<1.2	<1.2	<1.2	<1.2	29	10	<1.2	6.3	<1.2	<1.3	
Lead	583	53		110	13		16	35	15	20	42	18	15	35	42	40	74	17	17	
Mercury	17[1]	0.14		0.10	0.024		0.029	0.059	0.079	0.048	0.099	0.036	0.029	0.14	0.084	0.13	0.10	0.041	0.087	
Nickel	41,000	11		14	15		7.3	16	12	<4.8	13	14	21	19	16	16	14	10	21	
Silver	10,000	<1.4		<1.4	<1.2		<1.2	<1.2	<1.2	<1.2	<1.1	<1.1	<1.2	<1.1	<1.2	<1.1	<1.2	<1.1	<1.3	
Thallium	160	<1.4		<1.4	<1.2		<1.2	<1.2	<1.2	<1.2	<1.1	<1.1	<1.2	<1.1	<1.2	<1.1	<1.2	1.1	<1.3	
Vanadium	14,000	40		28	39		39	40	70	76	56	34	46	41	34	38	44	27	55	
Zinc	610,000	82		78	67		34	84	110	17	100	75	90	100	84	100	73	61	110	

Notes:

All units are displayed in mg/Kg

Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean

Indicates COI exceed Type 4 RRS

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-95	SC-95R	SC-96	SC-97	SC-98	SC-99	SC-100	SC-101	SC-102	SC-103	SC-104	SC-105	SC-106	SC-107	SC-108	SC-109	SC-110	SC-111	SC-112
Date Collected:		7/16/1999	7/20/1999	7/16/1999	7/16/1999	7/16/1999	7/16/1999	7/19/1999	7/19/1999	7/19/1999	7/19/1999	7/19/1999	7/20/1999	7/23/1999	7/23/1999	7/23/1999	7/23/1999	7/23/1999	7/23/1999	7/23/1999
Depth (feet):		6, wall	6, wall	6, wall	7.5, wall	7, wall	5, floor	24, floor	20, wall	20, wall	20, wall	20, wall	5, wall	14, floor	14, floor	14, floor	14, floor	10, floor	14, floor	5, wall
Constituents of Interest	**Type 4 RRS mg/Kg**																			
VOC																				
Benzene	14	NA	<.0066	<.0036	<.0029	<.0053	<.0040	<.0045	<.0049	<.0044	<.0053	<.0046	<.014	<.0056	<.0044	<.0049	<.0060	0.0084	<.0047	<.0056
Ethylbenzene	15,000	NA	<.0066	0.008	<.0029	<.0053	<.0040	<.0045	<.0049	<.0044	<.0053	<.0046	<.014	<.0056	<.0044	<.0049	<.0060	<.0070	<.0047	<.0056
Styrene	22,000	NA	<.0066	<.0036	<.0029	<.0053	<.0040	<.0045	<.0049	<.0044	<.0053	<.0046	<.014	<.0056	<.0044	<.0049	<.0060	<.0070	<.0047	<.0056
Toluene	3,500	NA	<.0066	0.018	<.0029	0.0096	<.0040	<.0045	0.0053	<.0044	<.0053	<.0046	<.014	<.0056	<.0044	<.0049	<.0060	<.0070	<.0047	<.0056
Xylenes (total)	8,200	NA	<.013	0.039	<.0059	0.015	<.0081	<.0089	.0056J	<.0088	<.011	<.0093	<.028	<.011	<.0087	<.0098	<.012	<.014	<.0094	<.011
SVOC																				
4-Methylphenol	10,000	<.420		<.380	<.400	<.420	<.380	<.410	<.880	<.400	<.400	<.410	<.430	<.410	<.400	<.410	<.420	<.510	<.440	<.420
Acenaphthene	120,000	<.420		<.380	<.400	<.420	<.380	<.410	<.880	<.400	<.400	<.410	<.430	<.410	<.400	<.410	<.420	<.510	<.440	<.420
Acenaphthylene	61,000	<.420		<.380	<.400	<.420	<.380	<.410	2.4	<.400	<.400	<.410	<.430	<.410	<.400	<.410	<.420	<.510	<.440	<.420
Anthracene	610,000	<.420		<.380	<.400	<.420	<.380	<.410	<.880	<.400	<.400	<.410	<.430	<.410	<.400	<.410	<.420	0.58	<.440	<.420
Benzo(a)anthracene	64	<.420		<.380	<.400	2.9	<.380	0.56	14	<.400	<.400	<.410	1.6	<.410	<.400	<.410	1.4	2.3	<.440	<.420
Benzo(b)fluoranthene	70	<.420		<.380	<.400	4.5	<.380	0.51	16	<.400	<.400	<.410	0.92	<.410	<.400	<.410	1.4	1.6	<.440	<.420
Benzo(k)fluoranthene	580	<.420		<.380	<.400	2.8	<.380	0.57	17	<.400	<.400	<.410	1.5	<.410	<.400	<.410	2	2.6	<.440	<.420
Benzo(g,h,i)perylene	61,000	<.420		<.380	<.400	3.1	<.380	<.410	12	<.400	<.400	<.410	0.96	<.410	<.400	<.410	1.1	1.4	<.440	<.420
Benzo(a)pyrene	7.7	<.420		<.380	<.400	4.1	<.380	0.52	14	<.400	<.400	<.410	1.4	<.410	<.400	<.410	1.6	2.3	<.440	<.420
Chrysene	6,600	<.420		<.380	<.400	3.7	<.380	0.64	15	<.400	<.400	<.410	1.5	<.410	<.400	<.410	1.9	2.4	<.440	<.420
Dibenzo(a,h)anthracene	7.8	<.420		<.380	<.400	1.4	<.380	<.410	5.1	<.400	<.400	<.410	<.430	<.410	<.400	<.410	<.420	0.68	<.440	<.420
Fluoranthene	82,000	<.420		<.380	<.400	5.9	<.380	0.79	16	<.400	<.400	<.410	2.3	<.410	<.400	<.410	2.8	3.4	<.440	<.420
Fluorene	82,000	<.420		<.380	<.400	<.420	<.380	<.410	<.880	<.400	<.400	<.410	<.430	<.410	<.400	<.410	<.420	<.510	<.440	<.420
Indeno(1,2,3-cd)pyrene	78	<.420		<.380	<.400	3.4	<.380	0.41	15	<.400	<.400	<.410	1.1	<.410	<.400	<.410	1.3	1.7	<.440	<.420
Naphthalene	93	<.420		<.380	<.400	<.420	<.380	<.410	<.880	<.400	<.400	<.410	<.430	<.410	<.400	<.410	<.420	0.79	<.440	<.420
Phenanthrene	61,000	<.420		<.380	<.400	3.4	<.380	<.410	1.6	<.400	<.400	<.410	0.94	<.410	<.400	<.410	1.9	1.8	<.440	<.420
Metals																				
Antimony	820	<2.3		<2.1	<2.4	<2.6	<2.4	<2.1	<4.8	<2.2	<2.2	<2.5	<2.4	<4.9	<2.4	<2.5	2.9	<3.1	<2.4	<2.6
Arsenic	38	6.6		28	25	29	43	3.4	27	4.5	8.7	14	120	2.9	3.4	3.9	31	64	4.1	110
Barium	140,000	36		29	35	140	36	76	100	140	110	59	970	290	210	150	960	720	240	94
Beryllium	13	<0.47		0.67	0.57	0.95	0.65	0.79	0.57	1.0	0.99	0.85	2.3	1.9	1.8	1.3	1.3	<0.62	0.92	1.4
Cadmium	1,000	<0.58		0.63	<0.61	1.3	0.6	<0.52	<1.2	<0.55	<0.55	<0.63	2.6	<1.2	0.81	0.80	1.4	2.0	<0.61	1.6
Chromium	10,000	25		34	24	32	180	18	23	23	35	59	21	31	33	31	26	27	21	30
Copper	76,000	5.5		11	11	43	33	12	86	17	18	4.5	42	18	19	17	52	74	27	35
Cyanide	41,000	<1.3		<1.1	<1.2	2.2	<1.2	2.2	72	<1.2	15	<1.3	<1.3	<1.2	1.7	9.1	44	380	<1.3	<1.3
Lead	583	12		32	27	180	16	9.1	48	12	24	35	210	19	16	16	84	140	67	120
Mercury	17[1]	0.042		0.037	0.055	0.57	0.029	<0.025	0.056	0.033	0.068	0.073	0.097	0.068	0.024	0.026	0.057	0.64	0.43	0.073
Nickel	41,000	12		8.5	9.5	13	5.2	11	28	14	13	9.5	100	19	20	17	42	8.3	12	58
Silver	10,000	<1.2		<1.0	<1.2	<1.3	<1.2	<1.0	<1.2	<1.1	<1.1	<1.3	<1.2	<2.5	<1.2	<1.2	<1.3	<1.6	<1.2	<1.3
Thallium	160	<1.2		<1.0	<1.2	<1.3	<1.2	<1.0	<2.4	<1.1	<1.1	<1.3	<1.2	<2.5	<1.2	<1.2	<1.3	<1.6	<1.2	<1.3
Vanadium	14,000	25		46	41	33	100	35	39	41	47	61	75	37	44	43	47	95	32	98
Zinc	610,000	57		68	68	160	14	45	44	62	73	79	770	100	96	82	180	160	69	510

Notes:

All units are displayed in mg/Kg

Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean

Indicates COI exceed Type 4 RRS

December 1999
Revised May 30, 2002

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-113	SC-114	SC-115	SC-116	SC-117	SC-118	SC-119	SC-120	SC-121	SC-122	SC-123	SC-124	SC-125	SC-126	SC-127	SC-128	SC-129	SC-130	SC-132
Date Collected:		7/23/1999	7/23/1999	7/23/1999	7/23/1999	7/26/1999	7/27/1999	7/27/1999	7/27/1999	7/28/1999	7/28/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	7/29/1999	8/2/1999	8/2/1999	8/2/1999
Depth (feet):		5, wall	10, floor	5, wall	10, floor	10, wall	14, floor	14, floor	16, floor	24, floor	20, wall	7, floor	14, wall	7, wall	10, floor	15, floor	24, floor	16, floor	4.5, floor	14, floor
Constituents of Interest	**Type 4 RRS mg/Kg**																			
VOC																				
Benzene	14	7.1	<.0047	<.0054	<.0048	<.0043	0.037	0.16	<.0045	<.0033	<3.0	<.0042	<.0054	0.012	0.013	0.022	0.007	<.0048	<.0055	<.0046
Ethylbenzene	15,000	<.0053	<.0047	<.0054	<.0048	<.0043	<.0049	<.0059	<.0045	<.0033	<3.0	<.0042	<.0054	<.0052	0.06	0.079	0.0048	<.0048	<.0055	<.0046
Styrene	22,000	<.0053	<.0047	<.0054	<.0048	<.0043	<.0049	<.0059	<.0045	<.0033	<3.0	<.0042	<.0054	<.0052	<.0051	<.0047	<.0044	<.0048	<.0055	<.0046
Toluene	3,500	<.0053	<.0047	<.0054	<.0048	<.0043	0.0068	0.0092	<.0045	<.0033	<3.0	<.0042	<.0054	<.0052	0.011	0.0068	<.0044	<.0048	<.0055	<.0046
Xylenes (total)	8,200	<.010	<.0094	<.011	<.0097	<.0087	<.0098	<.012	<.0090	<.0066	<.0061	<.0083	<.011	<.010	0.17	0.044	<.0088	<.0097	<.011	<.0092
SVOC																				
4-Methylphenol	10,000	<.440	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	<.430	<.450
Acenaphthene	120,000	<.440	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	<.430	<.450
Acenaphthylene	61,000	<.440	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	<.430	<.450
Anthracene	610,000	<.440	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	<.430	<.450
Benzo(a)anthracene	64	1.1	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	1.1	<.450
Benzo(b)fluoranthene	70	1	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	0.91	<.450
Benzo(k)fluoranthene	580	1.3	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	1.3	<.450
Benzo(g,h,i)perylene	61,000	1	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	0.56	<.450
Benzo(a)pyrene	7.7	1.4	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	1.1	<.450
Chrysene	6,600	1.1	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	1.2	<.450
Dibenzo(a,h)anthracene	7.8	<.440	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	<.430	<.450
Fluoranthene	82,000	1.6	0.56	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	2.5	<.450
Fluorene	82,000	<.440	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	<.430	<.450
Indeno(1,2,3-cd)pyrene	78	1.3	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	0.59	<.450
Naphthalene	93	<.440	<.410	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	<.440	<.420	<.430	<.450
Phenanthrene	61,000	0.55	0.44	<.430	<.430	<.410	<.400	<.410	<.430	<.390	<.400	<.410	<.440	<.420	<.460	<.450	0.91	<.420	1.4	<.450
Metals																				
Antimony	820	<2.7	<2.5	<5.2	<2.4	<2.3	<2.5	<2.5	<2.6	<2.4	<2.4	<2.5	<2.5	<2.6	<2.8	<2.7	<2.7	<2.3	<2.4	<2.5
Arsenic	38	4.0	120	170	46	5.4	6.7	5.0	3.7	2.2	3.4	4.7	5.3	4.6	2.5	3.7	4.9	4.3	19	3.7
Barium	140,000	65	190	270	110	150	140	100	200	81	52	180	110	110	82	100	81	110	490	160
Beryllium	13	0.75	1.4	2.4	1.1	1.0	1.2	1.1	1.7	1.4	0.57	1.4	0.95	1.0	0.99	1.1	0.77	0.90	0.79	1.4
Cadmium	1,000	1.4	1.4	1.8	1.5	<0.57	1.1	1.0	0.98	<0.60	<0.60	<0.62	0.63	<0.64	<0.69	<0.68	0.71	<0.58	0.64	<0.62
Chromium	10,000	43	31	31	38	26	34	31	40	37	26	24	78	26	25	28	28	27	31	30
Copper	76,000	29	32	58	30	19	20	19	23	29	9.5	16	17	18	11	15	16	16	25	19
Cyanide	41,000	4.1	1.5	<1.3	<1.3	12	<1.2	<1.3	<1.3	<1.2	<1.2	<1.2	2.8	6.1	1.9	4.7	4.6	<1.3	<1.3	<1.4
Lead	583	22	250	130	51	15	18	13	19	18	6.7	15	14	14	8.6	12	13	14	73	15
Mercury	17[1]	0.055	0.078	0.12	0.12	0.039	0.045	0.035	0.034	<0.024	0.025	0.032	0.035	0.036	<0.028	0.041	0.050	0.037	0.11	0.032
Nickel	41,000	23	52	110	45	17	21	18	24	41	8.1	19	12	16	12	13	10	16	21	19
Silver	10,000	<1.4	<1.2	<2.6	<1.2	<1.1	<1.2	<1.2	<1.3	<1.2	<1.2	<1.2	<1.2	<1.3	<1.4	<1.4	<1.3	<1.2	<1.2	<1.2
Thallium	160	<1.4	<1.2	<2.6	<1.2	<1.1	<1.2	<1.2	<1.3	<1.2	<1.2	<1.2	<1.2	<1.3	<1.4	<1.4	<1.3	<1.2	<1.2	<1.2
Vanadium	14,000	41	83	110	62	51	50	46	56	25	37	42	49	48	44	56	53	39	45	46
Zinc	610,000	63	460	1000	310	82	92	81	110	93	28	79	56	68	54	62	48	74	160	89

Notes:

All units are displayed in mg/Kg

Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean

Indicates COI exceed Type 4 RRS

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-133	SC-135	SC-136	SC-137	SC-138	SC-139	SC-140	SC-141	SC-142	SC-143	SC-144	SC-145	SC-146	SC-147	SC-148	SC-151	SC-152	SC-153	SC-154
Date Collected:		**8/3/1999**	**8/4/1999**	**8/4/1999**	**8/4/1999**	**8/4/1999**	**8/4/1999**	**8/9/1999**	**8/9/1999**	**8/9/1999**	**8/9/1999**	**8/9/1999**	**8/12/1999**	**8/12/1999**	**8/12/1999**	**8/12/1999**	**8/12/1999**	**8/12/1999**	**8/12/1999**	**8/12/1999**
Depth (feet):		**4.5, floor**	**5, wall**	**5, wall**	**10, wall**	**10, wall**	**5, wall**	**20, wall**	**20, wall**	**16, floor**	**7, floor**	**7, floor**	**7, floor**	**11, floor**	**20, wall**	**10, wall**	**10, wall**	**11, floor**	**8, wall**	**18, wall**
Constituents of Interest	**Type 4 RRS mg/Kg**																			
VOC																				
Benzene	14	<.0050	<.0053	<.0042	<.0041	0.014	<.0044	<.0057	<.0052	<.0061	0.0093	<.0044	<.0044	<.0041	<.0053	<.0042	<.0048	<.0050	<.0041	<.0065
Ethylbenzene	15,000	<.0050	<.0053	<.0042	<.0041	0.0051	<.0044	<.0057	<.0052	<.0061	<.0064	<.0044	<.0044	<.0041	<.0053	<.0042	<.0048	0.017	<.0041	<.0065
Styrene	22,000	<.0050	<.0053	<.0042	<.0041	<.0046	<.0044	<.0057	<.0052	<.0061	<.0064	<.0044	<.0044	<.0041	<.0053	<.0042	<.0048	<.0050	<.0041	<.0065
Toluene	3,500	<.0050	<.0053	<.0042	<.0041	0.01	<.0044	<.0057	<.0052	<.0061	<.0064	<.0044	0.008	<.0041	<.0053	<.0042	<.0048	<.0050	<.0041	<.0065
Xylenes (total)	8,200	<.010	<.011	<.0085	<.0082	0.02	<.0087	<.011	<.010	<.012	<.0064	<.0088	<.0088	<.0081	<.011	<.0083	<.0096	0.076	<.0082	<.013
SVOC																				
4-Methylphenol	10,000	<.400	<.400	<.400	<.400	<.410	<.470	<.390	<.340	<.390	<.440	<.400	<.390	<.390	<.460	<.440	<.410	<.880	<.410	<.390
Acenaphthene	120,000	0.46	<.400	<.400	<.400	<.410	<.470	<.390	<.340	0.55	0.57	<.400	<.390	<.390	<.460	<.440	<.410	1.8	<.410	<.390
Acenaphthylene	61,000	<.400	<.400	<.400	<.400	<.410	<.470	<.390	<.340	1.3	<.440	<.400	<.390	0.6	<.460	1.8	<.410	5.4	<.410	<.390
Anthracene	610,000	1	<.400	<.400	<.400	<.410	0.55	<.390	<.340	3.3	1.4	<.400	<.390	0.89	<.460	1.4	<.410	8.2	<.410	.092J
Benzo(a)anthracene	64	2.7	<.400	<.400	<.400	<.410	0.94	<.390	<.340	5.1	6.8	<.400	1.2	2	<.460	3.3	<.410	4.9	<.410	<.390
Benzo(b)fluoranthene	70	2.5	<.400	<.400	<.400	<.410	0.71	<.390	<.340	3.4	7.8	<.400	0.98	1.1	<.460	1.9	<.410	2.2	<.410	<.390
Benzo(k)fluoranthene	580	2.2	<.400	<.400	<.400	<.410	0.81	<.390	<.340	2.8	6.1	<.400	0.5	0.84	<.460	1.7	<.410	2.9	<.410	<.390
Benzo(g,h,i)perylene	61,000	1.7	<.400	<.400	0.45	<.410	<.470	<.390	<.340	2.3	5.7	<.400	0.53	0.64	<.460	1.2	<.410	1.2	<.410	<.390
Benzo(a)pyrene	7.7	2.7	<.400	<.400	<.400	<.410	0.88	<.390	<.340	2.7	6	<.400	1.1	1.4	<.460	2.8	<.410	3.7	<.410	<.390
Chrysene	6,600	2.8	<.400	<.400	<.400	<.410	0.91	<.390	<.340	4.7	6.6	<.400	1.1	1.8	<.460	3	<.410	4.4	<.410	<.390
Dibenzo(a,h)anthracene	7.8	<.400	<.400	<.400	<.400	<.410	<.470	<.390	<.340	0.92	2.2	<.400	<.390	<.390	<.460	<.440	<.410	<.880	<.410	<.390
Fluoranthene	82,000	5.9	<.400	<.400	<.400	<.410	2.6	<.390	<.340	8.2	7.5	<.400	2.3	3.7	<.460	6.6	0.44	11	<.410	<.390
Fluorene	82,000	0.51	<.400	<.400	<.400	<.410	<.470	<.390	<.340	2.4	0.76	<.400	<.390	0.53	<.460	0.54	<.410	9.4	<.410	<.390
Indeno(1,2,3-cd)pyrene	78	1.6	<.400	<.400	<.400	<.410	<.470	<.390	<.340	2.5	5.9	<.400	0.59	0.79	<.460	1.4	<.410	1.1	<.410	<.390
Naphthalene	93	<.400	<.400	<.400	<.400	<.410	<.470	<.390	<.340	0.41	0.56	<.400	<.390	<.390	<.460	<.440	<.410	3.2	<.410	<.390
Phenanthrene	61,000	4.3	<.400	<.400	<.400	<.410	2.3	<.390	<.340	8	5.2	<.400	0.51	2.3	<.460	4.1	<.410	20	<.410	1.00
Metals																				
Antimony	820	4.8	<2.4	<2.4	<2.4	<2.5	<2.9	<2.4	<2.1	<2.4	<2.4	<2.4	<2.4	<2.4	<2.8	<2.5	<2.3	<2.4	<2.5	<2.2
Arsenic	38	21	100	64	4.4	3.4	100	4.4	<1.0	9.9	16	4.5	5.4	5.1	<1.4	4.2	<1.1	6.7	8.7	4.4
Barium	140,000	64	250	72	110	79	160	67	26	110	340	170	150	68	30	230	18	230	94	58
Beryllium	13	0.73	1.4	0.81	0.97	0.77	1.9	0.76	<0.42	0.8	1.1	1.1	0.90	0.78	0.58	1.1	<0.45	0.76	<0.50	0.60
Cadmium	1,000	<0.62	<0.61	<0.61	<0.61	<0.62	0.78	<0.60	<0.52	<0.60	<0.61	<0.60	<0.59	<0.60	<0.69	<0.61	<0.57	<0.61	<0.62	<0.54
Chromium	10,000	34	27	27	28	25	25	29	8.8	26	17	25	23	27	9.0	20	7.0	27	33	21
Copper	76,000	42	40	22	18	15	40	15	3.4	18	29	16	16	15	3.8	16	3.8	19	24	14
Cyanide	41,000	3.3	<1.2	<1.2	5.2	<1.2	<1.4	1.2	<1.0	1.6	6.5	<1.2	<1.2	<1.2	1.4	2.3	4.9	8.0	1.9	4.0
Lead	583	180	170	73	14	8.7	110	11	3.7	24	64	16	16	19	3.1	15	2.6	20	72	14
Mercury	17[1]	0.21	0.063	0.083	0.045	0.029	0.087	0.034	<0.021	0.12	0.57	0.035	0.056	0.056	<0.025	0.05	0.22	0.053	0.44	0.058
Nickel	41,000	17	49	35	16	13	77	11	5.3	13	15	12	12	10	<5.6	12	<4.5	14	7.6	9.4
Silver	10,000	<1.2	<1.2	<1.2	<1.2	<1.2	<1.4	<1.2	<1.0	<1.2	<1.2	<1.2	<1.2	<1.2	<1.4	<1.2	<1.1	<1.2	<1.2	<1.1
Thallium	160	<1.2	1.8	1.9	<1.2	<1.2	1.7	<1.2	<1.0	<1.2	<1.2	<1.2	<1.2	<1.2	<1.4	<1.2	<1.1	<1.2	<1.2	<1.1
Vanadium	14,000	41	81	61	55	54	75	57	19	43	31	45	45	40	22	39	15	53	52	39
Zinc	610,000	190	470	280	77	53	630	47	12	70	130	53	52	50	17	45	12	62	64	43

Notes:

All units are displayed in mg/Kg

Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean

Indicates COI exceed Type 4 RRS

December 1999
Revised May 30, 2002

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-155	SC-156	SC-157	SC-158	SC-159	SC-160	SC-161	SC-162	SC-163	SC-164	SC-165	SC-166	SC-167	SC-168	SC-169	SC-170	SC-171	SC-172	SC-173
Date Collected:		**8/12/1999**	**8/13/1999**	**8/13/1999**	**8/13/1999**	**8/13/1999**	**8/13/1999**	**8/16/1999**	**8/13/1999**	**8/16/1999**	**8/16/1999**	**8/16/1999**	**8/16/1999**	**8/16/1999**	**8/18/1999**	**8/18/1999**	**8/20/1999**	**8/28/1999**	**8/28/1999**	**8/28/1999**
Depth (feet):		**24, wall**	**8, wall**	**8, wall**	**8, wall**	**14, wall**	**21, wall**	**14, wall**	**16, floor**	**16, floor**	**18, wall**	**24, wall**	**18, wall**	**24, wall**	**7, floor**	**7, floor**	**10, floor**	**5, wall**	**5, wall**	**11, floor**
Constituents of Interest	**Type 4 RRS mg/Kg**																			
VOC																				
Benzene	14	0.11	<.0050	1.2	0.007	0.01	<.0049	<.0065	<.0055	0.039	<.250	0.8	<.220	0.0071	<.0052	<.0045	<.0058	<.013	<.0054	<.0059
Ethylbenzene	15,000	0.072	<.0050	4.6	<.0054	<.0056	<.0049	<.0065	<.0055	0.037	<.250	<.270	<.220	<.0054	<.0052	<.0045	<.0058	<.013	<.0054	<.0059
Styrene	22,000	<.0070	<.0050	<1.200	<.0054	<.0056	<.0049	<.0065	<.0055	<.0055	<.0046	<.270	<.220	<.0054	<.0052	<.0045	<.0058	<.013	<.0054	<.0059
Toluene	3,500	0.03	<.0050	21	0.0084	0.011	<.0049	<.0065	0.0067	0.085	<.250	<.270	<.220	<.0054	<.0052	<.0045	<.0058	<.013	<.0054	<.0059
Xylenes (total)	8,200	0.11	<.0099	66	<.011	<.011	<.0098	<.013	0.058	0.49	<.510	<.540	<.450	<.011	<.010	<.0090	<.012	<.027	<.011	<.012
SVOC																				
4-Methylphenol	10,000	<.430	<.390	20	<.420	<.400	<.420	<.390	<.380	<.770	<.410	<.440	1.8	<.440	<.400	<.460	<.410	<.480	<.490	<.420
Acenaphthene	120,000	<.430	<.390	<16.000	<.420	<.400	<.420	<.390	<.380	1.3	<.410	<.440	<.370	<.440	<.400	<.460	<.410	<.480	<.490	<.420
Acenaphthylene	61,000	<.430	<.390	34	2	<.400	<.420	3.8	0.62	3.6	<.410	<.440	<.370	<.440	<.400	<.460	<.410	<.480	<.490	<.420
Anthracene	610,000	<.430	<.390	60	2.7	<.400	<.420	0.96	<.380	7	<.410	<.440	<.370	<.440	<.400	<.460	<.410	<.480	<.490	<.420
Benzo(a)anthracene	64	<.430	<.390	32	6.2	<.400	<.420	4.7	1.5	6.7	<.410	<.440	<.370	<.440	<.400	<.460	<.410	1	0.81	<.420
Benzo(b)fluoranthene	70	<.430	<.390	<16	3.4	<.400	<.420	3.9	1.3	4.4	<.410	<.440	<.370	<.440	<.400	<.460	<.410	0.68	1.1	<.420
Benzo(k)fluoranthene	580	<.430	<.390	20	4	<.400	<.420	2.9	0.91	3.8	<.410	<.440	<.370	<.440	<.400	<.460	<.410	0.67	0.97	<.420
Benzo(g,h,i)perylene	61,000	<.430	<.390	<16	1.6	<.400	<.420	1.5	0.63	2.4	<.410	<.440	<.370	<.440	<.400	<.460	<.410	<.480	0.6	<.420
Benzo(a)pyrene	7.7	<.430	<.390	23	4.4	<.400	<.420	4.4	1.4	5.1	<.410	<.440	<.370	<.440	<.400	<.460	<.410	0.83	1	<.420
Chrysene	6,600	<.430	<.390	34	5.4	<.400	<.420	4.2	1.1	5.7	<.410	<.440	<.370	<.440	<.400	<.460	<.410	1	1.5	<.420
Dibenzo(a,h)anthracene	7.8	<.430	<.390	<16	1.2	<.400	<.420	0.97	<.380	1.2	<.410	<.440	<.370	<.440	<.400	<.460	<.410	<.480	<.490	<.420
Fluoranthene	82,000	<.430	<.390	84	9.3	<.400	<.420	7	1.8	14	<.410	<.440	<.370	<.440	<.400	<.460	<.410	1.4	3	<.420
Fluorene	82,000	<.430	<.390	69	1.4	<.400	<.420	0.4	<.380	6.6	<.410	<.440	<.370	<.440	<.400	<.460	<.410	<.480	<.490	<.420
Indeno(1,2,3-cd)pyrene	78	<.430	<.390	<16	2	<.400	<.420	1.8	0.74	2.5	<.410	<.440	<.370	<.440	<.400	<.460	<.410	<.480	0.67	<.420
Naphthalene	93	<.430	<.390	440	0.99	<.400	<.420	<.390	<.380	3.6	0.65	<.440	<.370	<.440	<.400	<.460	<.410	<.480	<.490	<.420
Phenanthrene	61,000	<.430	<.390	150	5.8	<.400	<.420	1.2	<.380	19	<.410	<.440	<.370	<.440	<.400	<.460	<.410	2	3.1	<.420
Metals																				
Antimony	820	<2.6	<2.2	<2.2	<2.3	<2.2	<2.6	<2.2	<2.1	<2.1	<2.3	<2.5	<2.2	<2.7	<2.4	<2.8	<2.5	<2.9	5.3	<2.6
Arsenic	38	5.4	6.2	8.0	6.0	1.7	<1.3	8.4	6.6	7.9	4.4	1.5	1.8	1.6	15	12	4.8	5.4	27	6.3
Barium	140,000	120	150	200	130	70	21	110	160	93	80	39	52	67	45	70	66	380	350	150
Beryllium	13	<0.53	0.96	0.74	0.61	0.84	<0.51	0.71	0.67	0.80	1	0.66	0.67	0.81	0.62	1.1	0.64	0.69	0.75	0.91
Cadmium	1,000	<0.57	<0.54	<0.54	<0.58	<0.55	<0.64	<0.55	<0.53	<0.53	<0.58	<0.61	<0.56	<0.67	<1.2	<1.4	0.65	<0.72	<0.68	<0.65
Chromium	10,000	16	23	24	30	18	7.8	31	26	27	23	12	13	17	51	20	44	24	28	32
Copper	76,000	18	16	12	23	11	<2.6	14	16	18	14	5.2	11	9.7	9.2	28	18	25	190	21
Cyanide	41,000	1.5	1.9	390	8.6	<1.2	<1.3	160	11	39	2.2	<1.4	3.7	1.4	<1.2	<1.4	<1.2	<1.4	2.6	<1.3
Lead	583	140	16	27	13	7.4	2.8	12	13	23	13	4.2	6.1	6.3	23	23	14	150	810	17
Mercury	17[1]	<0.026	0.051	0.18	0.092	<0.024	<0.023	0.18	0.060	0.11	0.059	0.031	<0.022	<0.022	0.050	0.025	0.082	1.4	5.6	0.084
Nickel	41,000	6.6	13	11	13	11	<5.1	11	11	13	13	6.9	11	10	13	22	11	10	18	16
Silver	10,000	<1.3	<1.1	<1.1	<1.2	<1.1	<1.3	<1.1	<1.1	<1.1	<1.2	<1.2	<1.1	<1.3	<1.2	<1.4	<1.2	<1.4	<1.4	<1.3
Thallium	160	<1.3	<1.1	<1.1	<1.2	<1.1	<1.3	<1.1	<1.1	<1.1	<1.2	<1.2	<1.1	<1.3	<1.2	<1.4	<1.2	<1.4	<1.4	<1.3
Vanadium	14,000	30	48	32	57	43	17	58	51	45	45	28	34	39	45	28	48	30	31	63
Zinc	610,000	54	58	57	53	51	10	49	49	81	65	25	39	51	80	44	60	92	730	69

Notes:

All units are displayed in mg/Kg

Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean

Indicates COI exceed Type 4 RRS

December 1999
Revised May 30, 2002

Table 4-3
Soil Confirmation Sample Results - OU1
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SC-174	SC-175	SC-177	SC-178	SC-179	SC-180	SC-181
Date Collected:		8/28/1999	8/28/1999	8/31/1999	8/31/1999	9/1/1999	9/1/1999	9/1/1999
Depth (feet):		5, wall	5, wall	8, wall	7, wall	7, wall	7, wall	7, wall
Constituents of Interest	Type 4 RRS mg/Kg							
VOC								
Benzene	14	<.0053	<.0078	0.51	0.028	0.012	<.0061	0.048
Ethylbenzene	15,000	<.0053	<.0078	0.2	<.0070	<.0073	<.0061	0.03
Styrene	22,000	<.0053	<.0078	<.0047	<.0070	<.0073	<.0061	<.0075
Toluene	3,500	<.0053	<.0078	0.056	<.0070	<.0073	<.0061	0.03
Xylenes (total)	8,200	<.010	<.016	12	<.014	<.015	<.012	0.22
SVOC								
4-Methylphenol	10,000	<.410	<.510	<20	<.440	<4.3	<.420	<.43
Acenaphthene	120,000	0.47	<.510	23	0.67	<4.3	<.420	21
Acenaphthylene	61,000	<.410	<.510	32	0.63	4.8	<.420	31
Anthracene	610,000	0.58	<.510	100	1.5	4.4	<.420	58
Benzo(a)anthracene	64	1.7	0.95	75	3.2	31	<.420	65
Benzo(b)fluoranthene	70	1.8	<.510	49	2.8	22	<.420	33
Benzo(k)fluoranthene	580	1.2	0.68	38	3	19	<.420	43
Benzo(g,h,i)perylene	61,000	0.93	<.510	<20	2	10	<.420	19
Benzo(a)pyrene	7.7	2	0.9	57	3.7	26	<.420	48
Chrysene	6,600	1.9	0.98	66	3.2	28	<.420	60
Dibenzo(a,h)anthracene	7.8	0.51	<.510	<20	1	6.3	<.420	11
Fluoranthene	82,000	2.9	1	160	5	50	<.420	130
Fluorene	82,000	0.49	<.510	110	1.2	<4.3	<.420	59
Indeno(1,2,3-cd)pyrene	78	0.93	<.510	28	1.9	10	<.420	22
Naphthalene	93	<.410	<.510	440	3.3	<4.3	<.420	74
Phenanthrene	61,000	3.4	1.1	270	4.1	5.7	<.420	150
Metals								
Antimony	820	<2.5	<3.1	<2.3	<2.7	<2.6	<5.1	<2.4
Arsenic	38	5.5	5.2	4.0	12	15	170	7.9
Barium	140,000	200	310	110	380	220	210	260
Beryllium	13	<0.50	<0.62	0.57	0.98	0.75	2.4	1.1
Cadmium	1,000	<0.62	<0.78	<0.57	<0.68	<0.66	<1.3	<0.60
Chromium	10,000	13	40	26	26	23	33	19
Copper	76,000	47	29	13	42	31	64	22
Cyanide	41,000	4.5	<1.6	8.8	7.8	49	<1.3	23
Lead	583	330	570	8.7	190	110	150	43
Mercury	17[1]	1.5	3.2	0.27	2.1	1.7	0.14	0.42
Nickel	41,000	8.2	11	6.8	14	29	130	11
Silver	10,000	<1.2	<1.6	<1.1	<1.4	<1.3	<2.5	<1.2
Thallium	160	<1.2	<1.6	<1.1	<1.4	<1.3	5.1	<1.2
Vanadium	14,000	17	31	30	34	21	110	27
Zinc	610,000	140	120	39	270	170	1000	89

Notes:
All units are displayed in mg/Kg
Exceedances of Type 4 RRS are highlighted; these areas were overexcavated and confirmed clean
Indicates COI exceed Type 4 RRS

Table 4-4
Soil Confirmation Sample Results - OU3
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		SWW	SEW	NWW	Floor	OFL-1	OSW-1	OSW-2	OSW-3	OSW-4	OSW-5
Date Collected:		**7/31/00**	**7/31/00**	**7/31/00**	**7/31/00**	**8/7/00**	**8/7/00**	**8/9/00**	**8/10/00**	**8/10/00**	**8/10/00**
Depth (feet):		**3 feet BGS**	**3 feet BGS**	**3 feet BGS**	**floor, app. 3 feet BGS**	**floor, app. 14 feet BGS**	**5 feet BGS**	**6 feet BGS**	**10 feet BGS**	**7 feet BGS**	**7 feet BGS**
Analytes	**Type 4 RRS mg/Kg**										
Semivolatile Organic Compounds											
Benzo(a)anthracene	64	0.33	0.35	0.88	2.5	BRL	BRL	0.94	0.34	BRL	BRL
Benzo(b)fluoranthene	70	BRL	0.42	0.77	2.6	BRL	BRL	1.9	0.5	BRL	BRL
Benzo(k)fluoranthene	580	BRL	BRL	0.41	1.2	BRL	BRL	0.98	BRL	BRL	BRL
Benzo(g,h,i)perylene	61,000	BRL	BRL	0.42	1.6	BRL	BRL	1.3	BRL	BRL	BRL
Benzo(a)pyrene	7.7	0.41	0.41	0.78	2.5	BRL	BRL	1.4	0.42	BRL	BRL
Chrysene	6,600	0.42	0.37	0.83	2.4	BRL	BRL	0.99	0.34	BRL	BRL
Dibenzo(a,h)anthracene	7.8	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Fluoranthene	82,000	0.91	0.7	1.7	4.1	BRL	BRL	1.6	0.8	BRL	BRL
Fluorene	82,000	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Indeno(1,2,3-cd)pyrene	78	BRL	BRL	0.37	1.5	BRL	BRL	1.2	BRL	BRL	BRL
Naphthalene	93	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Inorganic Compounds											
Arsenic	38	9.01	9.26	8.05	11.7	BRL	5.49	18.8	25.4	29.2	35.1
Barium	140,000	155	210	91.7	197	199	22.4	105	127	52.7	255
Beryllium	13	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Cadmium	1,000	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chromium	10,000	10.4	12.5	10.2	13.1	8.07	8.45	14.3	18.1	26.7	20
Cobalt	25,550	5.33	7.26	5.13	6.41	9.13	4.59	7.32	9.89	10.4	26.7
Copper	76,000	62.0	43.2	51.5	44.1	9.36	15.0	30.8	31.5	23.0	40.5
Cyanide	41,000	BRL	0.909	0.971	5.69	0.833	BRL	5.70	BRL	BRL	0.971
Lead	583	480	454	222	514	10.5	22.6	74.3	57.1	36.4	67.7
Mercury	17[(1)]	0.831	0.71	4.66	1.91	0.269	0.249	0.381	0.153	BRL	0.0966
Nickel	41,000	9.68	10.6	7.61	9.03	11.6	18.3	14.2	19.7	14.0	29.7
Vanadium	14,000	15.4	18.9	14.9	16.9	BRL	6.98	33.1	52.8	58.8	78
Zinc	610,000	104	120	60.5	195	74.1	94.5	117	118	71.7	132

Notes:

All units are reported in milligrams per kilogram (mg/Kg)

BRL - below reporting limits

BGS - below ground surface

OFL-1 was the only floor sample collected under the office building excavation, since the remaining portion was below the water table

Only the compounds that were listed on Table 2-2 of the OU3 CAP (Analyte List for Soil Confirmation Sampling) were reported

Table 4-5
Results of Soil Delineation Samples Collected under 2nd Avenue Bridge
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample ID:		**HA-1**	**HA-2**	**HA-3**	**HA-4**	**HA-5**	**HA-6**
Date Collected:		**4/10/2003**	**4/10/2003**	**4/10/2003**	**4/10/2003**	**4/10/2003**	**4/10/2003**
Depth:		**0-14 in**	**0-2 ft**	**0-10 in**	**0-8 in**	**0-10 in**	**0-1 ft**
Constituents of Interest	**Type 4 RRS**						
Semivolatile Organic Compounds							
4-Methylphenol	10,000	<3.9	<3.8	<3.7	<3.7	<3.6	<3.7
Acenaphthene	120,000	<3.9	<3.8	<3.7	<3.7	<3.6	<3.7
Acenaphthylene	61,000	<3.9	<3.8	<3.7	<3.7	<3.6	<3.7
Anthracene	610,000	<3.9	8.2	<3.7	<3.7	<3.6	<3.7
Benzo(a)anthracene	64	<3.9	**18**	<3.7	<3.7	<3.6	<3.7
Benzo(b)fluoranthene	70	<3.9	**17**	<3.7	<3.7	<3.6	<3.7
Benzo(k)fluoranthene	580	<3.9	**11**	<3.7	<3.7	<3.6	<3.7
Benzo(g,h,i)perylene	61,000	<3.9	**12**	<3.7	<3.7	<3.6	<3.7
Benzo(a)pyrene	7.7	<3.9	**16**	<3.7	<3.7	<3.6	<3.7
Chrysene	6,600	<3.9	**17**	<3.7	<3.7	<3.6	<3.7
Dibenzo(a,h)anthracene	7.8	<3.9	<3.8	<3.7	<3.7	<3.6	<3.7
Fluoranthene	82,000	8.5	**42**	5.6	3.8	<3.6	<3.7
Fluorene	82,000	<3.9	**4.6**	<3.7	<3.7	<3.6	<3.7
Indeno(1,2,3-cd)pyrene	78	<3.9	**10**	<3.7	<3.7	<3.6	<3.7
Naphthalene	93	<3.9	<3.8	<3.7	<3.7	<3.6	<3.7
Phenanthrene	61,000	7.0	**33**	4.1	<3.7	<3.6	<3.7
Pyrene	61,000	5.9	**27**	4.7	<3.7	<3.6	<3.7
Total SVOCs	NA	**21**	**216**	**14**	**3.8**	**0.0**	**0.0**

Notes:
in = inches below ground surface
ft = feet below ground surface
NA = Not applicable
All results are reported in milligrams per kilogram (mg/Kg).
Indicates COI exceeded HSRA Type 4 RRS (previous clean-up standard)

Table 4-6
Results of Soil Delineation Samples Collected on Parcels 1 and 7
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Boring Location ID	Property/Parcel	Depth (feet)	Analyte	Background Concentration (mg/Kg)	Type 1 RRS (mg/Kg)	Type 4 RRS (mg/Kg)	Results (mg/Kg)	Associated Delineation Boring
SB-101 (3-4')	AGLC/Parcel 7	3-4'	Lead	70	75	583	**129**	SC-1 (2.5')
			Zinc	169	100	610,000	**155**	
			Mercury	0.46	0.5	17	**1.47**	
SB-101 (4-5')*		4-5'	Lead	70	75	583	**15.3**	SC-1 (2.5')
			Zinc	169	100	610,000	**40.7**	
			Mercury	0.46	0.5	17	**<0.114**	
SB-101A (3-4')*	AGLC/Parcel 7	3-4'	Lead	70	75	583	**68.9**	SC-1 (2.5')
			Zinc	169	100	610,000	**69.6**	
			Mercury	0.46	0.5	17	**0.287**	
SB-102 (0-2')	Floyd County/Parcel 1	0-2'	Arsenic	15	20	38	**<3.4**	HA-302 and SC-52
			Chromium	47	1,200	10,000	**21.9**	
			Lead	70	75	583	**54.9**	
			Zinc	169	100	610,000	**120**	
SB-102 (2-4')		2-4'	Arsenic	15	20	38	**<3.4**	HA-302 and SC-52
			Chromium	47	1,200	10,000	**18.5**	
			Lead	70	75	583	**52.8**	
			Zinc	169	100	610,000	**150**	
SB-102 (4-6')*		4-6'	Arsenic	15	20	38	**7.4**	HA-302 and SC-52
			Zinc	169	100	610,000	**169**	
SB-102A (0-2')*	Floyd County/Parcel 1	0-2'	Arsenic	15	20	38	**<3.4**	HA-302 and SC-52
			Zinc	169	100	610,000	**124**	
SB-102A (2-4')*		2-4	Arsenic	15	20	38	**21**	HA-302 and SC-52
			Zinc	169	100	610,000	**192**	
SB-103 (0-2')	Floyd County/Parcel 1	0-2'	Arsenic	15	20	38	**11**	SB-102 AND SB-102A
			Zinc	169	100	610,000	**169**	
SB-103 (2-4')		2-4'	Arsenic	15	20	38	**6.9**	SB-102 AND SB-102A
			Zinc	169	100	610,000	**58.1**	
SB-103 (4-6')		4-6'	Zinc	169	100	610,000	**42.4**	SB-102 AND SB-102A
SB-104 (0-2')	Floyd County/Parcel 1	0-2'	Zinc	169	100	610,000	**96.8**	SB-102 AND SB-102A
SB-105 (0-2')	Floyd County/Parcel 1	0-2'	Zinc	169	100	610,000	**255**	SB-102 AND SB-102A
SB-106 (0-2')	Floyd County/Parcel 1	0-2'	Zinc	169	100	610,000	**250**	SB-102 AND SB-102A
SB-107 (0-2')	Floyd County/Parcel 1	0-2'	Zinc	169	100	610,000	**295**	SB-102 AND SB-102A

NOTES:

Results that are shaded and bolded exceed the background concentration; however, all results are below the Type 4 RRS.

Samples analyzled for chromium, lead, mercury, and zinc were analyzed via ICP method; arsenic samples were analyzed via AA/GF method.

Table 5-1
Sediment Data from Investigations in the Oostanaula River Near the Former MGP Site Collected in 1998, 1999, and August 2000
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-300-0-2	SD-300-2-6	SD-301-0-2	SD-302-0-2	SD-302-0-2-DL
Depth	0-2	2-6	0-2	0-2	0-2
Date Collected	December-98	December-98	December-98	December-98	December-98
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Background	Background	Site	Site	Site
Depth Classification	Surface	Subsurface	Surface	Surface	Surface
VOCs (mg/Kg)					
Benzene	< 0.0051	< 0.0065	< 0.0056	< 0.012	NA
Toluene	< 0.0051	< 0.0065	< 0.0056	< 0.012	NA
Ethylbenzene	< 0.0051	< 0.0065	< 0.0056	< 0.012	NA
Xylenes	< 0.0051	< 0.0065	< 0.0056	< 0.012	NA
Acetone	0.017	0.098	0.23	< 0.12	NA
2-Butanone	< 0.026	< 0.032	< 0.028	< 0.059	NA
Carbon Disulfide	< 0.0051	< 0.0065	< 0.0056	< 0.012	NA
Total BTEX	0.017	0.098	0.23	ND	NA
PAHs (mg/Kg)					
Naphthalene	< 0.43	< 0.43	< 0.47	< 0.5	< 2.5
Acenaphthylene	< 0.43	< 0.43	< 0.47	0.76	< 2.5
Acenaphthene	< 0.43	< 0.43	< 0.47	0.73	< 2.5
Fluorene	< 0.43	< 0.43	< 0.47	1.6	< 2.5
Phenanthrene	0.67	0.6	< 0.47	6.7	6.6
Anthracene	< 0.43	< 0.43	< 0.47	3.2	2.9
Fluoranthene	0.86	0.92	< 0.47	9.4 E	23
Pyrene	0.77	1	< 0.47	17 E	24
Benz(a)anthracene	< 0.43	0.48	< 0.47	20 E	17
Chrysene	< 0.43	0.53	< 0.47	16 E	18
Benzo(b)fluoranthene	< 0.43	0.84	< 0.47	19 E	20
Benzo(k)fluoranthene	< 0.43	< 0.43	< 0.47	8	8.6
Benzo(a)pyrene	< 0.43	0.63	< 0.47	14 E	15
Indeno(1,2,3-cd)pyrene	< 0.43	< 0.43	< 0.47	< 0.5	5.2
Dibenz(a,h)anthracene	< 0.43	< 0.43	< 0.47	< 0.5	< 2.5
Benzo(g,h,i)perylene	< 0.43	< 0.43	< 0.47	< 0.5	5.3
Total PAHs	2.3	5.0	ND	120	150
Total Metals (mg/Kg)					
Aluminum	NA	NA	NA	NA	NA
Antimony	< 2.6	< 2.4	< 2.6	< 3	NA
Arsenic	6.4	8.9	6.8	6.7	NA
Barium	100	54	190	90	NA
Beryllium	< 0.66	< 0.59	1.1	< 0.76	NA
Cadmium	< 0.66	< 0.65	< 0.71	< 0.76	NA
Calcium	NA	NA	NA	NA	NA
Chromium	29	40	34	12	NA
Cobalt	8.9	3.2	14	9	NA
Copper	28	12	20	37	NA
Iron	NA	NA	NA	NA	NA
Lead	130	12	42	22	NA
Magnesium	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA
Mercury	0.16	0.11	0.14	0.11	NA
Nickel	11	7.4	17	14	NA
Potassium	NA	NA	NA	NA	NA
Selenium	< 1.3	< 1.2	< 1.3	< 1.5	NA
Silver	< 1.3	< 1.2	< 1.3	< 1.5	NA
Sodium	NA	NA	NA	NA	NA
Thallium	< 1.3	< 1.2	< 1.3	< 1.5	NA
Vanadium	35	57	35	19	NA
Zinc	180	37	200	33	NA
Miscellaneous Parameters	NA	NA	NA	NA	NA
Amonia-N (mg/Kg)	NA	NA	NA	NA	NA
Cyanide, Total (mg/Kg)	< 1.3	< 1.3	< 1.4	37	NA
Percent Solids	NA	NA	NA	NA	NA
pH	NA	NA	NA	NA	NA
Total Organic Carbon (mg/Kg)	NA	NA	NA	NA	NA

Notes:
NA = Not Analyzed
ND = Not Detected

Table 5-1
Sediment Data from Investigations in the Oostanaula River Near the Former MGP Site Collected in 1998, 1999, and August 2000
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-302-2-8	SD-303-0-2	SD-304-0-2	SD-304-2-4*	SD-305-0-2
Depth	2-8	0-2	0-2	2-4	0-2
Date Collected	December-98	December-98	December-98	December-98	December-98
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site
Depth Classification	Subsurface	Surface	Surface	Subsurface	Surface
VOCs (mg/Kg)					
Benzene	< 0.0091	< 0.0051	< 0.0072	< 0.007	< 0.0054
Toluene	< 0.0091	< 0.0051	< 0.0072	< 0.007	< 0.0054
Ethylbenzene	< 0.0091	< 0.0051	< 0.0072	< 0.007	< 0.0054
Xylenes	< 0.0091	< 0.0051	< 0.0072	< 0.007	< 0.0054
Acetone	0.099	0.2	< 0.072	0.12	0.069
2-Butanone	< 0.046	< 0.026	< 0.036	< 0.035	< 0.027
Carbon Disulfide	0.13	< 0.0051	< 0.0072	< 0.007	< 0.0054
Total BTEX	0.23	0.20	ND	0.12	0.069
PAHs (mg/Kg)					
Naphthalene	< 0.49	< 0.46	< 0.46	< 0.44	< 0.48
Acenaphthylene	< 0.49	< 0.46	< 0.46	< 0.44	< 0.48
Acenaphthene	< 0.49	< 0.46	< 0.46	< 0.44	< 0.48
Fluorene	< 0.49	< 0.46	< 0.46	< 0.44	< 0.48
Phenanthrene	0.5	< 0.46	0.86	1.1	< 0.48
Anthracene	< 0.49	< 0.46	< 0.46	< 0.44	< 0.48
Fluoranthene	1.5	< 0.46	2.6	< 0.44	< 0.48
Pyrene	1.6	< 0.46	2.8	3.3	< 0.48
Benz(a)anthracene	0.93	< 0.46	1.9	1.8	< 0.48
Chrysene	0.97	< 0.46	1.8	2	< 0.48
Benzo(b)fluoranthene	0.92	< 0.46	3.3	1.9	< 0.48
Benzo(k)fluoranthene	< 0.49	< 0.46	1.5	0.82	< 0.48
Benzo(a)pyrene	0.64	< 0.46	3.1	1.7	< 0.48
Indeno(1,2,3-cd)pyrene	< 0.49	< 0.46	1.2	< 0.44	< 0.48
Dibenz(a,h)anthracene	< 0.49	< 0.46	< 0.46	< 0.44	< 0.48
Benzo(g,h,i)perylene	< 0.49	< 0.46	1.5	< 0.44	< 0.48
Total PAHs	7.1	ND	21	13	ND
Total Metals (mg/Kg)					
Aluminum	NA	NA	NA	NA	NA
Antimony	< 2.7	< 2.8	< 2.6	< 2.7	< 2.9
Arsenic	7.2	6	6	6.5	6.9
Barium	160	150	110	210	160
Beryllium	1.1	1.1	1	1.1	1.1
Cadmium	< 0.75	< 0.69	< 0.7	< 0.68	< 0.72
Calcium	NA	NA	NA	NA	NA
Chromium	27	32	21	22	30
Cobalt	15	11	9.8	11	17
Copper	43	21	32	26	51
Iron	NA	NA	NA	NA	NA
Lead	36	47	39	57	65
Magnesium	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA
Mercury	0.2	0.11	0.088	0.2	0.096
Nickel	16	17	13	15	18
Potassium	NA	NA	NA	NA	NA
Selenium	< 1.4	< 1.4	< 1.3	< 1.4	< 1.4
Silver	< 1.4	< 1.4	< 1.3	< 1.4	< 1.4
Sodium	NA	NA	NA	NA	NA
Thallium	< 1.4	< 1.4	< 1.3	< 1.4	< 1.4
Vanadium	41	37	32	33	43
Zinc	140	150	65	70	140
Miscellaneous Parameters	NA	NA	NA	NA	NA
Amonia-N (mg/Kg)	NA	NA	NA	NA	NA
Cyanide, Total (mg/Kg)	< 1.5	6.2	44	9.8	< 1.4
Percent Solids	NA	NA	NA	NA	NA
pH	NA	NA	NA	NA	NA
Total Organic Carbon (mg/Kg)	NA	NA	NA	NA	NA

Notes:
NA = Not Analyzed
ND = Not Detected

Table 5-1
Sediment Data from Investigations in the Oostanaula River Near the Former MGP Site Collected in 1998, 1999, and August 2000
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-305-2-3	SD-306-0-2	SD-306-2-8	SD-307-0-2	SD-307-0-2 DUP
Depth	2-3	0-2	2-8	0-2	0-2
Date Collected	December-98	December-98	December-98	December-98	December-98
Sample Type	Investigation	Investigation	Investigation	Investigation	Duplicate
Location	Site	Site	Site	Site	Site
Depth Classification	Subsurface	Surface	Subsurface	Surface	Surface
VOCs (mg/Kg)					
Benzene	< 0.0063	< 0.0053	< 0.0095	< 0.0065	< 0.0066
Toluene	< 0.0063	< 0.0053	< 0.0095	< 0.0065	< 0.0066
Ethylbenzene	< 0.0063	< 0.0053	< 0.0095	< 0.0065	< 0.0066
Xylenes	< 0.0063	< 0.0053	< 0.0095	< 0.0065	< 0.0066
Acetone	0.073	0.42	0.018	0.22	0.32
2-Butanone	< 0.031	0.041	< 0.047	< 0.033	< 0.033
Carbon Disulfide	< 0.0063	< 0.0053	0.19	< 0.0065	< 0.0066
Total BTEX	0.073	0.46	0.21	0.22	0.32
PAHs (mg/Kg)					
Naphthalene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Acenaphthylene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Acenaphthene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Fluorene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Phenanthrene	< 0.47	< 0.46	0.66	< 0.46	< 0.47
Anthracene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Fluoranthene	< 0.47	< 0.46	0.82	< 0.46	< 0.47
Pyrene	< 0.47	< 0.46	0.63	< 0.46	< 0.47
Benz(a)anthracene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Chrysene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Benzo(b)fluoranthene	0.71	< 0.46	< 0.5	< 0.46	< 0.47
Benzo(k)fluoranthene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Benzo(a)pyrene	0.63	< 0.46	< 0.5	< 0.46	< 0.47
Indeno(1,2,3-cd)pyrene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Dibenz(a,h)anthracene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Benzo(g,h,i)perylene	< 0.47	< 0.46	< 0.5	< 0.46	< 0.47
Total PAHs	1.3	ND	2.1	ND	ND
Total Metals (mg/Kg)					
Aluminum	NA	NA	NA	NA	NA
Antimony	< 2.6	< 2.8	2.8	< 2.8	< 2.9
Arsenic	5.7	4.9	5.8	4.1	4.2
Barium	140	150	170	150	160
Beryllium	0.88	0.99	1.1	0.9	0.92
Cadmium	< 0.71	< 0.7	< 0.76	< 0.7	< 0.71
Calcium	NA	NA	NA	NA	NA
Chromium	25	26	28	25	24
Cobalt	12	14	15	14	17
Copper	42	19	36	18	19
Iron	NA	NA	NA	NA	NA
Lead	95	34	77	31	33
Magnesium	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA
Mercury	0.13	0.094	0.11	0.078	0.082
Nickel	12	14	17	15	13
Potassium	NA	NA	NA	NA	NA
Selenium	< 1.3	< 1.4	< 1.4	< 1.4	< 1.4
Silver	< 1.3	< 1.4	< 1.4	< 1.4	< 1.4
Sodium	NA	NA	NA	NA	NA
Thallium	< 1.3	< 1.4	< 1.4	< 1.4	< 1.4
Vanadium	37	29	43	27	27
Zinc	92	200	180	140	150
Miscellaneous Parameters	NA	NA	NA	NA	NA
Amonia-N (mg/Kg)	NA	NA	NA	NA	NA
Cyanide, Total (mg/Kg)	3.6	< 1.4	< 1.5	4.8	11
Percent Solids	NA	NA	NA	NA	NA
pH	NA	NA	NA	NA	NA
Total Organic Carbon (mg/Kg)	NA	NA	NA	NA	NA

Notes:
NA = Not Analyzed
ND = Not Detected

Table 5-1
Sediment Data from Investigations in the Oostanaula River Near the Former MGP Site Collected in 1998, 1999, and August 2000
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-307-2-8	SD-308-0-2	SD-308-2-8	SD-309-0-2	SD-309-2-5
Depth	2-8	0-2	2-8	0-2	2-5
Date Collected	December-98	December-98	December-98	December-98	December-98
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Downstream	Downstream
Depth Classification	Subsurface	Surface	Subsurface	Surface	Subsurface
VOCs (mg/Kg)					
Benzene	< 0.0068	< 0.0077	< 0.0071	< 0.0067	< 0.0068
Toluene	< 0.0068	< 0.0077	< 0.0071	< 0.0067	< 0.0068
Ethylbenzene	< 0.0068	< 0.0077	< 0.0071	< 0.0067	< 0.0068
Xylenes	< 0.0068	< 0.0077	< 0.0071	< 0.0067	< 0.0068
Acetone	0.13	0.33	0.11	< 0.067	0.096
2-Butanone	< 0.034	< 0.039	< 0.036	< 0.033	< 0.034
Carbon Disulfide	< 0.0068	< 0.0077	< 0.0071	< 0.0067	< 0.0068
Total BTEX	0.13	0.33	0.11	ND	0.096
PAHs (mg/Kg)					
Naphthalene	< 0.5	< 0.43	< 0.48	< 0.46	< 0.52
Acenaphthylene	< 0.5	< 0.43	< 0.48	< 0.46	< 0.52
Acenaphthene	< 0.5	< 0.43	< 0.48	< 0.46	< 0.52
Fluorene	< 0.5	< 0.43	< 0.48	< 0.46	< 0.52
Phenanthrene	< 0.5	2.2	< 0.48	< 0.46	< 0.52
Anthracene	< 0.5	< 0.43	< 0.48	< 0.46	< 0.52
Fluoranthene	< 0.5	3.8	0.49	< 0.46	< 0.52
Pyrene	< 0.5	3.2	0.52	< 0.46	< 0.52
Benz(a)anthracene	< 0.5	1.2	< 0.48	< 0.46	< 0.52
Chrysene	< 0.5	2	< 0.48	< 0.46	< 0.52
Benzo(b)fluoranthene	< 0.5	1.9	< 0.48	< 0.46	< 0.52
Benzo(k)fluoranthene	< 0.5	1	< 0.48	< 0.46	< 0.52
Benzo(a)pyrene	< 0.5	1.1	< 0.48	< 0.46	< 0.52
Indeno(1,2,3-cd)pyrene	< 0.5	0.71	< 0.48	< 0.46	< 0.52
Dibenz(a,h)anthracene	< 0.5	< 0.43	< 0.48	< 0.46	< 0.52
Benzo(g,h,i)perylene	< 0.5	0.86	< 0.48	< 0.46	< 0.52
Total PAHs	ND	18	1.0	ND	ND
Total Metals (mg/Kg)					
Aluminum					
Antimony	< 3	< 2.4	< 2.9	< 2.5	< 3.2
Arsenic	7.7	11	5.9	7.8	2.8
Barium	180	170	150	180	170
Beryllium	1.2	0.91	1.1	0.82	1.1
Cadmium	< 0.76	0.79	< 0.72	< 0.63	< 0.79
Calcium	NA NA	NA	NA	NA	NA
Chromium	35	27	27	14	23
Cobalt	17	14	17	8.1	12
Copper	22	130	18	40	13
Iron	NA	NA	NA	NA	NA
Lead	22	200	24	220	13
Magnesium	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA
Mercury	0.074	0.15	0.084	1.1	0.049
Nickel	19	17	16	11	14
Potassium	NA	NA	NA	NA	NA
Selenium	< 1.5	< 1.2	< 1.4	< 1.3	< 1.6
Silver	< 1.5	< 1.2	< 1.4	< 1.3	< 1.6
Sodium	NA	NA	NA	NA	NA
Thallium	< 1.5	< 1.2	< 1.4	< 1.3	< 1.6
Vanadium	51	35	41	21	31
Zinc	73	300	66	98	61
Miscellaneous Parameters	NA	NA	NA	NA	NA
Amonia-N (mg/Kg)	NA	NA	NA	NA	NA
Cyanide, Total (mg/Kg)	< 1.5	1.5	< 1.4	2.5	< 1.6
Percent Solids	NA	NA	NA	NA	NA
pH	NA	NA	NA	NA	NA
Total Organic Carbon (mg/Kg)	NA	NA	NA	NA	NA

Notes:
NA = Not Analyzed
ND = Not Detected

Table 5-1
Sediment Data from Investigations in the Oostanaula River Near the Former MGP Site Collected in 1998, 1999, and August 2000
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-310-0-2	SD-310-2-7	SD-311-0-2	SD-311-2-6	SD-312-0-1.5
Depth	0-2	2-7	0-2	2-6	0-1.5
Date Collected	January-99	January-99	January-99	January-99	January-99
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site
Depth Classification	Surface	Subsurface	Surface	Subsurface	Surface
VOCs (mg/Kg)					
Benzene	< 0.005	< 0.0074	< 0.006	< 0.0062	< 0.0084
Toluene	< 0.005	< 0.0074	< 0.006	< 0.0062	< 0.0084
Ethylbenzene	< 0.005	< 0.0074	< 0.006	< 0.0062	< 0.0084
Xylenes	< 0.005	< 0.0074	< 0.006	< 0.0062	< 0.0084
Acetone	0.28	0.17	< 0.06	0.14	0.15
2-Butanone	< 0.025	< 0.037	< 0.03	< 0.031	< 0.042
Carbon Disulfide	< 0.005	0.029	< 0.006	< 0.0062	< 0.0084
Total BTEX	0.28	0.20	ND	0.14	0.15
PAHs (mg/Kg)					
Naphthalene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Acenaphthylene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Acenaphthene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Fluorene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Phenanthrene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Anthracene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Fluoranthene	< 0.44	0.61	< 0.49	0.56	< 0.48
Pyrene	< 0.44	0.63	< 0.49	0.64	< 0.48
Benz(a)anthracene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Chrysene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Benzo(b)fluoranthene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Benzo(k)fluoranthene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Benzo(a)pyrene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Indeno(1,2,3-cd)pyrene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Dibenz(a,h)anthracene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Benzo(g,h,i)perylene	< 0.44	< 0.57	< 0.49	< 0.48	< 0.48
Total PAHs	ND	1.2	ND	1.2	ND
Total Metals (mg/Kg)					
Aluminum					
Antimony	< 2.7	< 3.4	< 2.7	< 2.9	< 2.7
Arsenic	6.8	7.4	8.1	6.0	5.8
Barium	190	160	140	170	170
Beryllium	1.1	1.2	1.1	1.3	1.1
Cadmium	< 0.68	< 0.86	< 0.68	< 0.72	< 0.67
Calcium	NA	NA	NA	NA	NA
Chromium	32	31	26	30	25
Cobalt	17	18	23	17	14
Copper	24	30	30	30	21
Iron	NA	NA	NA	NA	NA
Lead	33	29	24	25	22
Magnesium	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA
Mercury	0.098	0.12	0.071	0.085	0.088
Nickel	18	21	14	18	15
Potassium	NA	NA	NA	NA	NA
Selenium	< 1.4	< 1.7	< 1.4	< 1.4	< 1.3
Silver	< 1.4	< 1.7	< 1.4	< 1.4	< 1.3
Sodium	NA	NA	NA	NA	NA
Thallium	< 1.4	< 1.7	< 1.4	< 1.4	< 1.3
Vanadium	43	48	42	45	41
Zinc	210	91	100	89	75
Miscellaneous Parameters	NA	NA	NA	NA	NA
Amonia-N (mg/Kg)	NA	NA	NA	NA	NA
Cyanide, Total (mg/Kg)	2.1	15	17	33	3.4
Percent Solids	NA	NA	NA	NA	NA
pH	NA	NA	NA	NA	NA
Total Organic Carbon (mg/Kg)	NA	NA	NA	NA	NA

Notes:
NA = Not Analyzed
ND = Not Detected

Table 5-1
Sediment Data from Investigations in the Oostanaula River Near the Former MGP Site Collected in 1998, 1999, and August 2000
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-313-0-2	SD-314-0-1.5	SD-315-0-1	ERA-SD-302	ERA-SD-302-DUP
Depth	0-2	0-1.5	0-1	0-0.5	0-0.5
Date Collected	January-99	January-99	January-99	August-00	August-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Duplicate
Location	Site	Site	Site	Site	Site
Depth Classification	Surface	Surface	Surface	Surface	Surface
VOCs (mg/Kg)					
Benzene	< 0.01	< 0.0055	< 0.0048	< 0.01	< 0.01
Toluene	< 0.01	< 0.0055	< 0.0048	< 0.01	< 0.01
Ethylbenzene	< 0.01	< 0.0055	< 0.0048	< 0.01	< 0.01
Xylenes	0.026	< 0.0055	< 0.0048	< 0.02	< 0.02
Acetone	0.15	< 0.055	< 0.048	< 0.1	< 0.1
2-Butanone	0.093	< 0.028	< 0.024	< 0.05	< 0.05
Carbon Disulfide	0.1	0.011	< 0.0048	< 0.01	< 0.01
Total BTEX	0.37	0.011	ND	ND	ND
PAHs (mg/Kg)					
Naphthalene	< 0.57	< 0.43	< 0.38	< 0.4	< 0.041
Acenaphthylene	< 0.57	< 0.43	< 0.38	< 0.66	< 0.67
Acenaphthene	1.9	< 0.43	< 0.38	< 1	< 0.1
Fluorene	0.71	< 0.43	< 0.38	< 0.2	< 0.02
Phenanthrene	4.9	0.51	< 0.38	0.16	0.17
Anthracene	1.9	< 0.43	< 0.38	< 0.08	0.083
Fluoranthene	7.4	2.9	0.42	0.56	0.43
Pyrene	5.6	3.4	< 0.38	0.73	0.54
Benz(a)anthracene	3.2	2.1	0.53	0.11	< 0.041
Chrysene	3	1.9	< 0.38	0.36	0.24
Benzo(b)fluoranthene	2.3	1.3	0.72	0.94	0.58
Benzo(k)fluoranthene	2.4	1.7	< 0.38	0.54	0.18
Benzo(a)pyrene	1.7	0.94	0.56	0.7	0.45
Indeno(1,2,3-cd)pyrene	1.8	1.1	< 0.38	0.57	0.31
Dibenz(a,h)anthracene	< 0.57	< 0.43	< 0.38	< 0.66	< 0.67
Benzo(g,h,i)perylene	1.8	0.89	< 0.38	< 0.2	0.26
Total PAHs	39	17	2.2	4.7	3.2
Total Metals (mg/Kg)					
Aluminum				16000	15000
Antimony	< 3.2	< 2.6	< 2.3	< 3.6	< 4.1
Arsenic	4.4	10	12	4.9	5.3
Barium	150	81	75	160	160
Beryllium	1.1	0.81	1.1	1.0	0.97
Cadmium	< 0.8	< 0.65	< 0.58	< 0.91	< 1
Calcium	NA	NA	NA	1900	1900
Chromium	27	13	59	23	21
Cobalt	15	16	38	15	14
Copper	21	35	11	20	18
Iron	NA	NA	NA	27000	29000
Lead	23	16	44	27	26
Magnesium	NA	NA	NA	2000	1900
Manganese	NA	NA	NA	960	900
Mercury	0.074	0.042	0.016	0.067	0.11
Nickel	14	18	22	15	13
Potassium	NA	NA	NA	1300	1200
Selenium	< 1.6	< 1.3	< 1.2	< 1.8	< 2
Silver	< 1.6	< 1.3	< 1.2	< 1.8	< 2
Sodium	NA	NA	NA	100	< 100
Thallium	< 1.6	< 1.3	< 1.2	< 1.8	< 2
Vanadium	42	17	35	26	25
Zinc	73	58	77	100	110
Miscellaneous Parameters	NA	NA	NA	NA	NA
Amonia-N (mg/Kg)	NA	NA	NA	2.5	NA
Cyanide, Total (mg/Kg)	200	68	< 1.2	3.5	2.5
Percent Solids	NA	NA	NA	50	49
pH	NA	NA	NA	7	NA
Total Organic Carbon (mg/Kg)	NA	NA	NA	83000	NA

Notes:
NA = Not Analyzed
ND = Not Detected

Table 5-1
Sediment Data from Investigations in the Oostanaula River Near the Former MGP Site Collected in 1998, 1999, and August 2000
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	ERA-SD-308	ERA-SD-313	ERA-SD-REF-1
Depth	0-0.5	0-0.5	0-0.5
Date Collected	August-00	August-00	August-00
Sample Type	Investigation	Investigation	Investigation
Location	Site	Site	Background
Depth Classification	Surface	Surface	Surface
VOCs (mg/Kg)			
Benzene	< 0.0091	< 0.0057	< 0.0071
Toluene	< 0.0091	< 0.0057	< 0.0071
Ethylbenzene	< 0.0091	< 0.0057	< 0.0071
Xylenes	< 0.018	< 0.011	< 0.014
Acetone	< 0.091	< 0.057	< 0.071
2-Butanone	< 0.045	< 0.029	< 0.036
Carbon Disulfide	< 0.0091	< 0.0057	< 0.0071
Total BTEX	ND	ND	ND
PAHs (mg/Kg)			
Naphthalene	< 0.037	< 0.22	< 0.031
Acenaphthylene	< 0.61	< 0.37	< 0.51
Acenaphthene	< 0.092	< 0.56	< 0.077
Fluorene	0.038	< 0.11	< 0.015
Phenanthrene	0.34	0.1	< 0.0062
Anthracene	0.11	0.052	< 0.0062
Fluoranthene	0.46	0.61	< 0.015
Pyrene	0.58	0.28	< 0.015
Benz(a)anthracene	0.15	0.057	< 0.0062
Chrysene	0.24	0.23	0.0071
Benzo(b)fluoranthene	0.16	0.39	0.0097
Benzo(k)fluoranthene	0.085	0.23	< 0.0062
Benzo(a)pyrene	0.22	0.49	< 0.0062
Indeno(1,2,3-cd)pyrene	0.17	0.26	< 0.015
Dibenz(a,h)anthracene	< 0.61	< 0.37	< 0.51
Benzo(g,h,i)perylene	0.14	0.2	< 0.015
Total PAHs	2.7	2.9	0.017
Total Metals (mg/Kg)			
Aluminum	15000	3600	4100
Antimony	6.9	< 2	< 3.1
Arsenic	13	9.5	< 1.5
Barium	220	120	27
Beryllium	0.9	0.65	< 0.62
Cadmium	< 0.77	< 1	< 0.77
Calcium	5800	660	300
Chromium	26	21	11
Cobalt	13	13	4.8
Copper	1200	18	< 3.1
Iron	31000	23000	8400
Lead	380	13	4.7
Magnesium	2300	250	720
Manganese	1100	2000	150
Mercury	0.13	< 0.02	< 0.031
Nickel	17	9.6	< 6.2
Potassium	1100	220	450
Selenium	< 1.5	< 1	< 1.5
Silver	< 1.5	< 1	< 1.5
Sodium	< 77	< 51	< 77
Thallium	< 1.5	< 1	< 1.5
Vanadium	30	23	7.8
Zinc	200	32	35
Miscellaneous Parameters	NA	NA	NA
Amonia-N (mg/Kg)	0.061	0.27	NA
Cyanide, Total (mg/Kg)	< 1.9	< 1.1	< 1.5
Percent Solids	54	89	65
pH	7.8	7.3	NA
Total Organic Carbon (mg/Kg)	19000	6000	550

Notes:
NA = Not Analyzed
ND = Not Detected

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-316-0-0.5	SD-316-0.5-2	SD-316-2-4	SD-316-4-6	SD-317-0-0.5	SD-317-0-0.5 (DUP)
Depth	0-0.5	0.5-2	2-4	4-6	0-0.5	0-0.5
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site
Depth Classification	Surface	Subsurface	Subsurface	Subsurface	Surface	Surface
VOCs (µg/Kg)						
Benzene	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND
2-Butanone	ND	15	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND
Tetrachloroethane	ND	ND	ND	ND	ND	ND
Total BTEX	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
PAHs (µg/Kg)						
Naphthalene	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	490	ND	ND	ND	ND
Total PAHs	**ND**	**490**	**ND**	**ND**	**ND**	**ND**
Inorganic Compounds (mg/Kg)						
Aluminum	NA	NA	NA	NA	NA	NA
Antimony	ND	ND	ND	ND	ND	ND
Arsenic	5.3	2.9	3.5	3.1	5	5.4
Barium	2900	270	100	47	3,000	3,500
Beryllium	ND	ND	0.57	1	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND
Calcium	NA	NA	NA	NA	NA	NA
Chromium	19	16	21	38	13	14
Cobalt	13	8	17	22	11	12
Copper	16	15	40	39	12	14
Iron	NA	NA	NA	NA	NA	NA
Lead	27	22	29	12	15	25
Magnesium	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA
Mercury	0.067	0.079	0.036	0.024	0.057	0.077
Nickel	12	13	25	44	9.1	10
Potassium	NA	NA	NA	NA	NA	NA
Selenium	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND
Sodium	NA	NA	NA	NA	NA	NA
Thallium	ND	ND	ND	ND	ND	ND
Vanadium	23	13	16	21	18	19
Zinc	88	73	87	91	72	84
Cyanide, Total	NA	NA	NA	ND	ND	ND

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydrocarbons
VOCs = volatile organic compounds

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-317-0.5-2	SD-317-2-4	SD-318-0-0.5	SD-318-0.5-2	SD-319-0-0.5	SD-319-0.5-2	SD-320-0.5-2
Depth	0.5-2	2-4	0-0.5	0.5-2	0-0.5	0.5-2	0.5-2
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Site
Depth Classification	Subsurface	Subsurface	Surface	Subsurface	Surface	Subsurface	Subsurface
VOCs (µg/Kg)							
Benzene	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Total BTEX	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
PAHs (µg/Kg)							
Naphthalene	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	2,300	1,500	ND	ND	ND
Fluorene	ND	ND	1,600	1,100	ND	ND	ND
Phenanthrene	ND	ND	5,300	2,900	ND	ND	ND
Anthracene	ND	ND	2,300	1,200	ND	ND	ND
Fluoranthene	860	ND	4,200	1,700	ND	ND	ND
Pyrene	800	ND	3,800	1,600	ND	ND	ND
Benzo(a)anthracene	ND	ND	2,300	920	ND	ND	ND
Chrysene	ND	ND	1,900	780	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	1,500	1,100	ND	ND	ND
Benzo(k)fluoranthene	520	ND	2,200	1,300	ND	ND	ND
Benzo(a)pyrene	ND	ND	2,300	780	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	680	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND	ND
Total PAHs	**2180**	**ND**	**30,380**	**14,880**	**ND**	**ND**	**ND**
Inorganic Compounds (mg/Kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	ND	ND	ND	ND	ND	ND	ND
Arsenic	6.5	5.6	8	5.7	6.5	4	7.7
Barium	340	390	660	220	1200	99	59
Beryllium	1.1	1.2	0.96	0.89	ND	1	0.52
Cadmium	ND	ND	ND	ND	ND	1.7	ND
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	15	33	24	22	18	46	27
Cobalt	15	20	14	13	10	21	9.2
Copper	31	41	19	18	15	42	4.8
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	43	18	24	18	19	14	15
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	0.046	ND	0.11	0.14	0.06	ND	ND
Nickel	22	51	16	15	11	48	7.5
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	ND	ND	ND	ND	ND	ND	ND
Vanadium	17	19	39	34	19	19	24
Zinc	160	110	65	57	86	90	64
Cyanide, Total	ND	ND	1.7	ND	ND	ND	ND

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydroca
VOCs = volatile organic compounds

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-321-0-0.5	SD-321-0.5-1	SD-322-0-0.5	SD-322-0.5-2	SD-322-2-4	SD-323-0-0.5	SD-323-0-0.5 (DUP)
Depth	0-0.5	0.5-1	0-0.5	0.5-2	2-4	0-0.5	0-0.5
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Site
Depth Classification	Surface	Subsurface	Surface	Subsurface	Subsurface	Surface	Surface
VOCs (µg/Kg)							
Benzene	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Total BTEX	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
PAHs (µg/Kg)							
Naphthalene	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	710	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	1,800	ND	ND	ND	ND
Phenanthrene	ND	ND	8,400	2,400	1,200	ND	ND
Anthracene	ND	ND	2,800	840	ND	ND	ND
Fluoranthene	ND	ND	12,000	3,600	3,200	ND	ND
Pyrene	ND	ND	13,000	3,500	3,200	ND	ND
Benzo(a)anthracene	ND	ND	7,600	2,600	2,200	ND	ND
Chrysene	ND	ND	6,800	2,500	2,100	ND	ND
Benzo(b)fluoranthene	ND	ND	7,900	1,600	2,100	ND	ND
Benzo(k)fluoranthene	ND	ND	6,300	2,400	3,200	ND	ND
Benzo(a)pyrene	ND	ND	8,200	2,300	2,600	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	3,100	1,500	850	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	730	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	3,800	1,300	1,200	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND	ND
Total PAHs	**ND**	**ND**	**82,410**	**25,270**	**21,850**	**ND**	**ND**
Inorganic Compounds (mg/Kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	ND	ND	ND	ND	ND	ND	ND
Arsenic	9.3	4.5	5.3	7.4	5.2	2.8	2.6
Barium	270	96	230	140	160	350	310
Beryllium	0.59	1	0.79	ND	1.7	ND	ND
Cadmium	0.6	1.6	ND	ND	0.93	ND	ND
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	42	38	10	9.4	32	18	12
Cobalt	11	19	6	6.5	9.4	6.4	6
Copper	7.6	45	27	45	29	3.9	3.7
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	20	12	47	20	24	6	5.6
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	0.032	ND	0.15	0.099	0.049	ND	ND
Nickel	9.1	46	8.7	9.3	21	5.1	ND
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	ND	ND	ND	ND	ND	ND	ND
Vanadium	28	18	15	14	20	11	10
Zinc	56	92	36	39	66	50	50
Cyanide, Total	ND	ND	12	4.5	4.0	ND	ND

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydroca
VOCs = volatile organic compounds

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-323-0.5-2	SD-324-0-0.5	SD-324-0.5-2	SD-325-0-0.5	SD-325-0.5-2	SD-325-2-4	SD-325-4-6
Depth	0.5-2	0-0.5	0.5-2	0-0.5	0.5-2	2-4	4-6
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Site
Depth Classification	Subsurface	Surface	Subsurface	Surface	Subsurface	Subsurface	Subsurface
VOCs (µg/Kg)							
Benzene	ND	NA	NA	NA	NA	NA	NA
Toluene	ND	NA	NA	NA	NA	NA	NA
Ethylbenzene	ND	NA	NA	NA	NA	NA	NA
Xylenes	ND	NA	NA	NA	NA	NA	NA
Acetone	ND	NA	NA	NA	NA	NA	NA
2-Butanone	ND	NA	NA	NA	NA	NA	NA
Carbon Disulfide	ND	NA	NA	NA	NA	NA	NA
Styrene	ND	NA	NA	NA	NA	NA	NA
Tetrachloroethane	ND	NA	NA	NA	NA	NA	NA
Total BTEX	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
PAHs (µg/Kg)							
Naphthalene	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND	ND
Total PAHs	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Inorganic Compounds (mg/Kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	ND	NA	NA	NA	NA	NA	NA
Arsenic	4.1	NA	NA	NA	NA	NA	NA
Barium	46	NA	NA	NA	NA	NA	NA
Beryllium	0.46	NA	NA	NA	NA	NA	NA
Cadmium	ND	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	25	NA	NA	NA	NA	NA	NA
Cobalt	7.5	NA	NA	NA	NA	NA	NA
Copper	3.1	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	7.2	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	ND	NA	NA	NA	NA	NA	NA
Nickel	5.8	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	ND	NA	NA	NA	NA	NA	NA
Silver	ND	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	ND	NA	NA	NA	NA	NA	NA
Vanadium	13	NA	NA	NA	NA	NA	NA
Zinc	36	NA	NA	NA	NA	NA	NA
Cyanide, Total	ND	NA	NA	NA	NA	NA	NA

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydroca
VOCs = volatile organic compounds

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-326-0-0.5	SD-326-0.5-2	SD-326-2-3	SD-327-0-0.5	SD-327-0.5-2	SD-327-2-4	SD-328-0-0.5
Depth	0-0.5	0.5-2	2-3	0-0.5	0.5-2	2-4	0-0.5
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Site
Depth Classification	Surface	Subsurface	Subsurface	Surface	Subsurface	Subsurface	Surface
VOCs (µg/Kg)							
Benzene	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA
Total BTEX	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
PAHs (µg/Kg)							
Naphthalene	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	1,300	ND	ND	ND	780	ND	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	3,900	980	ND	ND	1,600	890	ND
Pyrene	4,300	1,000	ND	ND	1,400	820	ND
Benzo(a)anthracene	3,300	820	ND	ND	1,000	620	ND
Chrysene	3,400	850	ND	ND	1,000	660	ND
Benzo(b)fluoranthene	3,000	800	ND	ND	780	670	ND
Benzo(k)fluoranthene	2,900	720	ND	ND	730	620	ND
Benzo(a)pyrene	3,200	830	ND	ND	820	740	ND
Indeno(1,2,3-cd)pyrene	2,200	520	ND	ND	540	480	ND
Dibenz(a,h)anthracene	930	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	1,900	510	ND	ND	490	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND	ND
Total PAHs	**30,330**	**7,030**	**ND**	**ND**	**9,140**	**5,500**	**ND**
Inorganic Compounds (mg/Kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA
Cyanide, Total	28	30	ND	ND	18	3.9	ND

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydroca
VOCs = volatile organic compounds

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-328-0.5-2	SD-328-2-4	SD-328-4-6	SD-328-6-8	SD-329-0-0.5	SD-330-0-0.5	SD-330-0.5-2
Depth	0.5-2	2-4	4-6	6-8	0-0.5	0-0.5	0.5-2
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Site
Depth Classification	Subsurface	Subsurface	Subsurface	Subsurface	Surface	Surface	Subsurface
VOCs (µg/Kg)							
Benzene	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA
Total BTEX	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
PAHs (µg/Kg)							
Naphthalene	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	680	ND	ND	14,000	ND	ND
Phenanthrene	1,300	4700	ND	ND	61,000	ND	ND
Anthracene	ND	1600	ND	ND	20,000	ND	ND
Fluoranthene	2,600	9600	ND	ND	51,000	ND	ND
Pyrene	2,500	8000	ND	ND	44,000	ND	ND
Benzo(a)anthracene	2,100	5400	ND	ND	24,000	ND	ND
Chrysene	2,100	5300	ND	ND	24,000	ND	ND
Benzo(b)fluoranthene	1,800	4000	ND	ND	17,000	ND	ND
Benzo(k)fluoranthene	2,200	4600	ND	ND	14,000	ND	ND
Benzo(a)pyrene	1,800	4200	ND	ND	17,000	ND	ND
Indeno(1,2,3-cd)pyrene	1,200	2800	ND	ND	10,000	ND	ND
Dibenz(a,h)anthracene	580	1200	ND	ND	4,700	ND	ND
Benzo(g,h,i)perylene	1,200	2300	ND	ND	9,400	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND	ND
Total PAHs	**19,380**	**54,380**	**ND**	**ND**	**310,100**	**ND**	**ND**
Inorganic Compounds (mg/Kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA
Cyanide, Total	19	13	ND	14	7.2	ND	NA

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydroca
VOCs = volatile organic compounds

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-330-2-4	SD-331-0-0.5	SD-331-0.5-2	SD-331-2-3	SD-332-0-0.5	SD-332-0.5-2	SD-332-2-4
Depth	2-4	0-0.5	0.5-2	2-3	0-0.5	0.5-2	2-4
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Site
Depth Classification	Subsurface	Surface	Subsurface	Subsurface	Surface	Subsurface	Subsurface
VOCs (µg/Kg)							
Benzene	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA
Total BTEX	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
PAHs (µg/Kg)							
Naphthalene	ND	ND	ND	540	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	660	ND	ND	ND
Phenanthrene	ND	ND	3,300	7,000	ND	480	ND
Anthracene	ND	ND	1,600	2,900	ND	ND	ND
Fluoranthene	ND	ND	8,600	13,000	ND	1,100	590
Pyrene	ND	ND	7,700	11,000	ND	1,100	550
Benzo(a)anthracene	ND	ND	7,100	12,000	ND	710	ND
Chrysene	ND	ND	7,800	14,000	ND	730	ND
Benzo(b)fluoranthene	ND	ND	6,100	12,000	ND	510	ND
Benzo(k)fluoranthene	ND	ND	4,900	9,200	ND	580	ND
Benzo(a)pyrene	ND	ND	6,300	6,900	ND	650	ND
Indeno(1,2,3-cd)pyrene	ND	ND	3,700	7,100	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	2,200	4,000	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	3,200	5,400	ND	380	ND
Phenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND	ND
Total PAHs	**ND**	**ND**	**62,500**	**105,700**	**ND**	**6,240**	**1,140**
Inorganic Compounds (mg/Kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA
Cyanide, Total	NA	ND	14	8.9	NA	NA	NA

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydroca
VOCs = volatile organic compounds

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-333-0-0.5	SD-333-0-0.5 (DUP)	SD-333-0.5-2	SD-333-2-4	SD-334-0.5-2	SD-334-2-3.5	SD-335-0-0.5
Depth	0-0.5	0-0.5	0.5-2	2-4	0.5-2	2-3.5	0-0.5
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Site
Depth Classification	Surface	Surface	Subsurface	Subsurface	Subsurface	Subsurface	Surface
VOCs (µg/Kg)							
Benzene	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA
Total BTEX	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
PAHs (µg/Kg)							
Naphthalene	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	780	ND
Anthracene	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	ND	ND	ND	ND	ND	1,100	ND
Pyrene	ND	ND	ND	ND	ND	870	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	480	ND
Chrysene	ND	ND	ND	ND	ND	590	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	420	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	380	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	530	ND	560
Total PAHs	**ND**	**ND**	**ND**	**ND**	**530**	**4,600**	**560**
Inorganic Compounds (mg/Kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA
Cyanide, Total	NA	NA	NA	NA	NA	NA	NA

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydroca
VOCs = volatile organic compounds

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-335-0.5-2	SD-335-2-4	SD-336-0-0.5	SD-336-0.5-2	SD-336-2-3	SD-337-0-0.5	SD-337-0.5-2
Depth	0.5-2	2-4	0-0.5	0.5-2	2-3	0-0.5	0.5-2
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Site
Depth Classification	Subsurface	Subsurface	Surface	Subsurface	Subsurface	Surface	Subsurface
VOCs (µg/Kg)							
Benzene	NA	NA	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA
Total BTEX	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
PAHs (µg/Kg)							
Naphthalene	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	1,900	ND	ND	ND	ND	ND
Anthracene	ND	650	ND	ND	ND	ND	ND
Fluoranthene	ND	2,100	ND	ND	ND	ND	ND
Pyrene	ND	2,200	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	1,100	ND	ND	ND	ND	ND
Chrysene	ND	1,100	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	ND	820	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	590	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	890	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	420	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND
Phenol	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	ND	ND
Total PAHs	**ND**	**11,770**	**ND**	**ND**	**ND**	**ND**	**ND**
Inorganic Compounds (mg/Kg)							
Aluminum	NA	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA
Cyanide, Total	NA	NA	NA	NA	NA	NA	NA

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydroca
VOCs = volatile organic compounds

Table 5-2
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
VOCs, PAHs, and Inorganic Compounds
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-337-2-4	SD-337-4-6	SD-338-0-2	SD-401-2-3	SD-401-3-4
Depth	2-4	4-6	0-2	2-3	3-4
Date Collected	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site
Depth Classification	Subsurface	Subsurface	Surface	Subsurface	Subsurface
VOCs (µg/Kg)					
Benzene	NA	NA	NA	NA	NA
Toluene	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA
Xylenes	NA	NA	NA	NA	NA
Acetone	NA	NA	NA	NA	NA
2-Butanone	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA
Total BTEX	**NA**	**NA**	**NA**	**NA**	**NA**
PAHs (µg/Kg)					
Naphthalene	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	1,700	ND
Anthracene	ND	ND	ND	480	ND
Fluoranthene	ND	ND	ND	2,100	ND
Pyrene	ND	ND	ND	1,700	ND
Benzo(a)anthracene	ND	ND	ND	1,000	ND
Chrysene	ND	ND	ND	1,000	ND
Benzo(b)fluoranthene	ND	ND	ND	680	ND
Benzo(k)fluoranthene	ND	ND	ND	1,200	ND
Benzo(a)pyrene	ND	ND	ND	1,100	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	450	ND
Phenol	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND
2-Methylphenol	ND	ND	ND	ND	ND
3&4-Methylphenol	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND
Total PAHs	**ND**	**ND**	**ND**	**11,000**	**ND**
Inorganic Compounds (mg/Kg)					
Aluminum	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA
Arsenic	NA	NA	NA	NA	NA
Barium	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA
Cadmium	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA
Selenium	NA	NA	NA	NA	NA
Silver	NA	NA	NA	NA	NA
Sodium	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA
Cyanide, Total	NA	NA	NA	NA	NA

Notes:
µg/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydroca
VOCs = volatile organic compounds

Table 5-3
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
PCBs and Pesticides
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-308-0.5-1.0	SD-308-1-2	SD-316-0.5-1.0	SD-316-1-2	SD-401-0.5-1	SD-401-1-2	SD-402-0.5-1	SD-402-1-2
Depth	0.5-1	1-2	0.5-1	1-2	0.5-1	1-2	0.5-1	1-2
Date Collected	November-00	November-00	November-00	November-00	November-00	November-00	November-00	November-00
Sample Type	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Site	Site
Depth Classification	Subsurface	Subsurface	Subsurface	Subsurface	Subsurface	Subsurface	Subsurface	Subsurface
PCB's (µg/Kg)								
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	880	ND	ND	ND	100	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	110	ND	ND	ND	96	ND
Total PCB's	ND	ND	990	ND	ND	ND	196	ND
Pesticides, total (µg/Kg)	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
mg/Kg = milligrams per kilogram
ND = not detected

Table 5-3
Sediment Data from Investigation of the Oostanaula River Near the Former MGP Site Collected in November 2000
PCBs and Pesticides
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	SD-403-0.5-1	SD-403-1-2	ERA-SD-302	ERA-SD-302-DUP	ERA-SD-308	ERA-SD-313	ERA-SD-REF-1
Depth	0.5-1	1-2	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Date Collected	November-00	November-00	8/2/2000	8/2/2000	8/1/2000	8/1/2000	8/2/2000
Sample Type	Investigation	Investigation	Investigation	Duplicate	Investigation	Investigation	Investigation
Location	Site	Site	Site	Site	Site	Site	Background
Depth Classification	Subsurface	Subsurface	Surface	Surface	Surface	Surface	Surface
PCB's (µg/Kg)							
Aroclor-1016	ND	ND	ND	ND	ND	ND	ND
Aroclor-1221	ND	ND	ND	ND	ND	ND	ND
Aroclor-1232	ND	ND	ND	ND	ND	ND	ND
Aroclor-1242	ND	ND	ND	ND	ND	ND	ND
Aroclor-1248	ND	ND	ND	ND	ND	ND	ND
Aroclor-1254	ND	ND	ND	ND	ND	ND	ND
Aroclor-1260	ND	ND	ND	ND	ND	ND	ND
Total PCB's	ND	ND	ND	ND	ND	ND	ND
Pesticides, total (µg/Kg)	ND	ND	ND	ND	ND	ND	ND

Notes:
mg/Kg = milligrams per kilogram
ND = not detected

Table 5-4
Evaluation of Total PAH Data in Surface Sediment
Samples Collected in 1998, 1999, and 2000
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Sample Location	Depth (feet)	Total PAHs (mg/kg)	Is Conc. of Total PAHs Greater Than 2.7 mg/Kg?
Surface Sediment			
SD-301	0-2	ND	No
SD-302	0-0.5	4.67	Yes
SD-302	0-0.5 DUP	3.24	Yes
SD-302	0-2	146	Yes
SD-303	0-2	ND	No
SD-304	0-2	20.6	Yes
SD-305	0-2	ND	No
SD-306	0-2	ND	No
SD-307	0-2	ND	No
SD-307	0-2 DUP	ND	No
SD-308	0-0.5	2.69	No
SD-308	0-2	18.0	Yes
SD-309	0-2	ND	No
SD-310	0-2	ND	No
SD-311	0-2	ND	No
SD-312	0-1.5	ND	No
SD-313	0-0.5	2.90	Yes
SD-313	0-2	38.6	Yes
SD-314	0-1.5	16.7	Yes
SD-315	0-1	2.23	No
SD-316	0-0.5	ND	No
SD-317	0-0.5	ND	No
SD-318	0-0.5	30.0	Yes
SD-319	0-0.5	ND	No
SD-320	0-0.5	ND	No
SD-321	0-0.5	ND	No
SD-322	0-0.5	82.0	Yes
SD-323	0-0.5	ND	No
SD-324	0-0.5	ND	No
SD-325	0-0.5	ND	No
SD-326	0-0.5	30	Yes
SD-327	0-0.5	ND	No
SD-328	0-0.5	ND	No
SD-329	0-0.5	310	Yes
SD-330	0-0.5	ND	No
SD-331	0-0.5	ND	No
SD-332	0-0.5	ND	No
SD-333	0-0.5	ND	No
SD-334	0-0.5	NA	NA
SD-335	0-0.5	0.56	No
SD-336	0-0.5	ND	No
SD-337	0-0.5	ND	No
SD-338	0-2	ND	No
Upstream Sediment			
SD-REF-1	0-0.5	0.0168	No
SD-300	0-2	2.3	No

Notes:
mg/kg = milligrams per kilogram
NA = Not Analyzed
ND = Not Detected
PAHs = polynuclear aromatic hydrocarbons

Table 6-1
Monitoring Well Network - October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Monitoring Well ID	Monitoring Well Location	Rationale for Including Well in Sampling Plan	Final Sampling Frequency	
			Semiannual Monitoring Event Parameters	Annual Monitoring Event Parameters
MW-09A	Off site to the south; S of West 1st Street	Downgradient, shallow delineation well to the south	COI/MNA	COI/MNA
MW-09B	Off site to the south; S of West 1st Street	Downgradient, intermediate delineation well to the south	Gauged only	COI/MNA
MW-14A	On riverbank to the W-NW of site	Downgradient, shallow delineation well to the west	Cyanide	Cyanide
MW-401AR	N of former MGP operations area	Downgradient, shallow delineation well to the north	COI/MNA	COI/MNA
MW-401B	N of former MGP operations area	Downgradient, intermediate delineation well to the north	Gauged only	Gauged only
MW-402A	Former MGP operations area	Shallow well, southern edge of plume	COI/MNA	COI/MNA
MW-402B	Former MGP operations area	Shallow well, intermediate edge of plume	COI/MNA	COI/MNA
MNW-403A	Former MGP operations area	Shallow well, western edge of plume	COI/MNA	COI/MNA
MW-403B	Former MGP operations area	Intermediate well, western edge of plume	COI/MNA	COI/MNA
MW-404R	Former MGP operations area	Shallow well, source area of plume	COI/MNA	COI/MNA
MW-404B	Former MGP operations area	Intermediate well, source area of plume	COI/MNA	COI/MNA
MW-405	NW of former MGP operations area	Shallow well, western edge of organic plume	Gauged only	COI/MNA
MW-406A	NW of former MGP operations area at riverbank	Downgradient shallow well, western edge of cyanide plume	Gauged only	Cyanide
MW-406B	NW of former MGP operations area at riverbank	Downgradient intermediate well, western edge of cyanide plume	Gauged only	Cyanide
MW-406C	NW of former MGP operations area at riverbank	Downgradient, deep delineation well to the west/northwest	Gauged only	Cyanide
MW-501	NE of former MGP operations area	Upgradient, shallow well delineation well to the east/northeast	Gauged only	COI/MNA
MW-502	Off site to the south of 2nd Avenue	Downgradient, shallow (cyanide) delineation well to the south	Gauged only	Gauged only
MW-503	West of 2nd Avenue; S of site	Downgradient, shallow delineation well to the west/southwest	Cyanide	COI/MNA
MW-504	SE of former MGP operations area	Downgradient shallow well, eastern edge of plume	COI/MNA	COI/MNA
MW-505R	NE of former MGP operations area (3rd Avenue)	Downgradient, shallow delineation well to the north/northeast	Gauged only	Cyanide
MW-506	Off site to the east of former MGP operations area (Broad Street)	Downgradient, shallow delineation well to the east	Destroyed	Destroyed
MW-507	Off site on the east of former MGP operations area (ROW of West 1st St.)	Downgradient, shallow delineation well to the east	COI/MNA	COI/MNA
MW-508	Off site to the south; southeast of West 1st Street	Downgradient, shallow delineation well to the east/southeast	Gauged only	COI/MNA

Notes:

COI - constituents of interest

MNA - monitored natural attenuation

MW-401B and MW-502 are no longer sampled as part of the Site groundwater monitoring program.

MW-506 was paved over the City of Rome.

This monitoring program is current as of October 2012.

Table 6-2
Final List of Groundwater Constituents of Interest for MNA Monitoring
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Volatile Organic Compounds	Semivolatile Organic Compounds	Inorganic Constituents	Monitored Natural Attenuation Parameters
EPA-8260B	**EPA-8270C**	**EPA-9012A**	**AM20GAX**
Benzene	2,4-Dimethylphenol	Cyanide, Total	Dissolved Gases
Ethylbenzene	2-Methylphenol		(Dissolved Oxygen, Methane)
Toluene	4-Methylphenol		**EPA-6010B**
Xylenes, Total	Acenaphthylene		Iron, Total
Isopropylbenzene	Naphthalene		**SM-3500**
	Phenanthrene		Iron, Ferrous

Notes:

MNA - monitored natural attenuation

This list is current as of October 2012.

All analyses were performed by TestAmerica- Savannah with the exception of dissolved gases, which were analyzed by TestAmerica Pensacola.

Table 6-3
Monitoring Well Construction Details
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Well ID	Ground Surface Elevation (feet amsl)	Top of Casing Elevation (feet amsl)	Screened Interval (feet bgs)	Screened Interval (feet amsl)	Finish Details
MW-9A	597.32	597.11	18-28	579.32 - 569.32	Flush-mounted
MW-9B	597.31	597.12	55.5-65.5	541.81 - 531.81	Flush-mounted
MW-14A	NA	579.85	9.5-19.5	570.35 - 560.35	Flush-mounted
MW-401AR	595.81	599.00	20-30	575.81 - 565.81	Flush-mounted
MW-401B	596.11	598.80	55-65	541.11 - 531.11	Flush-mounted
MW-402A	597.00	599.54	20.5-30.5	576.50 - 566.50	Flush-mounted
MW-402B	596.93	599.53	40-50	556.93 - 546.93	Flush-mounted
MW-403A	597.50	599.13	22.5-32.5	575.00 - 565.00	Flush-mounted
MW-403B	597.01	599.70	60.5-70.5	536.51 - 526.51	Flush-mounted
MW-404R	596.55	596.49	17.5-27.5	578.99 - 568.99	Flush-mounted
MW-404B	597.46	600.63	37-57	560.33 - 540.33	Flush-mounted
MW-405	597.33	599.89	26-36	571.33 - 561.33	Flush-mounted
MW-406A	596.89	599.39	25-35	571.89 - 561.89	Stick-up with steel protective cover
MW-406B	597.15	599.62	50-60	547.15 - 537.15	Stick-up with steel protective cover
MW-406C	597.09	597.15	65-85	532.09 - 512.09	Flush-mounted
MW-501	595.72	597.12	17-27	578.72 - 568.72	Flush-mounted
MW-502	596.90	596.20	24.5-34.5	568.90 - 558.90	Flush-mounted
MW-503	596.30	595.73	21-36	575.30 - 560.30	Flush-mounted
MW-504	596.72	599.93	24-34	572.72 - 562.72	Flush-mounted
MW-505R[1]	NA	NA	13.2-38.2	576.73 - 566.73	Flush-mounted
MW-506[2]	NA	596.21	20-35	576.21 - 561.21	Flush-mounted
MW-507	597.86	597.57	24-34	573.57 - 563.57	Flush-mounted
MW-508	597.67	597.48	24-34	573.48 - 563.48	Flush-mounted

Notes:
amsl = above mean sea level
bgs = below ground surface
NA = not available
1 - MW-505R was installed on March 12, 2009 but has not been surveyed.
2 - MW-506 has been paved over by the City of Rome

Table 6-4
Groundwater Elevations - Pre-Remediation
December 1998 and June 1999
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Monitoring Well	Groundwater Elevation (ft above mean sea level)	
	December, 1998	June, 1999
MW-01R	572.16	572.61
MW-02	577.81	579.51
MW-03	576.36	576.37
MW-04R	572.16	571.75
MW-05	574.65	575.09
MW-06B	567.43	567.41
MW-07	572.58	574.6
MW-08A	568.89	568.89
MW-09A	572.15	574.32
MW-09B	569.10	570.00
MW-13[1]	579.22	NM
MW-14A[1]	NM	570.27
MW-300	568.29	568.28
MW-301[2]	570.07	566.93
PZ-01	578.47	581.02

Notes:

[1] NM indicates that the groundwater elevation was not measured

[2] Well not installed when December 1998 groundwater elevations were measured; this groundwater level was taken later in the month.

Table 6-5
Depths to Water and Ground Water Elevations
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Well ID	Top of Casing Elevation	Depth to Water October 8, 2012	Ground Water Elevation October 8, 2012
MW-09A	597.11	26.41	570.70
MW-09B*	597.12	29.78	567.34
MW-14A	579.85	13.78	566.07
MW-401AR	597.03	25.92	571.11
MW-401B*	595.81	31.13	564.68
MW-402A	597.02	25.32	571.70
MW-402B*	596.97	26.93	570.04
MW-403A	595.81	23.45	572.36
MW-403B*	595.72	31.28	564.44
MW-404B*	596.27	26.63	569.64
MW-404R	596.49	24.61	571.88
MW-405	595.40	25.01	570.39
MW-406A	599.35	33.82	565.53
MW-406B*	599.57	35.23	564.34
MW-406C**	597.05	32.95	564.10
MW-501	596.82	25.10	571.72
MW-502	596.20	27.60	568.60
MW-503	595.73	30.22	565.51
MW-504	598.04	26.25	571.79
MW-505R[1]	NS	23.25	NS
MW-506[2]	596.21	NM	NM
MW-507	597.57	25.83	571.74
MW-508	597.48	29.03	568.45

Notes:
*- intermediate well
**- deep well
NM - not measured
NS - not surveyed
All depths to water are listed in feet below top of casing (TOC).
All elevations are listed in feet above mean sea level (MSL).
1 - MW-505R was installed on March 12, 2009 but has not been surveyed.
2 - MW-506 was paved over by the City of Rome

Table 6-6
Sample Containerization, Preservation, and Holding Times
for Groundwater Analytes
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Analyte	Bottle Type	Preservation	Holding Time
Volatiles	40 mL vial with lined septum cap	HCl; cool to 4 ^{o}C	14 days
Semivolatiles	1 L amber glass	Cool to 4 ^{o}C	7 days
Cyanide	500 mL plastic	NaOH; cool to 4 ^{o}C	14 days
Metals (total & dissolved)	500 mL plastic	HNO3; cool to 4 ^{o}C	6 months
Nitrate	250 mL plastic	H2SO4; cool to 4 ^{o}C	28 days
Sulfate	500 mL plastic	Cool to 4 ^{o}C	28 days
Sulfide	500 mL plastic	NaOH & ZnAOC; cool to 4 ^{o}C	7 days
Manganese (total & dissolved)	500 mL plastic	HNO3; cool to 4 ^{o}C	6 months
Carbon Dioxide	40 mL vial with lined septum cap	Cool to 4 ^{o}C	14 days
Oxygen	40 mL vial with lined septum cap	Cool to 4 ^{o}C	14 days
Nitrogen	40 mL vial with lined septum cap	Cool to 4 ^{o}C	14 days
Ferrous Iron (Fe+2)	250 mL plastic	HCl; cool to 4 ^{o}C	24 hours
Total Iron	500 mL plastic	HNO3; cool to 4 ^{o}C	6 months
Methane	40 mL vial with lined septum cap	Cool to 4 ^{o}C	14 days

Table 7-1
Comparison of RBCGs for Subsurface Soil Protective of Vapor Intrusion to Soil Data within 100 ft of Hotel
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

		Subsurface Soil COI	**Benzene**	**Naphthalene**
		RBCG - Hotel	**0.77**	**57.75**
Sample ID	**Sample Date**	**Sample Depth** (in feet below ground surface)	(mg/Kg)	(mg/Kg)
GP-127	1/24/1996	16-19	< 0.012	< 0.38
GP-318	12/16/1998	11-13	**0.0096**	< 0.41
GP-319	12/17/1998	7-9	**0.022**	**0.78**
GP-321	12/17/1998	5.5-6.5	< 0.0038	< 0.39
GP-322	12/18/1998	7-9	< 0.0037	< 1.5
GP-324	12/19/1998	12-14	< 0.0044	< 0.4
GP-325	12/19/1998	10-12	< 0.0043	< 0.41
GP-326	12/19/1998	10-12	< 0.0047	< 0.41
GP-327	12/20/1998	12-14	< 0.0043	< 0.42
GP-331	12/21/1998	16-18	**0.0055**	< 0.42
HA-103	2/7/1996	1-3	< 0.013	**0.3**
	2/7/1996	5-6	< 0.014	< 0.44
HA-105	2/8/1996	1-3	< 0.013	< 0.42
HA-107	2/12/1996	1-3	< 0.013	< 0.42
	2/12/1996	3-4	< 0.013	< 0.43
HA-108	2/12/1996	1-3	< 0.013	< 0.42
	2/12/1996	5-7	< 0.012	< 0.41
	2/12/1996	10-11	< 0.013	< 0.43
HA-200	9/8/1997	2-5	< 0.0064	< 0.42
HA-204	9/9/1997	2-5	< 0.0057	< 0.38
MW-09A	2/24/1996	13-15	< 0.012	< 0.4
MW-09A	2/24/1996	17-19	< 0.013	< 0.42
MW-10	2/26/1996	11-13	< 0.013	**5.1**
MW-10	2/26/1996	15-17	< 0.012	< 0.41
MW-13	2/28/1996	1-3	< 0.013	< 0.42
MW-13	2/28/1996	5-7	< 0.013	< 0.44
SC-0064	7/9/1999	3	< 0.0045	< 0.41
SC-0065	7/9/1999	3	< 0.0046	**2.1**
SC-0066	7/9/1999	3	< 0.0059	< 0.35
SC-0067	7/9/1999	3	< 0.0041	< 0.43
SC-0073	7/14/1999	7.5	< 0.0035	< 0.4
SC-0074	7/14/1999	7.5	< 0.0038	< 0.38
SC-0075	7/14/1999	12.5	< 0.0046	< 0.39
SC-0081	7/14/1999	18	< 0.0058	**1.2**
SC-0082	7/14/1999	12.5	< 0.0044	< 0.43

Table 7-1
Comparison of RBCGs for Subsurface Soil Protective of Vapor Intrusion to Soil Data within 100 ft of Hotel
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

		Subsurface Soil COI	**Benzene**	**Naphthalene**
		RBCG - Hotel	**0.77**	**57.75**
Sample ID	**Sample Date**	**Sample Depth** (in feet below ground surface)	(mg/Kg)	(mg/Kg)
SC-0086	7/20/1999	6	< 0.0049	< 0.41
SC-0087	7/20/1999	12	< 0.0053	< 0.4
SC-0088	7/20/1999	12	< 0.0075	< 0.39
SC-0089	7/20/1999	12	**0.011**	< 0.42
SC-0104	7/19/1999	20	< 0.0046	< 0.41
SC-0108	7/23/1999	14	< 0.0049	< 0.41
SC-0109	7/23/1999	14	< 0.006	< 0.42
SC-0117	7/26/1999	10	< 0.0043	< 0.41
SC-0119	7/27/1999	14	**0.16**	< 0.41
SC-0120	7/27/1999	16	< 0.0045	< 0.43
SC-0124	7/29/1999	14	< 0.0054	< 0.44
SC-0125	7/29/1999	7	**0.012**	< 0.42
SC-0126	7/29/1999	10	**0.013**	< 0.46
SC-0127	7/29/1999	15	**0.022**	< 0.45
SC-0130	8/2/1999	4.5	< 0.0055	< 0.43
SC-0132	8/2/1999	14	< 0.0046	< 0.45
SC-0137	8/4/1999	10	< 0.0041	< 0.4
SC-0138	8/4/1999	10	**0.014**	< 0.41
SC-0148	8/12/1999	10	< 0.0042	< 0.44
SC-0151	8/12/1999	10	< 0.0048	< 0.41
SC-0152	8/12/1999	11	< 0.005	**3.2**
SC-0153	8/12/1999	8	< 0.0041	< 0.41
SC-0154	8/12/1999	18	< 0.0065	< 0.39
SC-0171	8/28/1999	5	< 0.013	< 0.48
SC-0172	8/28/1999	5	< 0.0054	< 0.49
SC-0173	8/28/1999	11	< 0.0059	< 0.42
SC-0174	8/28/1999	5	< 0.0053	< 0.41
SC-0175	8/28/1999	5	< 0.0078	< 0.51
SC-0178	8/31/1999	7	**0.028**	**3.3**
SC-0179	9/1/1999	7	**0.012**	< 4.3

Notes:
bold - analyte detected
COI = constituent of interest
mg/Kg = milligrams per kilogram
RBCG = Risk-based Cleanup Goal

Table 7-2
Comparison of RBCGs for Subsurface Soil Protective of a Construction/Excavation Worker to 2nd Avenue Bridge Soil Confirmation Sampling Results
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

		Sample ID:	HA-2	SC300FL1
		Date Collected:	4/10/2003	12/9/2003
		Depth:	0-2 ft	3 ft
Constituents of Interest	**RBCG for CW/EW**		**Pre-Excavation**	**Post-Excavation**
Semivolatile Organic Compounds				
4-Methylphenol	10,220		<3.8	NA
Acenaphthene	120,000		<3.8	NA
Acenaphthylene	61,000		<3.8	NA
Anthracene	610,000		8.2	NA
Benzo(a)anthracene	1,960		**18**	NA
Benzo(b)fluoranthene	1,960		**17**	NA
Benzo(k)fluoranthene	19,597		**11**	NA
Benzo(g,h,i)perylene	--		**12**	NA
Benzo(a)pyrene	196		**16**	**3.0**
Chrysene	195,970		**17**	NA
Dibenzo(a,h)anthracene	196		<3.8	NA
Fluoranthene	--		**42**	NA
Fluorene	--		**4.6**	NA
Indeno(1,2,3-cd)pyrene	NA		**10**	NA
Naphthalene	--		<3.8	NA
Phenanthrene	--		**33**	NA
Pyrene	--		**27**	NA
Total SVOCs	NA		**216**	NA

Notes:
ft = feet below ground surface
NA = Not applicable
bolded = detected concentration
All results are reported in milligrams per kilogram (mg/Kg).
The cleanup goal listed is the calculated Site-specific VRP Standard for Subsurface Soil Risk-Based Clean-up Goal (RBCG) Protective of a Construction/Excavation Worker (CW/EW). Constituent with no RBCG value was not retained as a COI under the VRP.

Table 7-3
Summary of Parcel Compliance for Soil
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parcel No.	Owner Name	Contact Name	Contact Address	City/State/Zip	Compliance with RBCGs
1	Floyd County	Jamie McCord	3 Government Plaza	Rome, GA 30162	yes
2	City of Rome	Kirk Milam	3 Government Plaza	Rome, GA 30162	yes
3	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
3A	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
4	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
5	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
6	City of Rome	Kirk Milam	601 Broad Street	Rome, GA 30161	yes
7	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
8	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
Portions of Right-of-Way of West 1st Street	City of Rome	Kirk Milam	601 Broad Street	Rome, GA 30162	yes
Right-of-Way under 2nd Avenue Bridge	City of Rome	Kirk Milam	601 Broad Street	Rome, GA 30162	yes

Table 7-4
Groundwater Concentrations Compared to Risk-Based Clean-up Goals Protective of Indoor Air
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Groundwater Vapor Intrusion COI		Benzene	Naphthalene	Cyanide
VI RBCG - Hotel Worker		**39,210**	**41,670**	**14,893**
VI RBCG - Broad Street Retail Worker		**23,940**	**24,700**	**24,708**
Monitoring Well	**Sample Date**	(ug/L)	(ug/L)	(ug/L)
MW-09A	10/10/2012	< 5.0	< 9.8	**0.020**
MW-09B	4/19/2012	< 5.0	< 11	**0.023**
MW-14A	10/10/2012	NA	NA	< 0.010
MW-401AR	10/9/2012	< 5.0	< 11	< 0.010
MW-402A	10/10/2012	**74**	**33**	< 0.010
MW-402B	10/10/2012	< 5.0	< 9.7	**0.077**
MW-403A	10/9/2012	< 5.0	< 9.6	**340**
MW-403B	10/9/2012	< 5.0	< 10	**0.011**
MW-404R	10/11/2012	**510**	**230**	< 0.010
MW-404B	10/11/2012	< 5.0	< 11	**0.057**
MW-405	4/18/2012	< 5.0	< 11	< 0.010
MW-406A	4/17/2012	NA	NA	< 0.010
	4/17/12-DUP	NA	NA	< 0.010
MW-406B	4/19/2012	NA	NA	< 0.010
MW-406C	4/18/2012	NA	NA	< 0.010
MW-501	4/18/2012	< 5.0	< 11	**0.053**
MW-503*	10/10/2012	< 5.0	< 12	< 0.010
	10/10/12-DUP	NA	NA	< 0.010
MW-504	10/11/2012	**2,800**	**1,200**	< 0.010
	10/11/12-DUP	**2,300**	**1,400**	**0.46**
MW-505R	4/19/2012	NA	NA	< 0.010
MW-506**	4/14/2010	< 5.0	< 9.4	< 0.010
MW-507	10/10/2012	< 5.0	< 9.8	< 0.010
MW-508	4/19/2012	< 5.0	< 12	< 0.010

Notes:
bold - analyte detected
ug/L - micrograms per liter
COI - constituent of interest
DUP - sample duplicate
RBCG - Risk-Based Cleanup Goal
* - Monitoring well is only sampled for organic compounds in Annual events; the last of which was in April 2012. The sample was collected as a duplicate at the time of the April 2012 sampling.
** - April 2010 represents the last sampling event in MW-506 since the well was paved over by the City of Rome prior to the next sampling event.

Table 7-5
Summary of Parcel Compliance for Groundwater
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parcel No.	Owner Name	Contact Name	Contact Address	City/State/Zip	Compliance with RBCGs
1	Floyd County	Jamie McCord	3 Government Plaza	Rome, GA 30162	yes
2	City of Rome	Kirk Milam	3 Government Plaza	Rome, GA 30162	yes
3	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
3A	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
4	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
5	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
6	City of Rome	Kirk Milam	601 Broad Street	Rome, GA 30161	yes
7	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
8	Battey Downtown, LLC	Ira Levy	711 Broad Street	Rome, GA 30161	yes
Portions of Right-of-Way of West 1st Street	City of Rome	Kirk Milam	601 Broad Street	Rome, GA 30162	yes
Portions of Right-of-Way of Broad Street	City of Rome	Kirk Milam	601 Broad Street	Rome, GA 30162	yes

Table 8-1
Protected Animal and Plant Species (Floyd County)
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Protected Animal and Plant Species (Scientific Name)	Federal Status	State Status	Preferred Habitat	Habitat* Available in Project Area
BIRDS				
Peregrine falcon (*Falco peregrinus*)	E	---	Cliffs generally overlooking water are primary nesting sites, although may nest on slopes, river cutbanks, mounds, sand dunes, trees, flat bogs and plains. Nests have been observed on nesting platforms erected in the tops of tall towers.	
Red-cockaded Woodpecker (*Picoides borealis)*	E	E	For nesting and roosting it requires overmature pine trees infected with red heart disease.	
Bald Eagle (*Haliaeetus leucocephalus*)	T	E	Needs suitable wetlands for hunting, and undisturbed lakeshore or coast with large trees for roosting and nesting.	
Wood Stork (*Mycteria Americana*)	E	E	Primarily feed in fresh and brackish wetlands and nest in cypress or other wooded swamps.	
MAMMALS				
Gray bat (*Myotis grisescens*)	E	E	Restricted entirely to caves or cave-like habitats.	
FISH				
Blue shiner (*Cyprinella caerulea)*	T	---	Restricted to the Coosa River system in Georgia. Typically inhabits medium to large clear streams having gravel-rubble-small boulder substrate.	
MOLLUSKS				
Upland combshell mussel (*Epioblasma metastriata)*	E	E	High quality, free-flowing rivers and large creeks; stable gravel and sandy-gravel substances in moderate to swift currents.	
Fine-lined pocketbook mussel (*Lampsilis altilis*)	T	T	High quality, free-flowing rivers and large creeks; stable gravel and sandy-gravel substrates in moderate to swift currents.	
Alabama moccasinshell mussel (*Medionidus acutissimus*)	T	T	Rivers and Large creeks.	
Coosa moccasinshell mussel (*Medionidus parvulus*)	E	E	Stable gravel and sandy-gravel substrates in high quality free-flowing streams and rivers.	
Southern clubshell mussel (*Pleurobema decisum*)	E	E	Rivers of medium size with a moderately high gradient and with areas of stable substrate characterized by sand-gravel sediments.	
Southern pigtoe mussel (*Pleurobema georgianum*)	E	E	Stable gravel and sandy gravel substrates in high-quality free-flowing streams and rivers.	
Ovate clubshell mussel (*Pleurobema perovatum*)	E	E	High quality, free-flowing large to small rivers and streams in stable gravel and sandy-gravel substrate.	
Triangular kidneyshell mussel (*Ptychobranchus greeni*)	E	T	High quality rivers and large creeks in stable gravel and sandy gravel substrates.	

Table 8-1 (Cont'd)
Protected Animal and Plant Species (Floyd County)
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Protected Animal and Plant Species (Scientific Name)	Federal Status	State Status	Preferred Habitat	Habitat* Available in Project Area
PLANTS				
Mohr's Barbara button (*Marshallia mohrii*)	T	T	Known from remnant prairies in Ridge and Valley with sandy clay soils derived from shale.	
Tennessee yellow-eyed grass (*Xyris tennesseensis*)	E	E	Gravelly open, calcareous, seepy margins and wet meadows along spring-fed headwater streams.	
Large-flowered skullcap (*Scutellaria Montana*)	E	E	Mature oak-pine forests with spase understory.	
Limerock arrowwood (*Viburnum bracteatum*)	SC	E	Restricted to calcareous rocky bluffs along the Coosa River in the Ridge and Valley Province.	
Purple sedge *Carex purpurifera*)	SC	T	Found in rich woods and on river bluffs in calcareous soils.	
Arabis (*Arabis Georgiana*)	--	T	Found on shaded riverbanks near or upon boulders or ledges of shale or granite-gneiss; also in thin soil of openly wooded, steep slopes.	
Southern meadow-rue (*Thalictrum debile*)	SC	T	Found in deciduous woods near streams or in alluvial woods on limestone-derived soils.	

Notes:
E = Endangered
T = Threatened
SC = Species of concern
-- = Not Listed
R = Rare
*Delineation of Available Habitat will be Developed, as required, in Subsequent Phases of Site Studies

Source:
U.S. Fish and Wildlife Service, Region 4 and Georgia Department of Natural Resources, 1995.

Table 8-2
Results of Groundwater Usage Survey
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Owner or Well Name	Usage	Latitude/ Longitude	Depth of Well (ft*)	Bottom of Casing (ft*)	Casing Diameter (in)	Discharge (GPM)
Henry Fincher	Domestic	341438/0850803	66.83	33	6	50
D.F. Ellis	Unused	341217/0850825	175	170	6	--
Robert Walther	Domestic	341418/0851232	93	--	6	32
J.W. Parker	Domestic	341334/0851246	181	93	6	5
Eddie Crider	Domestic	341336/0851304	95	33	6	7.5
R.J. Burchett	Domestic	341307/0851235	80	40	6	--
Paul Cannon	Domestic	341322/0851331	81	45	6	--
William Hoffman	Domestic	341350/0851350	140	40	6	35
C.G. Wall	Domestic	341706/0850804	103	70	6	--
J. Howard Ford	Domestic	341704/0850758	189.5	101	6	8.3
James H. Ellis, Jr.	Domestic	341722/0850741	97	92	6	20
J.T. Traylor	Domestic	341448/0850634	120	120	6	--
K.N. Tate	Domestic	341433/0850705	143	143	6	40
Leroy Wilbanks	Domestic	341310/0850705	167	167	6	20
Leroy Wilbanks	Domestic	341315/0850639	131	131	6	--
Hubert H. Vaughan	Domestic	341710/0850714	122	100	6	--
Floyd County Well No. 1	Public Supply	341529/0850713	280	125	8	210

Notes:
1) * Below Land Surface
2) --Information not provided

Source:
Ground-Water Site Inventory; U.S. Geological Survey, Georgia District, January 2, 1992.
Geological Survey of Georgia Information Circular 39,1970.

FIGURES

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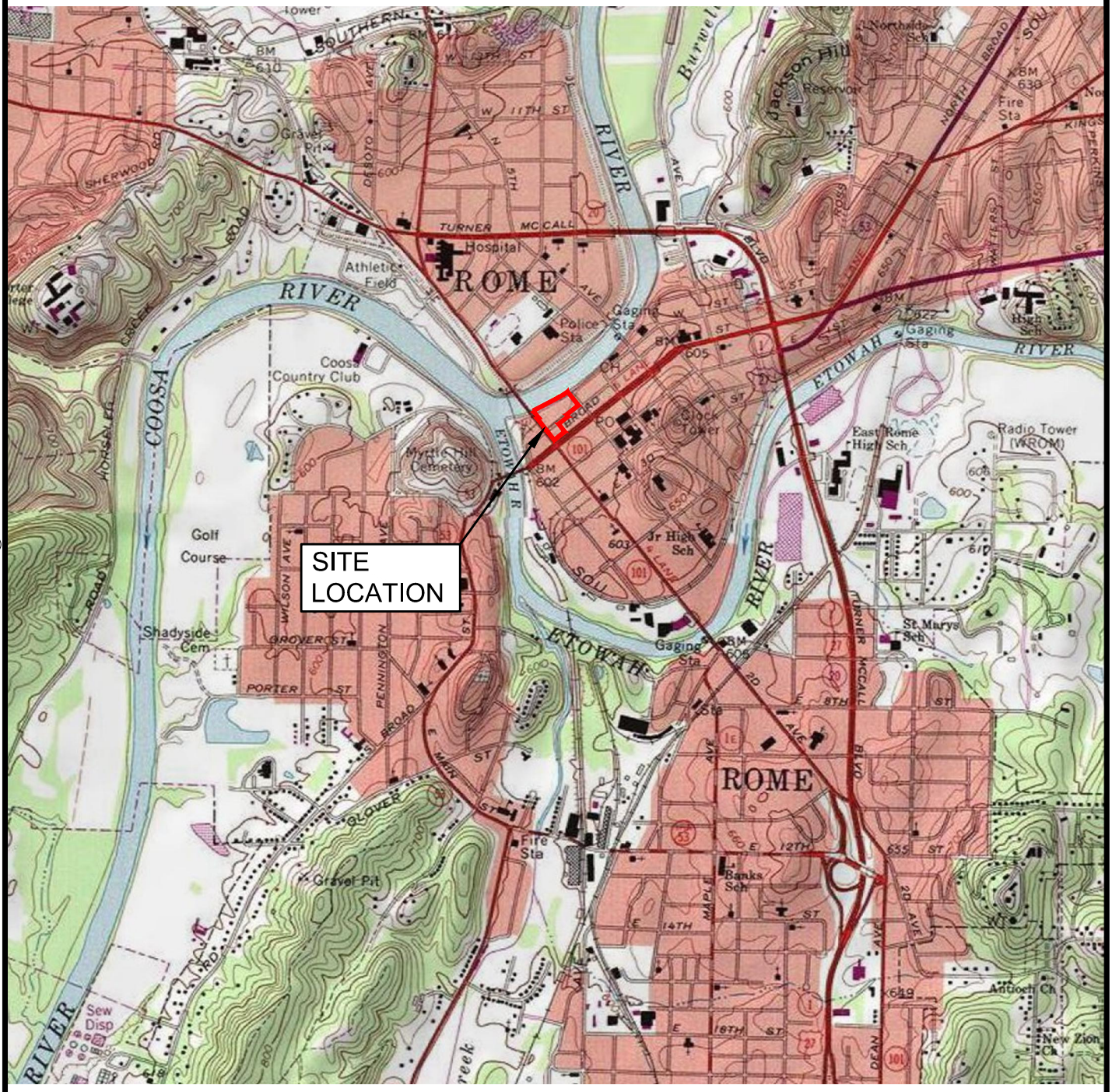

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FIGURE 2-1
SITE LOCATION MAP
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE Office\CAD\AGL\NEW FIGURES\FIG_2-1_SITE LOCATION MAP

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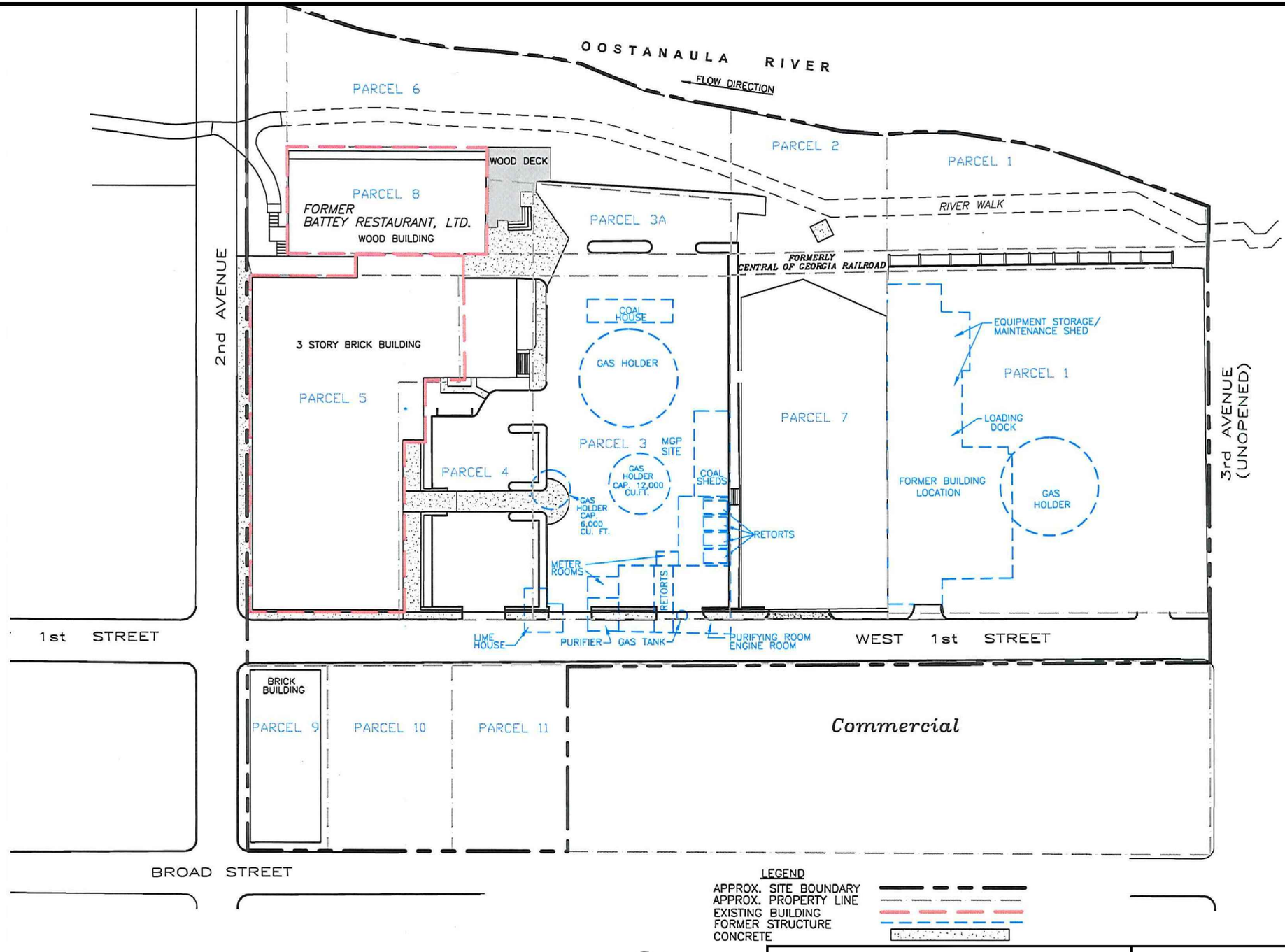

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FIGURE 2-2
SITE MAP (PRE-EXCAVATION)
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_2-2_SITE MAP_PRE-EXCAVATION

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I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_2-3_SITE MAP_POST-EXCAVATION

OOSTANAULA RIVER

FLOW DIRECTION

PARCEL 6

PARCEL 2

PARCEL 1

PARCEL 8

FORMER BATTEY RESTAURANT, LTD.

WOOD BUILDING

PARCEL 3A

RIVER WALK

FORMERLY CENTRAL OF GEORGIA RAILROAD

2nd AVENUE

3rd AVENUE (UNOPENED)

3 STORY BRICK BUILDING

COAL HOUSE

GAS HOLDER

GRASSY AREA

PARCEL 5

PARCEL 7

PARCEL 3 MGP SITE

PARCEL 4

GAS HOLDER CAP. 12,000 CU.FT.

GAS HOLDER CAP. 6,000 CU. FT.

COAL SHEDS

GRASSY AREA

RETORTS

METER ROOMS

SMALL TRANSFORMER

RETORTS

EQUIPMENT STORAGE/ MAINTENANCE SHED

PARCEL 1

GRASSY AREA

LOADING DOCK

FORMER BUILDING LOCATION

GAS HOLDER

LARGE TRANSFORMER

1st STREET

LIME HOUSE

PURIFIER

GAS TANK

PURIFYING ROOM ENGINE ROOM

WEST 1st STREET

BRICK BUILDING

PARCEL 9

PARCEL 10

PARCEL 11

Commercial

BROAD STREET

LEGEND

APPROX. SITE BOUNDARY

APPROX. PROPERTY LINE

EXISTING BUILDING

FORMER STRUCTURE

CONCRETE

0 60' 120'

SCALE IN FEET

Burns & McDonnell SINCE 1898

Atlanta Gas Light®

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FIGURE 2-3
SITE MAP (POST-EXCAVATION)
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_2-4_SITE MAP SHOWING PARCELS AND OWNERSHIP_OCTOBER 2013

FLOW

OOSTANAULA RIVER

J14D 025
PARCEL 6
(City of Rome)

J14D 019
(City of Rome)

This applies to Former Parcel 2

J14D 024
PARCEL 8
(Battey Downtown, LLC)

WOOD BUILDING

PARCEL 3A

PARCEL 2

Formerly Central of GA Railroad

2ND AVENUE

COMMERCIAL

J14D 023
PARCEL 5
(Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022
PARCEL 4
(Battey Downtown, LLC)

J14D 021
PARCEL 3
(Battey Downtown, LLC)

PARKING LOT

J14D 020
PARCEL 7
(Battey Downtown, LLC)

PARKING LOT

J14D 020A
(City of Rome/Floyd County)
Driveway Easement

J14D 018
PARCEL 1
(Floyd County)

PARKING GARAGE

WEST FIRST STREET ROW
(City of Rome)

WEST 1ST STREET

Transformer Easement

J14D 044
PARCEL 9
(Larry Martin)

ASPHALT PARKING LOT
J14D 045
PARCEL 10
(Larry Martin)

J14D 046
PARCEL 11
(Larry Martin)

J14D 047
PARCEL 12

J14D 048

J14D 049

J14D 050
(Larry Martin)

COMMERCIAL

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT

N

0 60' 120'

SCALE IN FEET

Burns & McDonnell SINCE 1898

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FIGURE 2-4
SITE MAP SHOWING PARCELS AND OWNERSHIP - OCTOBER 2013
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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LEGEND

- SITE BOUNDARY
- PARCEL 12 — HISTORIC PARCEL BOUNDARY/PARCEL NUMBER
- BUILDING OUTLINE
- UGP, SS, SD, UGT, P,T, UGTV — UTILITIES
- SEMIANNUAL MONITORING WELL
- MONITORING WELL TO BE GAUGED ONLY
- ANNUAL MONITORING WELL

MW–14A
PARCEL 6
PARCEL 8
WOOD BUILDING
MW–406A
MW–406C
MW–406B
PARCEL 3A
PARCEL 2
MW–405
MW–401B
HOTEL
MW–401AR
PARCEL 5
MW–403A
MW–403B
PZ–01
PARCEL 3
PARCEL 7
3 STORY BRICK BUILDING
PARCEL 4
PARKING DECK
COMMERCIAL
MW–404R
MW–404B
MW–501
MW–402B
MW–402A
MW–504
3rd AVENUE
MW–505
WEST 1st STREET
MW–507
MW–9A
MW–9B
PARCEL 9
PARCEL 10
PARCEL 11
PARCEL 12
COMMERCIAL
MW–508
2nd AVENUE
MW–502
MW–506
BROAD STREET

0 60' 120'
SCALE IN FEET

SOURCE: BASEMAP SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 2-5
CURRENT SITE LAYOUT - 2013
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_2-5_CURRENT SITE LAYOUT - 2013

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I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_3-1_SITE MAP WITH SOIL BORING AND MW LOC_PRE-EXCAVATION

OOSTANAULA RIVER

FLOW DIRECTION

PARCEL 1

PARCEL 2

PARCEL 3

PARCEL 4

PARCEL 5

PARCEL 6

PARCEL 7

PARCEL 8

TOP OF SLOPE

PROPOSED CONCRETE RIVERWALK

ABANDONED RAILROAD TRACKS

COAL HOUSE

GAS HOLDER

GAS HOLDER CAP. 6,000 CU. FT.

GAS HOLDER CAP. 12,000 CU.FT.

COAL SHEDS

RETORTS

METER ROOMS

LIME HOUSE

PURIFIER

GAS TANK

PURIFYING ROOM ENGINE ROOM

CONCRETE HEADER CURB

EQUIPMENT STORAGE/ MAINTENANCE SHED

LOADING DOCK

FORMER BUILDING LOCATION

2nd AVENUE

3rd AVENUE (UNOPENED)

WEST 1st STREET

LEGEND:

APPROX. SITE BOUNDARY

APPROX. PROPERTY LINE

FORMER STRUCTURES

MONITORING WELL

GEOPROBE

SURFACE SAMPLE

HAND AUGER

SOIL BORING

SEDIMENT SAMPLE

PIEZOMETER

SOIL/WATER PARTITION

0 20' 40' 80'

SCALE IN FEET

Burns & McDonnell SINCE 1898

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FIGURE 3-1
SITE MAP WITH SOIL BORING AND MW LOCATIONS (PRE-EXCAVATION)
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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FLOW

OOSTANAULA RIVER

B'

A'

C

C'

B

A

J14D 025
PARCEL 6
(City of Rome)

J14D 019
(City of Rome)
This applies to Former Parcel 2

J14D 024
PARCEL 8
(Battey Downtown, LLC)

WOOD BUILDING

PARCEL 3A

PARCEL 2

Formerly Central of GA Railroad

J14D 023
PARCEL 5
(Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022
PARCEL 4
(Battey Downtown, LLC)

J14D 021
PARCEL 3
(Battey Downtown, LLC)

J14D 020
PARCEL 7
(Battey Downtown, LLC)

PARKING LOT

J14D 018
PARCEL 1
(Floyd County)

PARKING GARAGE

J14D 020A
(City of Rome/Floyd County)

Driveway Easement

Transformer Easement

2ND AVENUE

COMMERCIAL

WEST 1ST STREET

WEST FIRST STREET ROW
(City of Rome)

ASPHALT PARKING LOT

J14D 044
PARCEL 9
(Larry Martin)

J14D 045
PARCEL 10
(Larry Martin)

J14D 046
PARCEL 11
(Larry Martin)

J14D 047
PARCEL 12

J14D 048

J14D 049

J14D 050
(Larry Martin)

COMMERCIAL

MW-14A
MW-406A
MW-406B
MW-406C
GP-303
GP-323
GP-306
GP-316
MW-401B
MW-405
GP-308
MW-05
MW-401AR
GH-302
MW-403A
MW-403B
SB-438
PZ-01
GP-300
GP-307
GP-310
SB-439
GP-309
SB-437
SB-436
SB-428
MW-13
MW-404R
MW-404B
SB-435
GP-304
SB-400
SB-401
SB-430
SB-423
SB-424
MW-501
GP-317
MW-01R
MW-505R
MW-503
MW-402B
MW-402A
SB-434
SB-433
SB-404
SB-402
SB-421
SB-431
GP-333
SB-417
SB-432
SB-418
GP-311
MW-502
SB-403
SB-420
SB-419
SB-410
SB-416
SB-415
SB-407
SB-408
SB-409
SB-411
SB-406
SB-405
SB-414
MW-507
SB-412
SB-413
GP-334
GP-322
GP-320
GP-321
MW-09A
MW-09B
MW-508
MW-506

0 60' 120'
SCALE IN FEET

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXTENT OF SOURCE MATERIAL IN GROUNDWATER
- EXTENT OF MGP STAINING
- EXTENT OF IMPACTS IN UNSATURATED SOIL
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY
- GEOPROBE
- SOIL BORING

FINAL SOIL EXCAVATION DEPTHS (1999)

- 2' - 3'
- 4' - 7'
- 8' - 11'
- 12' - 16'
- 17' - GW
- 24' - GW

NOTES:

1. MW-506 Monitoring well paved over by City of Rome
2. Wells designed without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
3. Wells designed with the letter “B” are Intermediate Monitoring Wells (e.g. MW-406B)
4. Wells designed with the letter “C” are Deep Monitoring Wells (e.g. MW-406C)

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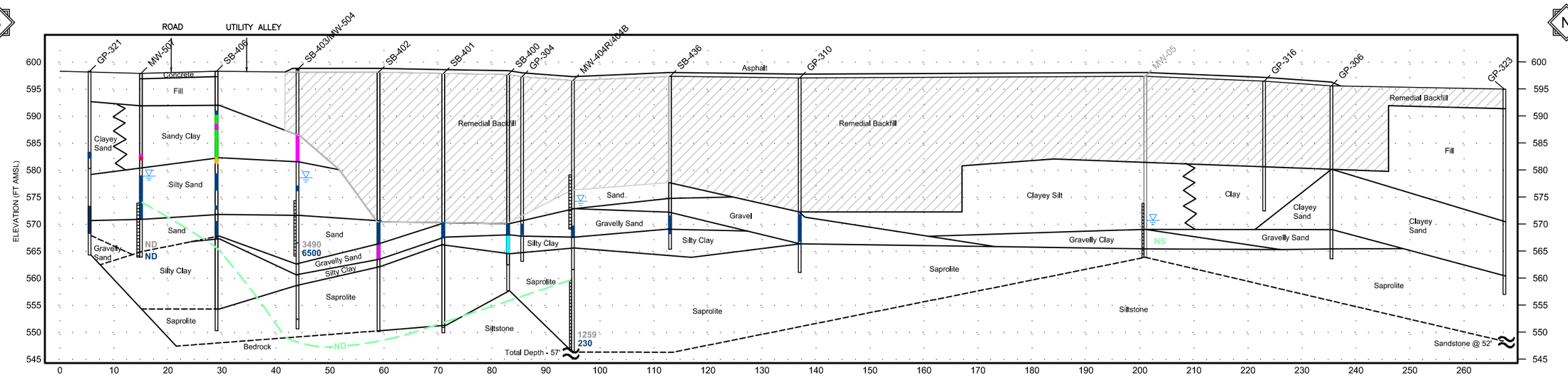
FIGURE 3-2
CROSS SECTION LOCATION MAP
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_3-2_CROSS SECTION LOCATION MAP



SECTION A

0 20' 40'

HORIZONTAL SCALE

0 20' 40'

VERTICAL SCALE

MW-404R Volatile Organic Compounds (µg/L)	
Benzene	510
Ethylbenzene	280
Toluene	91
Xylenes, Total	330
Isopropylbenzene	48
Total VOCs	1,259

MW-504 Volatile Organic Compounds (µg/L)	
Benzene	2,800
Xylenes, Total	690
Total VOCs	3,490

MW-504 Semivolatile Organic Compounds (µg/L)	
2,4-Dimethylphenol	5,300
Naphthalene	1,200
Total VOCs	6,500

LEGEND

- GEOLOGICAL CONTACT (DASHED WHERE INFERRED)
- SCREENED INTERVALS OF MONITORING WELLS
- GROUNDWATER ELEVATION MEASURED ON 10/8/12
- PREVIOUS EXCAVATION AREA (APPROXIMATE LIMITS)
- 3490 CONCENTRATION OF TOTAL VOLATILE ORGANIC COMPOUNDS IN MICROGRAMS PER LITER (µg/L)
- 6500 CONCENTRATION OF TOTAL SEMIVOLATILE ORGANIC COMPOUNDS IN MICROGRAMS PER LITER (µg/L)
- NS NOT SAMPLED
- ND NOT DETECTED
- µg/L MICROGRAMS PER LITER
- VOCs VOLATILE ORGANIC COMPOUNDS
- SVOCs SEMIVOLATILE ORGANIC COMPOUNDS

VISUAL BYPRODUCT-LIKE MATERIAL (BPLM):

- STRINGERS
- RESIDUAL
- STRINGERS AND BLEBS
- BLEBS
- STAINING
- HIGHLY WEATHERED BPLM

NOTES

1. Wells designated without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-507)
2. Wells designated with the letter “B” are Intermediate Monitoring Wells (e.g. MW-404B)
3. MW-05 was abandoned prior to soil excavation
4. Groundwater elevation measurement for MW-05 was based off of data from surrounding area.
5. Only those constituents detected in October 2012 are included in the data boxes
6. Naphthalene was the only SVOC detected in MW-404R

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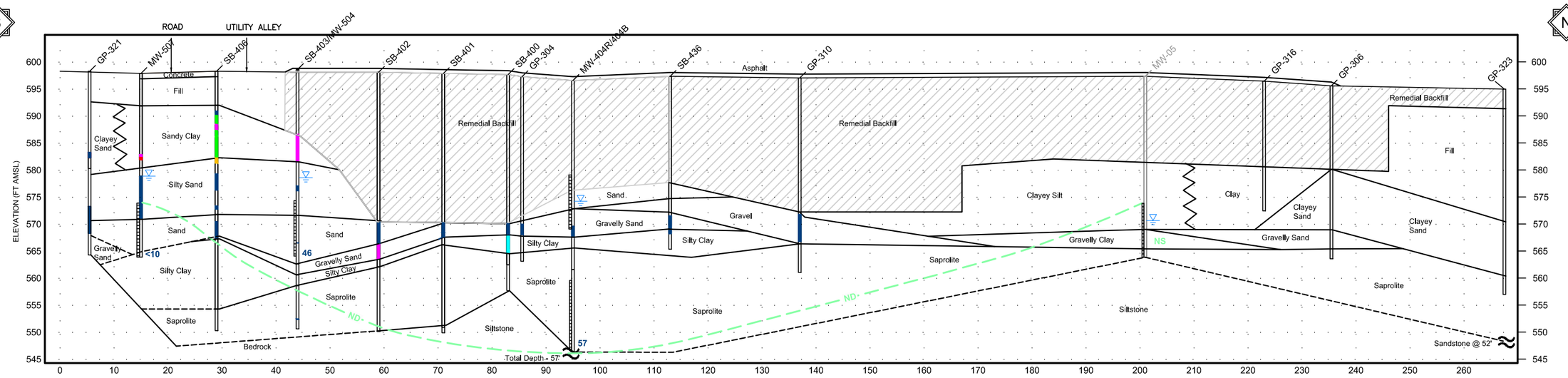
FIGURE 3-3
CROSS SECTION A-A'
SHOWING S TO N DELINEATION OF TOTAL VOCs AND SVOCs IN GROUNDWATER
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_3-3_CROSS SECTION A-A_SHOWING S TO N DELINEATION OF TOTAL VOCS AND SVOCS IN GROUNDWATER



SECTION A

HORIZONTAL SCALE 0 20' 40'

VERTICAL SCALE 0 20' 40'

LEGEND

- GEOLOGICAL CONTACT (DASHED WHERE INFERRED)
- SCREENED INTERVALS OF MONITORING WELLS
- GROUNDWATER ELEVATION MEASURED ON 10/8/12
- PREVIOUS EXCAVATION AREA (APPROXIMATE LIMITS)
- <10 CYANIDE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- NS NOT SAMPLED
- ND NOT DETECTED

VISUAL BYPRODUCT-LIKE MATERIAL (BPLM):

- STRINGERS
- RESIDUAL
- STRINGERS AND BLEBS
- BLEBS
- STAINING
- HIGHLY WEATHERED BPLM

NOTES

1. Wells designated without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-507)
2. Wells designated with the letter “B” are Intermediate Monitoring Wells (e.g. MW-404B)
3. MW-05 was abandoned prior to soil excavation
4. Groundwater elevation measurement for MW-05 was based off of data from surrounding area.

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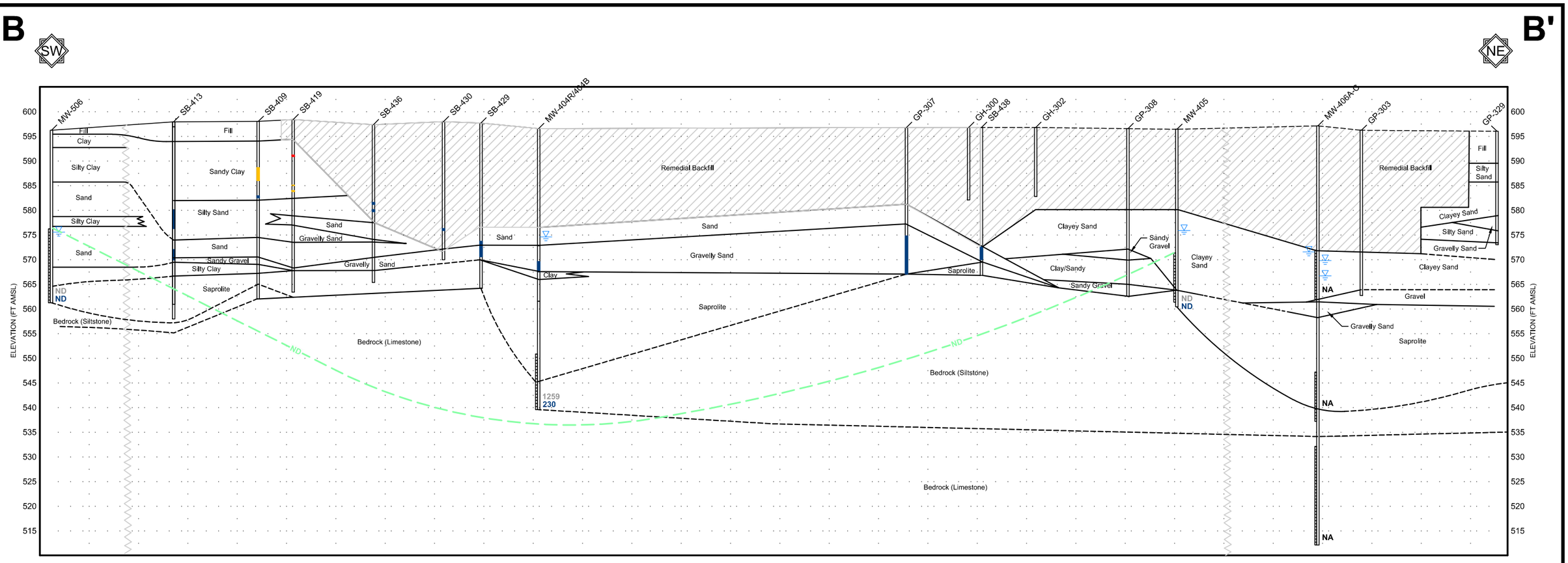
FIGURE 3-4
CROSS SECTION A-A'
SHOWING S TO N DELINEATION OF CYANIDE IN GROUNDWATER
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_3-4_CROSS SECTION A-A_SHOWING S TO N DELINEATION OF CYANIDE IN GROUNDWATER



I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_3-5_CROSS SECTION B-B_SHOWING SE TO NW DELINEATION OF TOTAL VOCS AND SVOCS IN GROUNDWATER

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LEGEND

- GEOLOGICAL CONTACT (DASHED WHERE INFERRED)
- SCREENED INTERVALS OF MONITORING WELLS
- GROUNDWATER ELEVATION MEASURED ON 10/8/12
- PREVIOUS EXCAVATION AREA (APPROXIMATE LIMITS)
- 1259 — CONCENTRATION OF TOTAL VOLATILE ORGANIC COMPOUNDS IN MICROGRAMS PER LITER (µg/L)
- 230 — CONCENTRATION OF TOTAL SEMIVOLATILE ORGANIC COMPOUNDS IN MICROGRAMS PER LITER (µg/L)
- NA — NOT APPLICABLE
- ND — NOT DETECTED
- µg/L — MICROGRAMS PER LITER
- VOCs — VOLATILE ORGANIC COMPOUNDS
- SVOCs — SEMIVOLATILE ORGANIC COMPOUNDS

VISUAL BYPRODUCT-LIKE MATERIAL (BPLM):

- STRINGERS
- RESIDUAL
- STRINGERS AND BLEBS
- BLEBS
- STAINING
- HIGHLY WEATHERED BPLM

SECTION B -

0 20' 40'
HORIZONTAL SCALE
0 20' 40'
VERTICAL SCALE

MW-404R Volatile Organic Compounds (µg/L)	
Benzene	510
Ethylbenzene	280
Toluene	91
Xylenes, Total	330
Isopropylbenzene	48
Total VOCs	1,259

NOTES

1. Wells designated without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-507)
2. Wells designated with the letter “B” are Intermediate Monitoring Wells (e.g. MW-404B)
3. Wells designated with the letter “C” are Deep Monitoring Wells (e.g. MW-406C)
4. MW-406 well cluster are sampled for cyanide only
5. MW-405 and MW-406 well cluster are sampled annually only; therefore the results shown for these wells are from April 2012 (the last annual sampling event)
6. Only those constituents detected in October 2012 are included in the data boxes
7. Naphthalene was the only SVOC detected in MW-404R

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FIGURE 3-5
CROSS SECTION B-B'
SHOWING SE TO NW DELINEATION OF TOTAL VOCs AND SVOCs IN GROUNDWATER
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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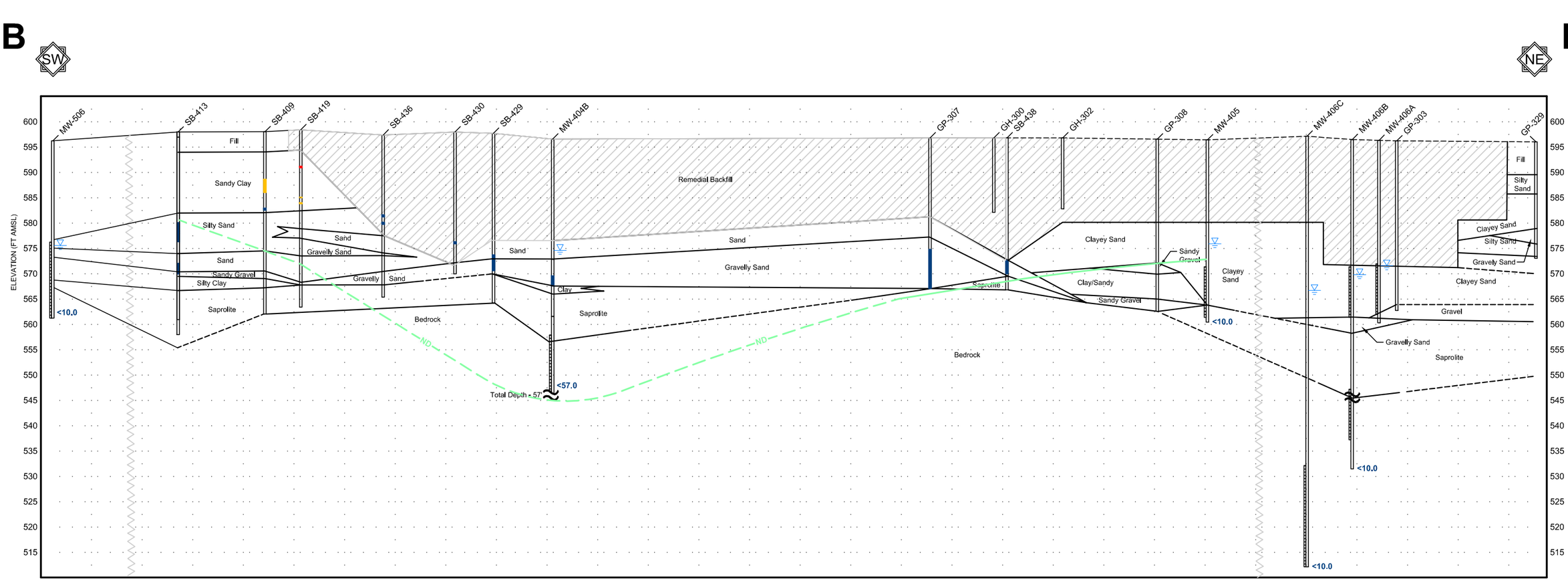
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_3-6_CROSS SECTION B-B_CYANIDE IN GROUNDWATER_OLD



SECTION B / -

0 20' 40'
HORIZONTAL SCALE

0 20' 40'
VERTICAL SCALE

LEGEND

- GEOLOGICAL CONTACT (DASHED WHERE INFERRED)
- SCREENED INTERVALS OF MONITORING WELLS
- GROUNDWATER ELEVATION MEASURED ON 10/8/12
- PREVIOUS EXCAVATION AREA (APPROXIMATE LIMITS)
- <10.0 CYANIDE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- ND NOT DETECTED

VISUAL BYPRODUCT-LIKE MATERIAL (BPLM):

- STRINGERS
- RESIDUAL
- STRINGERS AND BLEBS
- BLEBS
- STAINING
- HIGHLY WEATHERED BPLM

NOTES

1. Wells designated without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-507)
2. Wells designated with the letter “B” are Intermediate Monitoring Wells (e.g. MW-404B)
3. Wells designated with the letter “C” are Deep Monitoring Wells (e.g. MW-406C)
4. MW-406 well cluster are sampled for cyanide only
5. MW-405 and MW-406 well cluster are sampled annually only; therefore the results shown for these wells are from April 2012 (the last annual sampling event)

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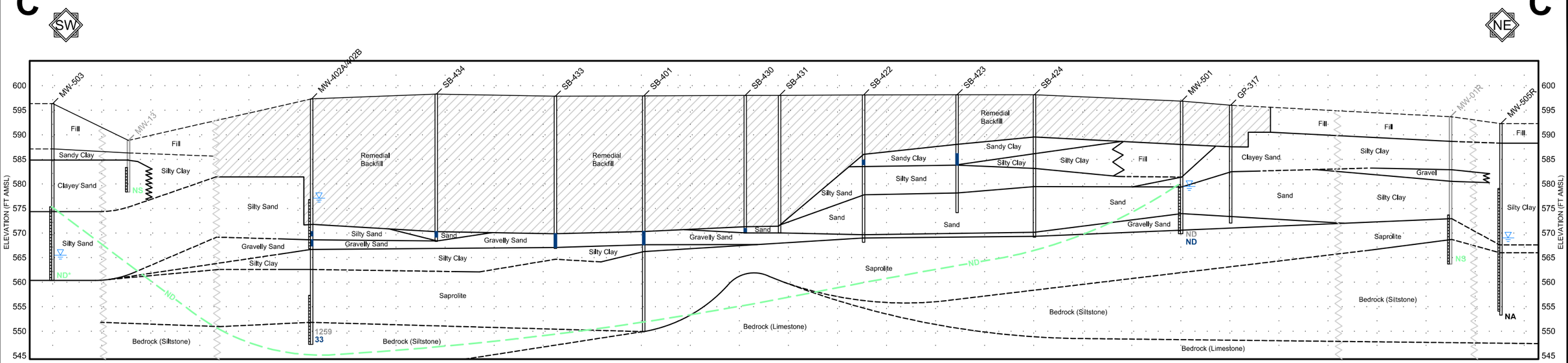
FIGURE 3-6
CROSS SECTION B-B'
SHOWING SE TO NW DELINEATION OF CYANIDE IN GROUNDWATER
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_3-7_CROSS SECTION C-C_TOTAL VOCS AND SVOCS IN GROUNDWATER COPYRIGHT © 2013 BURNS AND MCDONNELL ENGINEERING COMPANY, INC.



SECTION C-C'

0 20' 40'
HORIZONTAL SCALE
0 20' 20'
VERTICAL SCALE

MW-402A Volatile Organic Compounds (µg/L)	
Benzene	510
Ethylbenzene	280
Toluene	91
Xylenes, Total	330
Isopropylbenzene	48
Total VOCs	1,259

LEGEND

- GEOLOGICAL CONTACT (DASHED WHERE INFERRED)
- SCREENED INTERVALS OF MONITORING WELLS
- GROUNDWATER ELEVATION MEASURED ON 10/8/12
- PREVIOUS EXCAVATION AREA (APPROXIMATE LIMITS)
- 1259 — CONCENTRATION OF TOTAL VOLATILE ORGANIC COMPOUNDS IN MICROGRAMS PER LITER (µg/L)
- 33 — CONCENTRATION OF TOTAL SEMIVOLATILE ORGANIC COMPOUNDS IN MICROGRAMS PER LITER (µg/L)
- NA — NOT APPLICABLE
- NS — NOT SAMPLED
- ND — NOT DETECTED
- µg/L — MICROGRAMS PER LITER
- VOCs — VOLATILE ORGANIC COMPOUNDS
- SVOCs — SEMIVOLATILE ORGANIC COMPOUNDS

VISUAL BYPRODUCT-LIKE MATERIAL (BPLM):

- STRINGERS
- RESIDUAL
- STRINGERS AND BLEBS
- BLEBS
- STAINING
- HIGHLY WEATHERED BPLM

NOTES

1. Wells designated without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-507)
2. Wells designated with the letter “B” are Intermediate Monitoring Wells (e.g. MW-404B)
3. MW-13 & MW-01R were abandoned prior to soil excavation
4. MW-503 & MW-505R are sampled for cyanide only
5. MW-501 is sampled annually only; therefore the results shown for this well is from April 2012 (the last annual sampling event)
6. Only those constituents detected in October 2012 are included in the data boxes
7. Naphthalene was the only SVOC detected in MW-504
8. ND* - Groundwater concentrations shown for MW-503 are based on historical data

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FIGURE 3-7
CROSS SECTION C-C'
SHOWING SW TO NE DELINEATION OF TOTAL VOCs AND SVOCs IN GROUNDWATER
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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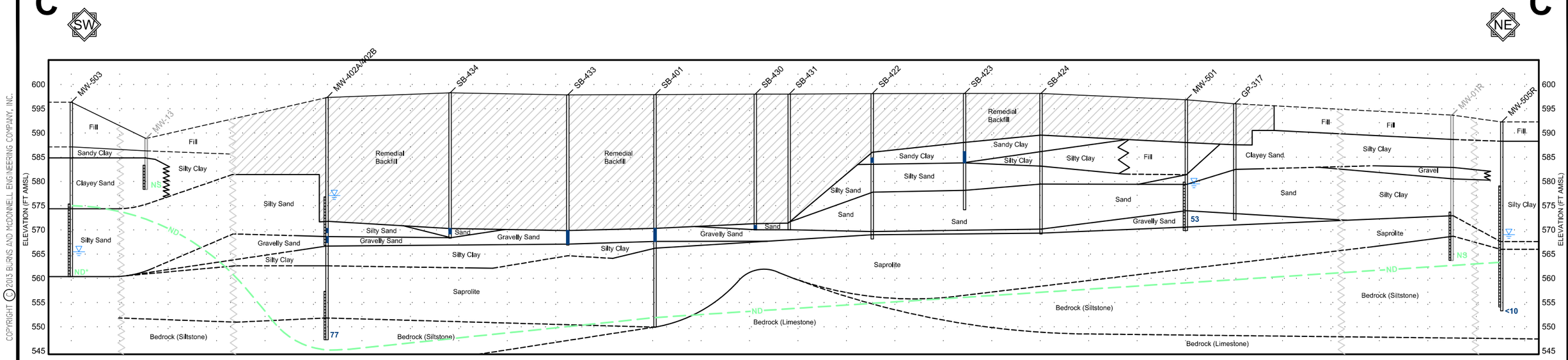
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_3-8_CROSS SECTION C-C_CYANIDE IN GROUNDWATER



SECTION C -

0 20' 40'

HORIZONTAL SCALE

0 20' 20'

VERTICAL SCALE

LEGEND

- GEOLOGICAL CONTACT (DASHED WHERE INFERRED)
- SCREENED INTERVALS OF MONITORING WELLS
- GROUNDWATER ELEVATION MEASURED ON 10/8/12
- PREVIOUS EXCAVATION AREA (APPROXIMATE LIMITS)
- <10 CYANIDE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- NS NOT SAMPLED
- ND NOT DETECTED

VISUAL BYPRODUCT-LIKE MATERIAL (BPLM):

- STRINGERS
- RESIDUAL
- STRINGERS AND BLEBS
- BLEBS
- STAINING
- HIGHLY WEATHERED BPLM

NOTES

1. Wells designated without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-507)
2. Wells designated with the letter “B” are Intermediate Monitoring Wells (e.g. MW-404B)
3. MW-13 & MW-01R were abandoned prior to soil excavation
4. MW-503 & MW-505R are sampled for cyanide only
5. MW-501 is sampled annually only; therefore the results shown for this well is from April 2012 (the last annual sampling event)
6. ND* - Groundwater concentrations shown for MW-503 are based on historical data

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FIGURE 3-8
CROSS SECTION C-C'
SHOWING SW TO NE DELINEATION OF CYANIDE IN GROUNDWATER
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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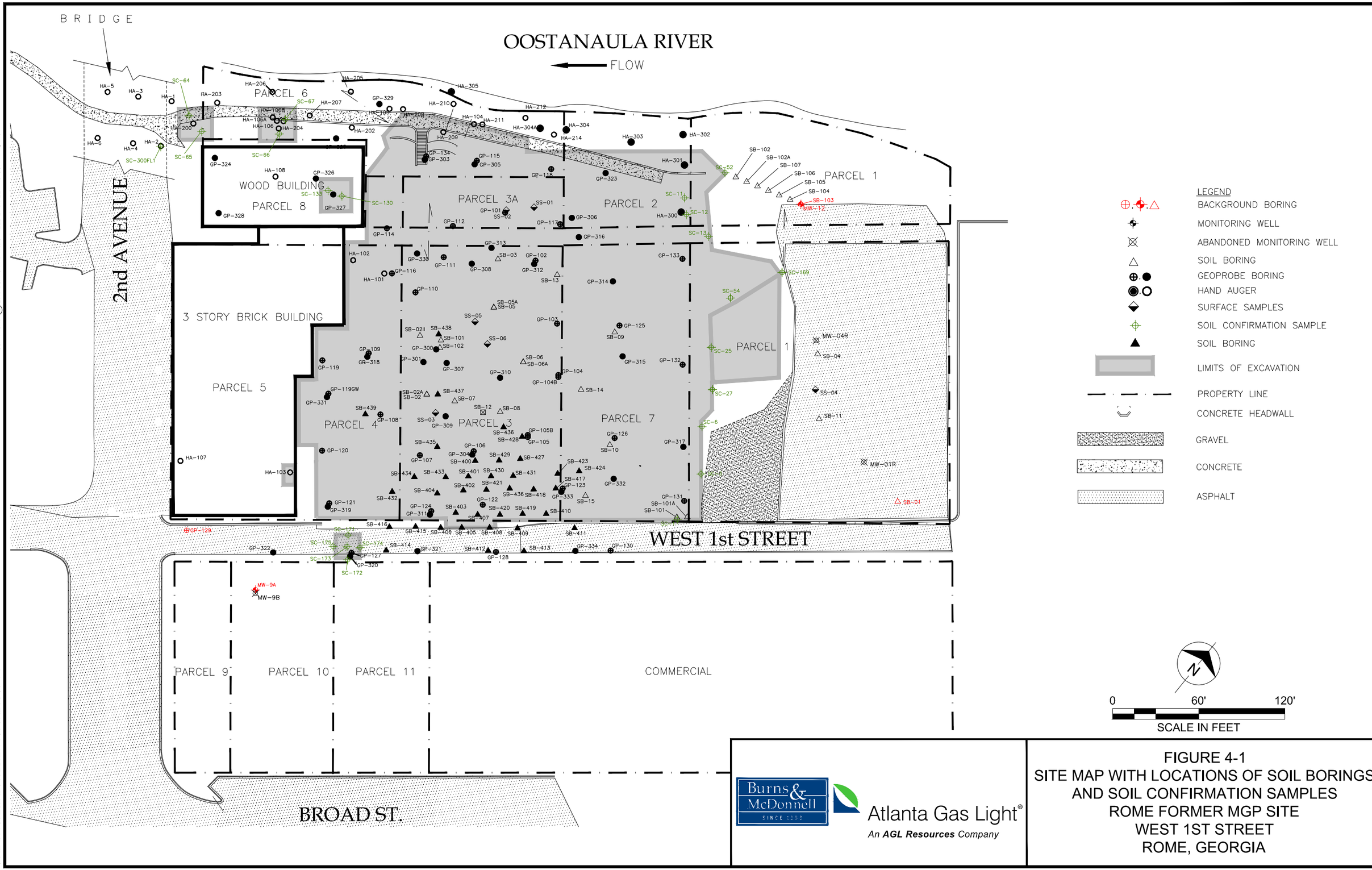

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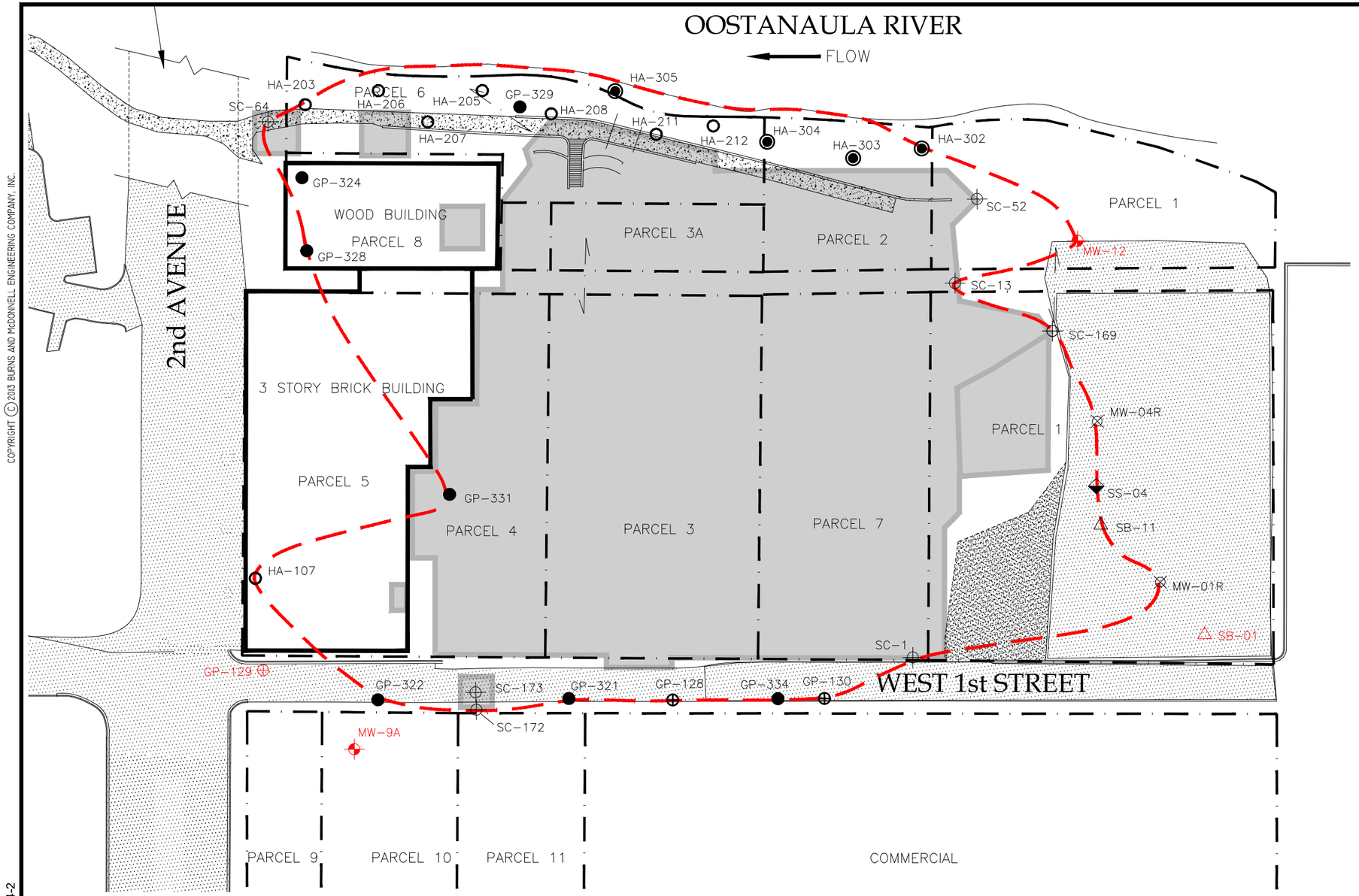
FIGURE 4-1
SITE MAP WITH LOCATIONS OF SOIL BORINGS AND SOIL CONFIRMATION SAMPLES
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-1



Sample ID	Depth	Total VOCs	DL
SS-04	0-2'	0.0	6.0
MW-01R	10-12'	0.0	6.2
MW-04R	8-10'	0.0	6.2
MW-9A	13-15'	0.0	12
SB-11	4.5-6.5'	0.0	6.0
HA-107	1-3'	0.0	13
HA-203	0-2'	0.0	5.7
HA-205	0-2'	0.0	5.7
HA-206	0-2'	0.0	5.6
HA-207	0-2'	0.0	5.7
HA-208	0-2'	0.0	5.7
HA-211	0-2'	0.0	5.7
HA-212	0-2'	0.0	5.8
HA-302	0-2'	0.0	5.9
HA-303	0-2'	0.0	6.5
HA-304	0-2'	0.0	6.3
HA-305	0-2'	0.0	4.6
GP-128	0-5'	0.0	12
GP-128	5-9'	0.0	12
GP-130	2-6'	0.0	13
GP-130	6-11'	0.0	13
GP-321	5.5-6.5'	0.0	3.8
GP-322	7-9'	0.0	3.7
GP-328	0-2'	0.0	3.6
GP-329	10-12'	0.0	4.3
GP-331	10-12'	0.0	4.6
SC-1	2.5'_wall	0.0	7.2
SC-13	2.5'_wall	0.0	4.8
SC-52	4'_floor	NS	NA
SC-64	3'_floor	0.0	4.5
SC-169	7'_floor	0.0	4.5
SC-172	5'_wall	0.0	5.4
SC-173	11'_floor	0.0	5.9

NOTES:
ALL CONCENTRATIONS LISTED IN µg/Kg
NA = NOT ANALYZED
NS = NOT SAMPLED

LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT (DL)
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR VOCs IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-2
HORIZONTAL DELINEATION OF TOTAL VOCs IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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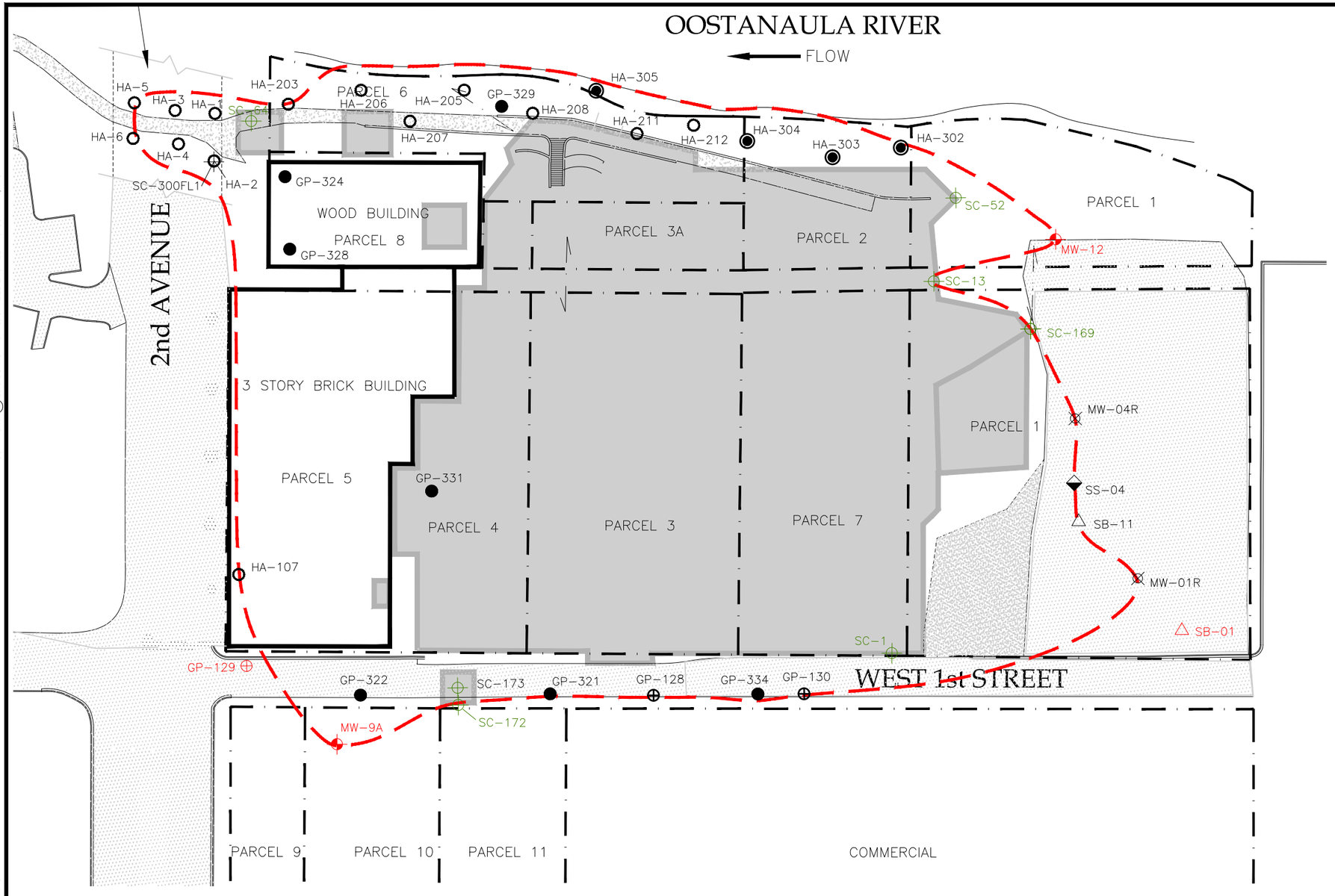
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-2



Sample ID	Depth	Total SVOCs	DL
SS-04	0-2'	0.0	11,000
MW-01R	10-12'	0.0	410
MW-04R	8-10'	0.0	410
MW-9A	13-15'	0.0	400
SB-11	4.5-6.5'	0.0	420
SB-11	6.5-8.5'	0.0	390
HA-5	0-1.0'	0.0	3,600
HA-6	0-1.0'	0.0	3,700
HA-107	1-3'	0.0	430
HA-203	2-5'	0.0	380
HA-205	0-2'	0.0	380
HA-205	2-5'	0.0	370
HA-206	0-2'	380	370
HA-211	0-2'	0.0	380
HA-302	0-2'	0.0	380
HA-303	0-2'	0.0	410
HA-304	0-2'	0.0	420
HA-305	0-2'	0.0	430
GP-128	0-5'	0.0	400
GP-128	5-9'	0.0	410
GP-130	2-6'	0.0	420
GP-130	6-11'	0.0	420
GP-321	5.5-6.5'	0.0	390
GP-329	10-12'	0.0	410
SC-1	2.5'_wall	510	430
SC-13	2.5'_wall	0.0	350
SC-25	2.5'_wall	0.0	400
SC-27	2.5'_wall	0.0	400
SC-52	4'_floor	NS	NA
SC-169	7'_floor	0.0	460
SC-172	5'_wall	13	490
SC-173	11'_floor	0.0	420

NOTES:
ALL CONCENTRATIONS LISTED IN µg/Kg
NA = NOT ANALYZED
NS = NOT SAMPLED

LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT (DL)
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR SVOCs IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-3
HORIZONTAL DELINEATION OF TOTAL SVOCs IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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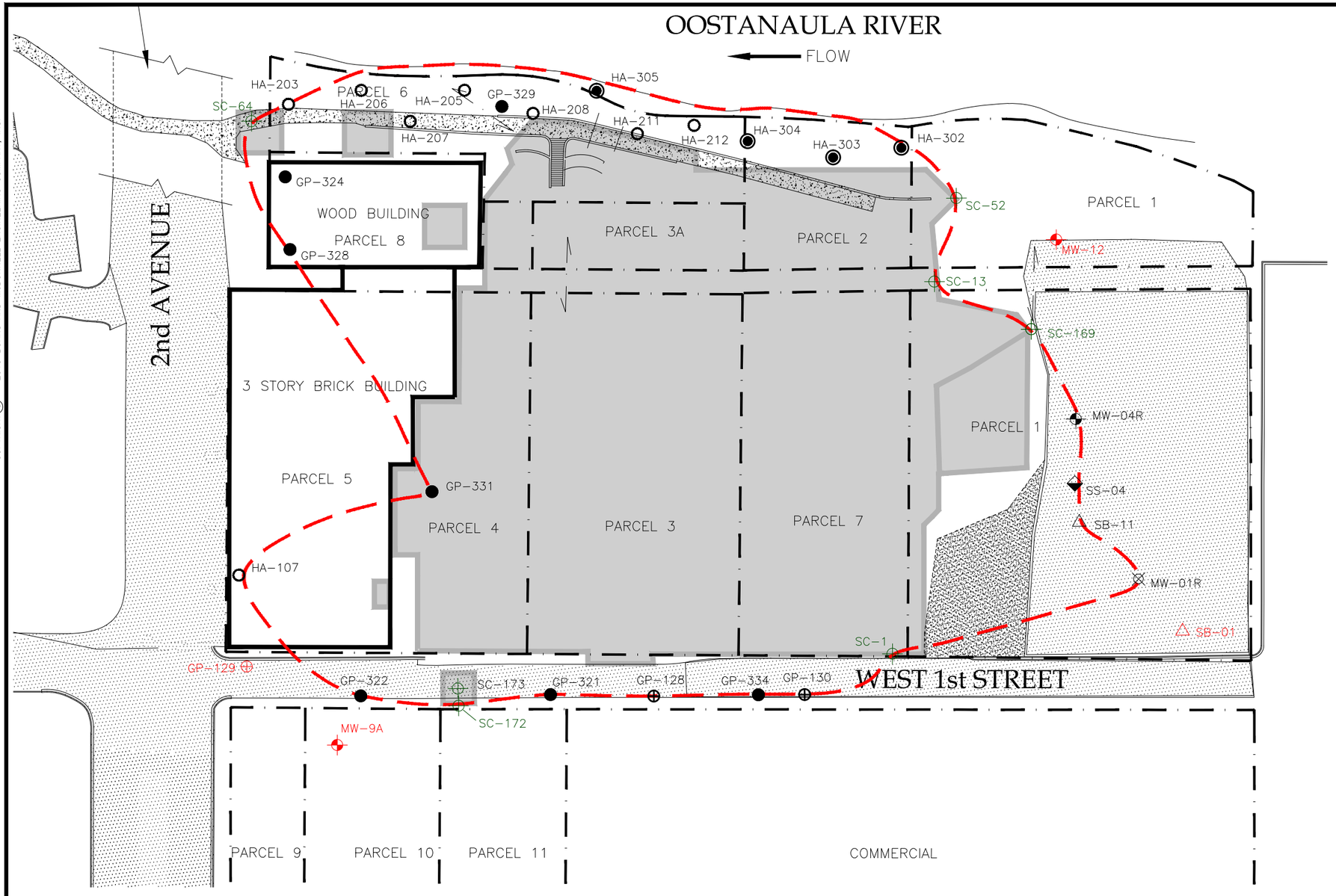
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-3



Sample ID	Depth	Antimony
Background Concentration	**NA**	**7.8**
SS-04	0-2'	<6.2
MW-01R	10-12'	<2.5
MW-04R	8-10'	<2.5
MW-9A	13-15'	0.44
MW-12	10-16'	7.8 J
MW-12	22-24'	0.62 J
SB-01A	8.5-10.5'	5.6U
SB-01B	16.5-18.5'	6.3J
SB-11	4.5-6.5'	20.7UJ
SB-11	6.5-8.5'	6.4
HA-107	1-3'	0.8J
HA-203	0-2'	<5.7
HA-205	0-2'	<5.7
HA-206	0-2'	<5.6
HA-207	0-2'	<5.7
HA-208	0-2'	<5.7
HA-211	0-2'	<5.7
HA-212	0-2'	<5.8
HA-302	0-2'	<2.3
HA-303	0-2'	<2.5
HA-304	0-2'	<2.6
HA-305	0-2'	<2.7
GP-128	0-5'	0.67J
GP-128	5-9'	0.46
GP-129	0-5'	0.62 J
GP-129	5-9'	0.46U
GP-129	13-17'	0.46U
GP-130	2-6'	2.1
GP-130	6-11'	0.5J
GP-319	7-9'	<2.2
GP-321	5.5-6.5'	<2.4
GP-322	7-9'	<2.4
GP-324	12-14'	<2.4
GP-328	0-2'	2.3
GP-329	10-12'	<2.5
GP-331	10-12'	2.5
GP-334	26-28'	<2.2
SC-1	2.5' wall	<2.6
SC-13	2.5' wall	<2.1
SC-52	4' floor	<2.4
SC-64	3' floor	<2.2
SC-169	7' floor	<2.8
SC-172	5' wall	5.3
SC-173	11' floor	<2.6

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
U = ANALYZED FOR, BUT NOT DETECTED
J = ESTIMATED CONCENTRATION

LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT (DL)
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR ANTIMONY IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-4
HORIZONTAL DELINEATION OF ANTIMONY IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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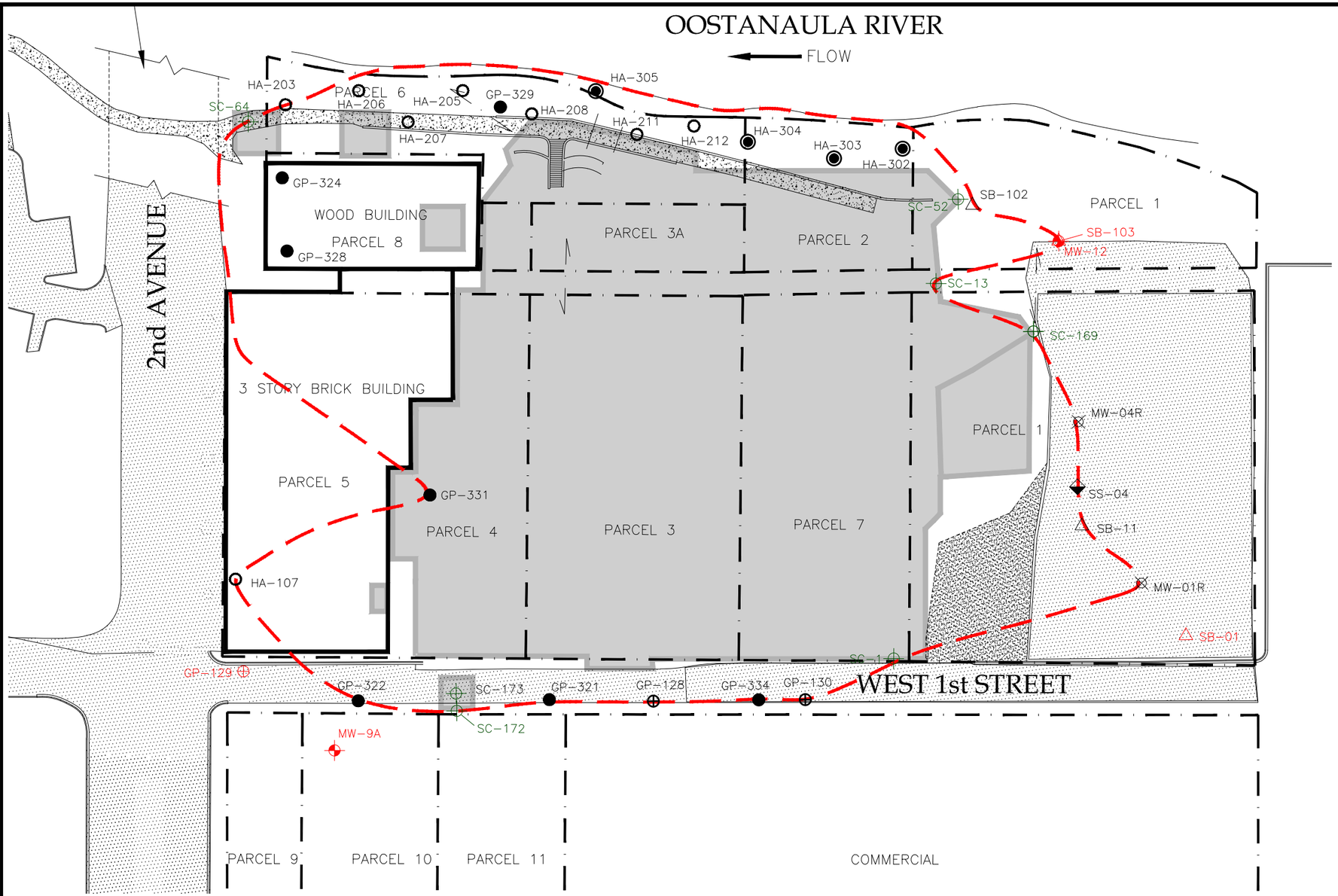
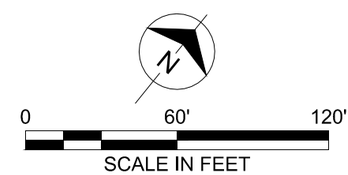
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-4



Sample ID	Depth	Arsenic
Background Concentration	NA	15
SS-04	0-2'	9.5
MW-01R	10-12'	<1.2
MW-04R	8-10'	<1.2
MW-9A	13-15'	6.4
MW-12	10-16'	23.7
MW-12	22-24'	3.30
SB-01A	8.5-10.5'	4.9J
SB-01B	16.5-18.5'	2.20
SB-11	4.5-6.5'	9.3UJ
SB-11	6.5-8.5'	8.6
SB-102	0 - 2'	<3.4
SB-102	2 - 4'	<3.4
SB-103	0 - 2'	11
SB-103	2 - 4'	6.9
HA-107	1-3'	4.8
HA-203	0-2'	5.2
HA-205	0-2'	7.8
HA-206	0-2'	3.5
HA-207	0-2'	7.6
HA-211	0-2'	6.1
HA-212	0-2'	5.6
HA-302	0-2'	17
HA-303	0-2'	16
HA-304	0-2'	9.1
HA-305	0-2'	7.5
GP-128	0-5'	5.3
GP-128	5-9'	7.3
GP-129	0-5'	15.4
GP-129	5-9'	3.50
GP-129	13-17'	3.10
GP-130	2-6'	9.5
GP-130	6-11'	4.3
GP-321	5.5-6.5'	4.1
GP-322	7-9'	8.3
GP-324	12-14'	5.3
GP-328	0-2'	27
GP-329	10-12'	7.4
GP-331	10-12'	4.5
GP-334	26-28'	2.3
SC-1	2.5'_wall	11
SC-13	2.5'_wall	6.2
SC-52	4'_floor	18
SC-64	3'_floor	4.0
SC-169	7'_floor	12
SC-172	5'_wall	27
SC-173	11'_floor	6.3

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
U = ANALYZED FOR, BUT NOT DETECTED
J = ESTIMATED CONCENTRATION



LEGEND

BACKGROUND BORING
ABANDONED MONITORING WELL
SOIL BORING
GEOPROBE BORING
HAND AUGER
SURFACE SAMPLES
SOIL CONFIRMATION SAMPLE
DETECTION LIMIT DL

MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR ARSENIC IN SOIL
LIMITS OF EXCAVATION
PROPERTY LINE
CONCRETE HEADWALL

GRAVEL
CONCRETE
ASPHALT

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-5
HORIZONTAL DELINEATION OF ARSENIC IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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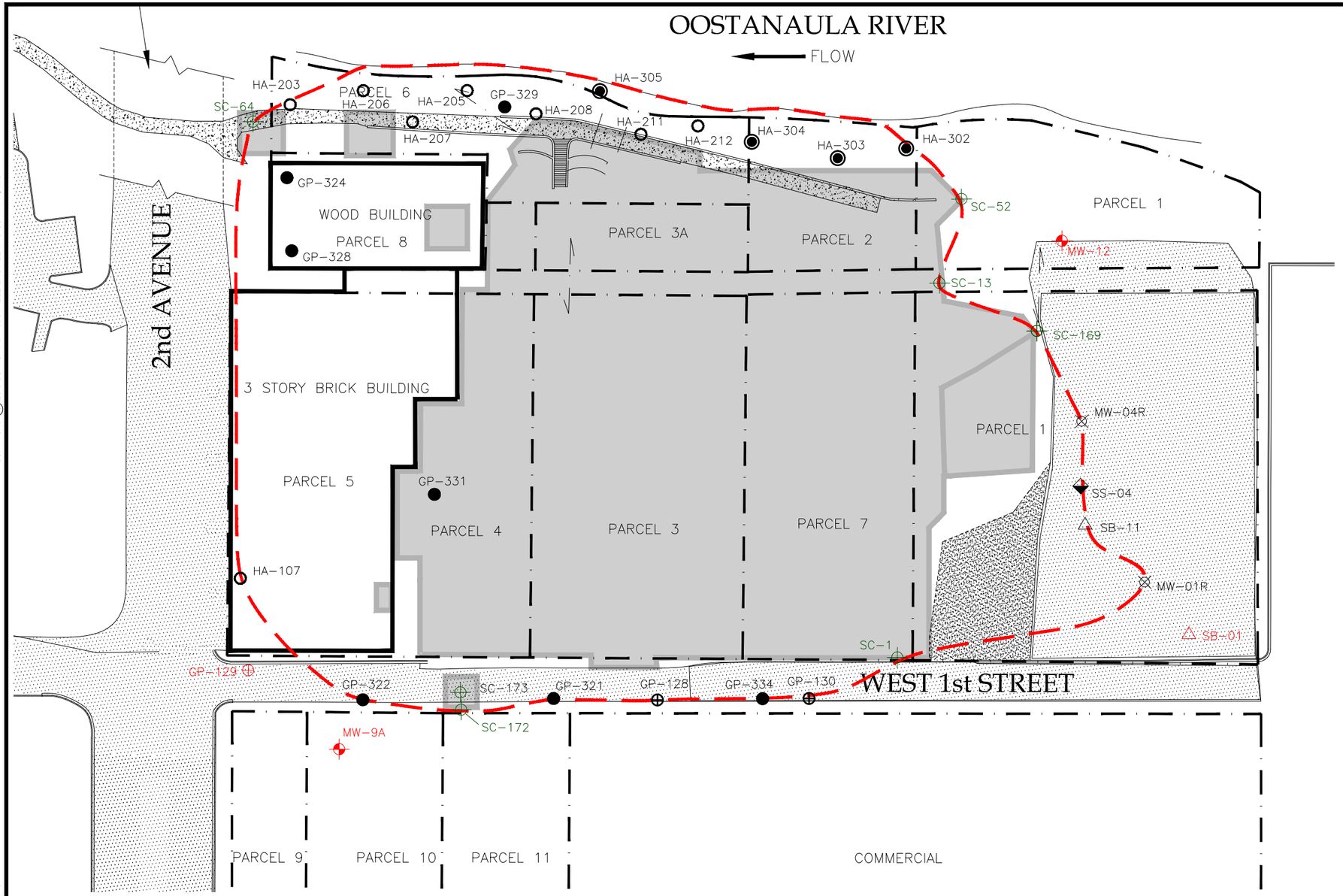
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-5



Sample ID	Depth	Barium
Background Concentration	NA	234
SS-04	0-2'	136
MW-01R	10-12'	130
MW-04R	8-10'	140
MW-9A	13-15'	97.0
MW-12	10-16'	124
MW-12	22-24'	85.3
SB-01A	8.5-10.5'	78.1
SB-01B	16.5-18.5'	234
SB-11	4.5-6.5'	47.3B
SB-11	6.5-8.5'	60.9
HA-107	1-3'	123
HA-203	0-2'	129
HA-205	0-2'	101
HA-206	0-2'	97.7
HA-207	0-2'	198
HA-208	0-2'	111
HA-211	0-2'	70.4
HA-212	0-2'	124
HA-302	0-2'	120
HA-303	0-2'	66.0
HA-304	0-2'	140
HA-305	0-2'	100
GP-128	0-5'	241
GP-128	5-9'	218
GP-129	0-5'	73.3J
GP-129	5-9'	132J
GP-129	13-17'	161J
GP-130	2-6'	328
GP-130	6-11'	81.7
GP-321	5.5-6.5'	240
GP-321	16-18'	79
GP-322	7-9'	140
GP-324	12-14'	140
GP-328	0-2'	770
GP-329	10-12'	51.0
GP-331	10-12'	270
GP-334	26-28'	50.0
SC-1	2.5'_wall	140
SC-13	2.5'_wall	27.0
SC-52	4'_floor	87.0
SC-64	3'_floor	90.0
SC-169	7'_floor	70
SC-172	5'_wall	350
SC-173	11'_floor	150

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
B AND J = ESTIMATED CONCENTRATION

LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT DL
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR BARIUM IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

0 60' 120'
SCALE IN FEET

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FIGURE 4-6
HORIZONTAL DELINEATION OF BARIUM IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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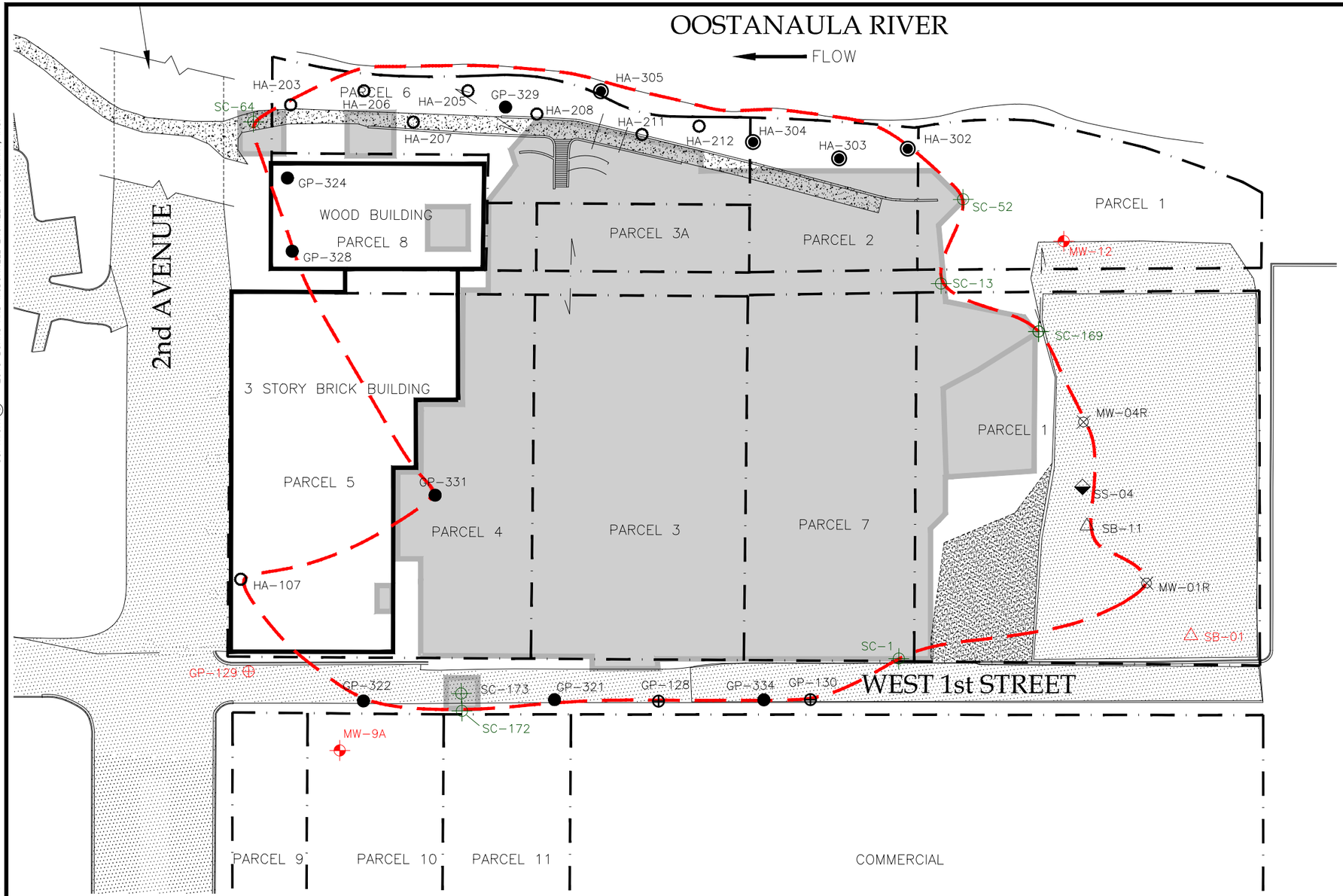
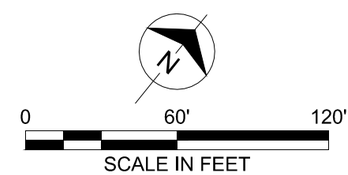
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-6



Sample ID	Depth	Beryllium
Background Concentration	NA	1.5
SS-04	0-2'	1.8
MW-01R	10-12'	1.0
MW-04R	8-10'	1.2
MW-9A	13-15'	0.720
MW-12	10-16'	0.850
MW-12	22-24'	1.10
SB-01A	8.5-10.5'	0.24U
SB-01B	16.5-18.5'	1.50
SB-11	4.5-6.5'	<0.52
SB-11	6.5-8.5'	<0.93
HA-107	1-3'	0.93J
HA-203	0-2'	0.95
HA-205	0-2'	0.72
HA-206	0-2'	0.70
HA-207	0-2'	0.76
HA-208	0-2'	0.81
HA-211	0-2'	0.68
HA-212	0-2'	0.72
HA-302	0-2'	0.67
HA-303	0-2'	1.3
HA-304	0-2'	0.69
HA-305	0-2'	1.2
GP-128	0-5'	0.97B
GP-128	5-9'	1.1 J
GP-129	0-5'	0.580
GP-129	5-9'	0.52B
GP-129	13-17'	1.3J
GP-130	2-6'	0.94
GP-130	6-11'	<0.87
GP-321	5.5-6.5'	0.92
GP-322	7-9'	1.0
GP-324	12-14'	1.1
GP-328	0-2'	0.70
GP-329	10-12'	<0.62
GP-331	10-12'	1.5
GP-334	26-28'	0.72
SC-1	2.5'_wall	0.52
SC-13	2.5'_wall	<0.42
SC-52	4' floor	0.60
SC-64	3' floor	0.65
SC-169	7' floor	1.1
SC-172	5' wall	0.75
SC-173	11' floor	0.91

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
B AND J = ESTIMATED CONCENTRATION
U = ANALYZED FOR BUT NOT DETECTED



LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT DL
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR BERYLLIUM IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

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FIGURE 4-7
HORIZONTAL DELINEATION OF BERYLLIUM IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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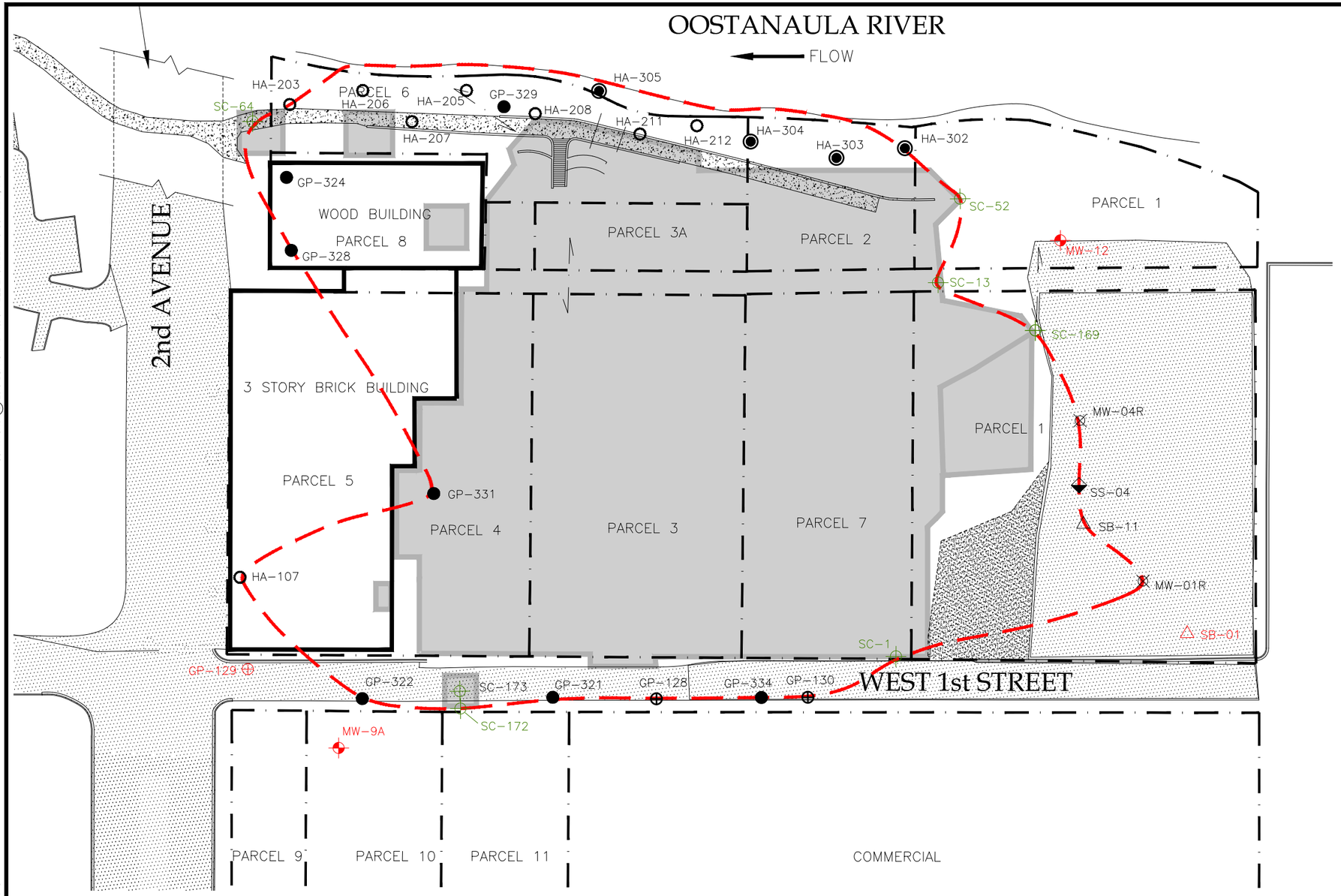
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-7



Sample ID	Depth	Cadmium
Background Concentration	**NA**	**1.6**
SS-04	0-2'	<0.71
MW-01R	10-12'	<0.62
MW-04R	8-10'	<0.62
MW-9A	13-15'	<0.05
MW-12	10-16'	0.05U
MW-12	22-24'	0.04U
SB-01A	8.5-10.5'	1.20
SB-01B	16.5-18.5'	1.60
SB-11	4.5-6.5'	<2.6
SB-11	6.5-8.5'	<1.2
HA-107	1-3'	<0.05
HA-203	0-2'	<0.57
HA-205	0-2'	<0.57
HA-206	0-2'	<0.56
HA-207	0-2'	<0.57
HA-208	0-2'	<0.57
HA-211	0-2'	<0.57
HA-212	0-2'	<0.58
HA-302	0-2'	<0.58
HA-303	0-2'	<0.62
HA-304	0-2'	<0.64
HA-305	0-2'	<0.67
GP-128	0-5'	<0.05
GP-128	5-9'	<0.05
GP-129	0-5'	0.05U
GP-129	5-9'	0.05U
GP-129	13-17'	0.05U
GP-130	2-6'	<0.05
GP-130	6-11'	<0.05
GP-321	5.5-6.5'	<0.59
GP-322	7-9'	<0.59
GP-324	12-14'	<0.61
GP-328	0-2'	0.76
GP-329	10-12'	<0.62
GP-331	10-12'	<0.58
GP-334	26-28'	<0.55
SC-1	2.5' wall	<0.65
SC-13	2.5' wall	0.56
SC-52	4' floor	<0.60
SC-64	3' floor	<0.56
SC-169	7' floor	<1.4
SC-172	5' wall	<0.68
SC-173	11' floor	<0.65

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
U = ANALYZED FOR BUT NOT DETECTED

LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT DL
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR CADMIUM IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-8
HORIZONTAL DELINEATION OF CADMIUM IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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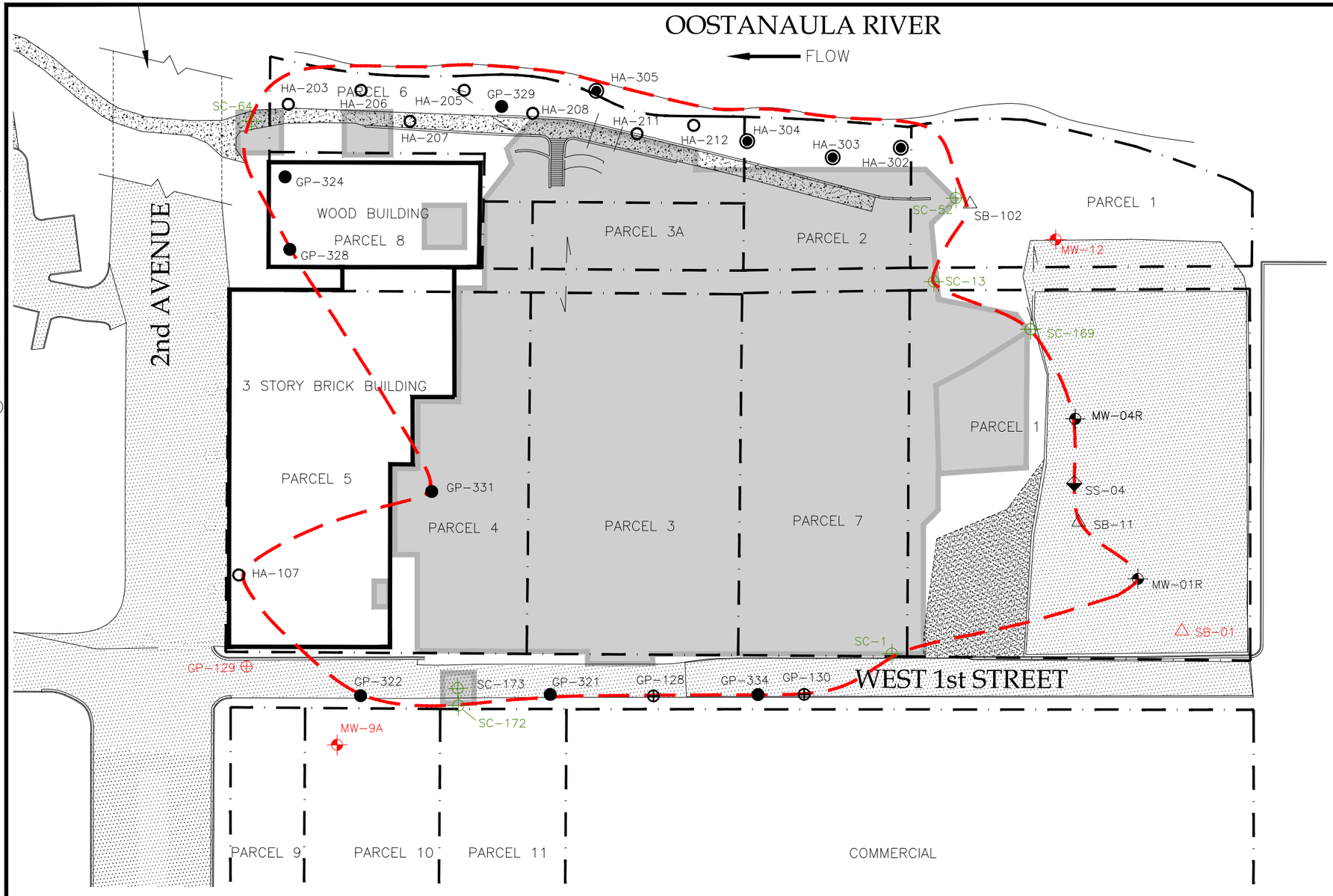
H:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-8



Sample ID	Depth	Chromium
Background Concentration	NA	47
SS-04	0-2'	10
MW-01R	10-12'	22
MW-04R	8-10'	21
MW-9A	13-15'	21
MW-12	10-16'	35.4
MW-12	22-24'	31.9
SB-01A	8.5-10.5'	38.9
SB-01B	16.5-18.5'	46.6
SB-11	4.5-6.5'	27.2J
SB-11	6.5-8.5'	17.7J
SB-102	0-2'	21.9
SB-102	2-4'	18.5
HA-107	1-3'	31
HA-203	0-2'	24
HA-205	0-2'	34
HA-206	0-2'	18
HA-207	0-2'	19
HA-208	0-2'	30
HA-211	0-2'	35
HA-212	0-2'	24
HA-302	0-2'	63
HA-303	0-2'	65
HA-304	0-2'	19
HA-305	0-2'	51
GP-128	0-5'	29
GP-128	5-9'	31
GP-129	0-5'	11.4
GP-129	5-9'	24.2
GP-129	13-17'	30.3
GP-130	2-6'	68
GP-130	6-11'	37
GP-321	5.5-6.5'	22
GP-322	7-9'	21
GP-324	12-14'	27
GP-328	0-2'	20
GP-329	10-12'	48
GP-331	10-12'	27
GP-334	26-28'	17
SC-1	2.5'_wall	19
SC-13	2.5'_wall	10
SC-52	4'_floor	34
SC-64	3'_floor	15
SC-169	7'_floor	20
SC-172	5'_wall	28
SC-173	11'_floor	32

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
J = ESTIMATED CONCENTRATION

LEGEND

BACKGROUND BORING
ABANDONED MONITORING WELL
SOIL BORING
GEOPROBE BORING
HAND AUGER
SURFACE SAMPLES
SOIL CONFIRMATION SAMPLE
DETECTION LIMIT DL

MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR CHROMIUM IN SOIL
LIMITS OF EXCAVATION
PROPERTY LINE
CONCRETE HEADWALL

GRAVEL
CONCRETE
ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-9
HORIZONTAL DELINEATION OF CHROMIUM IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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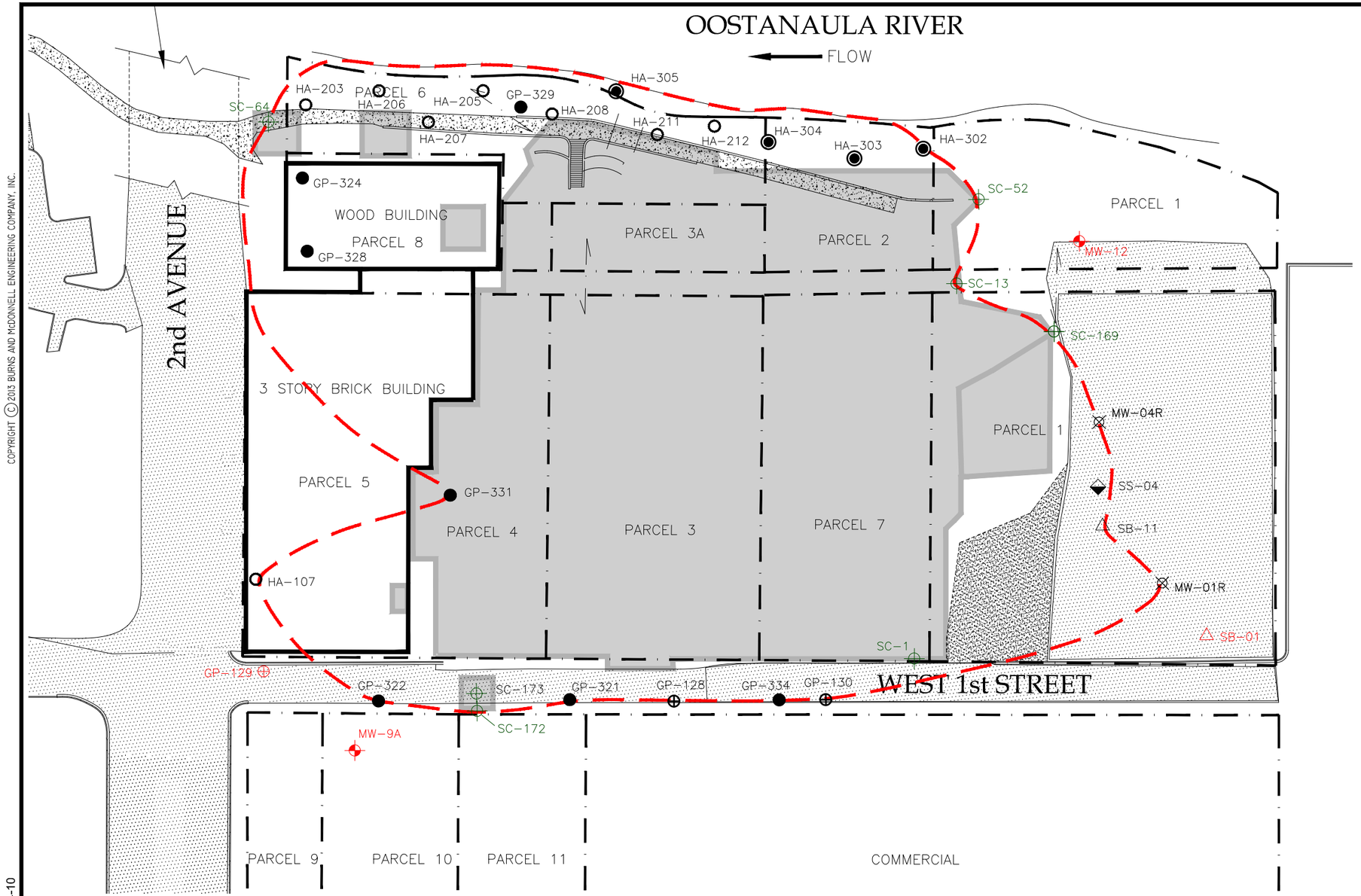
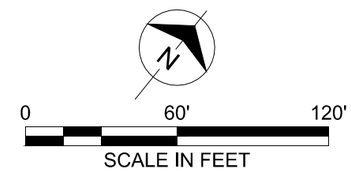
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-9



Sample ID	Depth	Copper
Background Concentration	NA	24
SS-04	0-2'	30
MW-01R	10-12'	13
MW-04R	8-10'	12
MW-9A	13-15'	22
MW-12	10-16'	23.8
MW-12	22-24'	19.4
SB-01A	8.5-10.5'	17.9
SB-01B	16.5-18.5'	14.5
SB-11	4.5-6.5'	17
SB-11	6.5-8.5'	19
HA-107	1-3'	23
HA-203	0-2'	151
HA-205	0-2'	19
HA-206	0-2'	16
HA-207	0-2'	66
HA-208	0-2'	43
HA-211	0-2'	9.2
HA-212	0-2'	17
HA-302	0-2'	19
HA-303	0-2'	11
HA-304	0-2'	23
HA-305	0-2'	15
GP-128	0-5'	22
GP-128	5-9'	15
GP-129	0-5'	20.5J
GP-129	5-9'	13.8J
GP-129	13-17'	22.2J
GP-130	2-6'	63
GP-130	6-11'	17
GP-321	5.5-6.5'	14
GP-322	7-9'	20
GP-324	12-14'	18
GP-328	0-2'	67
GP-329	10-12'	8.1
GP-331	10-12'	18
GP-334	26-28'	7.7
SC-1	2.5'_wall	32
SC-13	2.5'_wall	7.9
SC-52	4'_floor	18
SC-64	3'_floor	22
SC-169	7'_floor	28
SC-172	5'_wall	190
SC-173	11'_floor	21

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
J = ESTIMATED CONCENTRATION



LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT (DL)
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR COPPER IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-10
HORIZONTAL DELINEATION OF COPPER IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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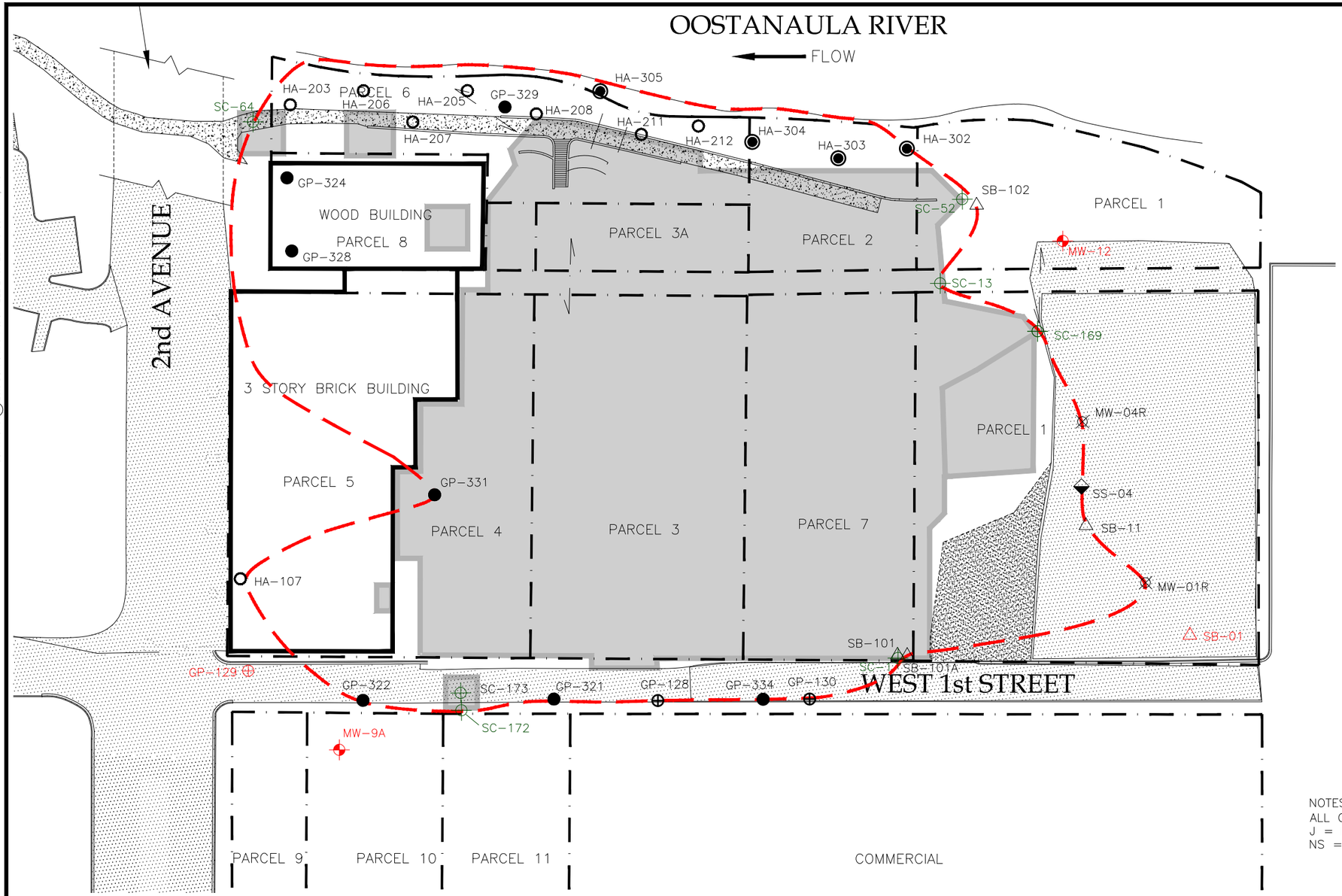
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-10



Sample ID	Depth	Lead
Background Concentration	NA	70
SS-04	0-2'	42
MW-01R	10-12'	13
MW-04R	8-10'	35
MW-9A	13-15'	37
MW-12	10-16'	47.9
MW-12	22-24'	13.1
SB-01A	8.5-10.5'	27.2
SB-01B	16.5-18.5'	2.80
SB-11	4.5-6.5'	12
SB-11	6.5-8.5'	34
SB-101	3-4'	129
SB-101	4-5'	15.3
SB-101A	3-4'	68.9
SB-102	0-2'	54.9
SB-102	2-4'	52.8
HA-107	1-3'	24
HA-203	0-2'	192
HA-205	0-2'	33
HA-206	0-2'	25
HA-207	0-2'	89
HA-208	0-2'	44
HA-211	0-2'	32
HA-212	0-2'	39
HA-302	0-2'	41
HA-303	0-2'	26
HA-304	0-2'	26
HA-305	0-2'	17
GP-128	0-5'	17.4J
GP-128	5-9'	27.3J
GP-129	0-5'	31.0
GP-129	5-9'	69.7
GP-129	13-17'	15.6
GP-130	2-6'	95.2J
GP-130	6-11'	12.5J
GP-321	5.5-6.5'	18
GP-322	7-9'	67
GP-324	12-14'	15
GP-328	0-2'	130
GP-329	10-12'	12
GP-331	10-12'	13
GP-334	26-28'	4.8
SC-1	2.5' wall	140
SC-13	2.5' wall	19
SC-52	4' floor	NS
SC-64	3' floor	38
SC-169	7' floor	23
SC-172	5' wall	810
SC-173	11' floor	17

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
J = ESTIMATED CONCENTRATION
NS = NOT SAMPLED

0 60' 120'
SCALE IN FEET

LEGEND

BACKGROUND BORING
ABANDONED MONITORING WELL
SOIL BORING
GEOPROBE BORING
HAND AUGER
SURFACE SAMPLES
SOIL CONFIRMATION SAMPLE
DETECTION LIMIT DL

MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR LEAD IN SOIL
LIMITS OF EXCAVATION
PROPERTY LINE
CONCRETE HEADWALL

GRAVEL
CONCRETE
ASPHALT

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-11
HORIZONTAL DELINEATION OF LEAD IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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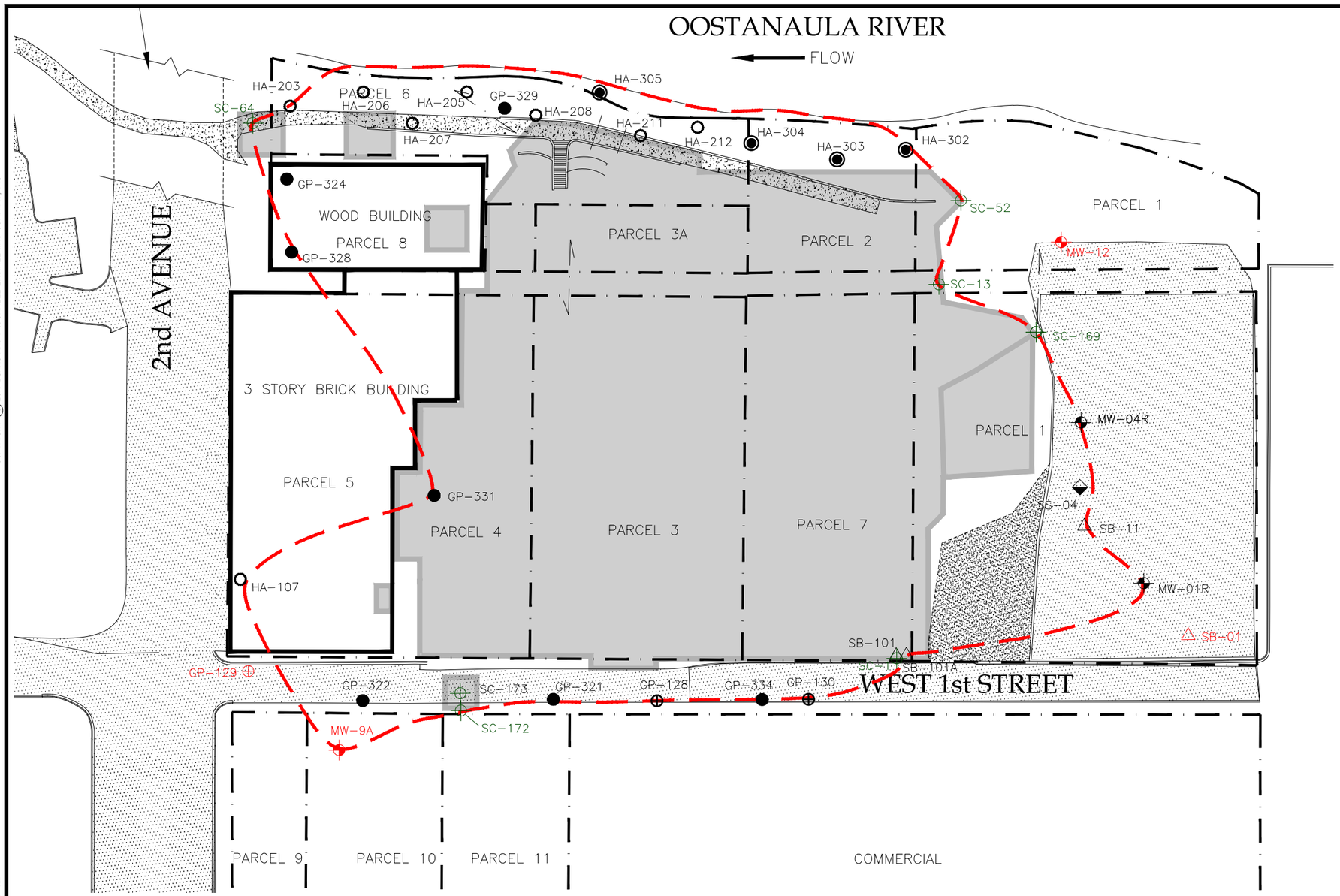
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-11



Sample ID	Depth	Mercury
Background Concentration	**NA**	**0.46**
SS-04	0-2'	1.3
MW-01R	10-12'	NA
MW-04R	8-10'	NA
MW-9A	13-15'	<0.11
MW-12	10-16'	0.13U
MW-12	22-24'	0.11U
SB-01A	8.5-10.5'	0.13U
SB-01B	16.5-18.5'	0.12U
SB-11	4.5-6.5'	<0.20
SB-11	6.5-8.5'	<0.37
SB-101	3-4'	1.47
SB-101	4-5'	< 0.114
SB-101A	3-4'	0.287
HA-107	1-3'	0.39J
HA-203	0-2'	0.16
HA-205	0-2'	0.14
HA-206	0-2'	0.07
HA-207	0-2'	0.09
HA-208	0-2'	0.04
HA-211	0-2'	0.05
HA-212	0-2'	0.08
HA-302	0-2'	0.069
HA-303	0-2'	0.077
HA-304	0-2'	0.053
HA-305	0-2'	0.05
GP-128	0-5'	0.26
GP-128	5-9'	0.12
GP-129	0-5'	0.11U
GP-129	5-9'	0.46
GP-129	13-17'	0.12U
GP-130	2-6'	4.5
GP-130	6-11'	<0.10
GP-321	5.5-6.5'	0.079
GP-322	7-9'	0.60
GP-324	12-14'	0.034
GP-328	0-2'	0.078
GP-329	10-12'	0.055
GP-331	10-12'	0.050
GP-334	26-28'	0.013
SC-1	2.5'_wall	0.64
SC-13	2.5'_wall	0.027
SC-52	4'_floor	0.10
SC-64	3'_floor	0.098
SC-169	7'_floor	0.025
SC-172	5'_wall	5.6
SC-173	11'_floor	0.084

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
J = ESTIMATED CONCENTRATION
U = ANALYZED FOR BUT NOT DETECTED

LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT DL
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR MERCURY IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-12
HORIZONTAL DELINEATION OF MERCURY IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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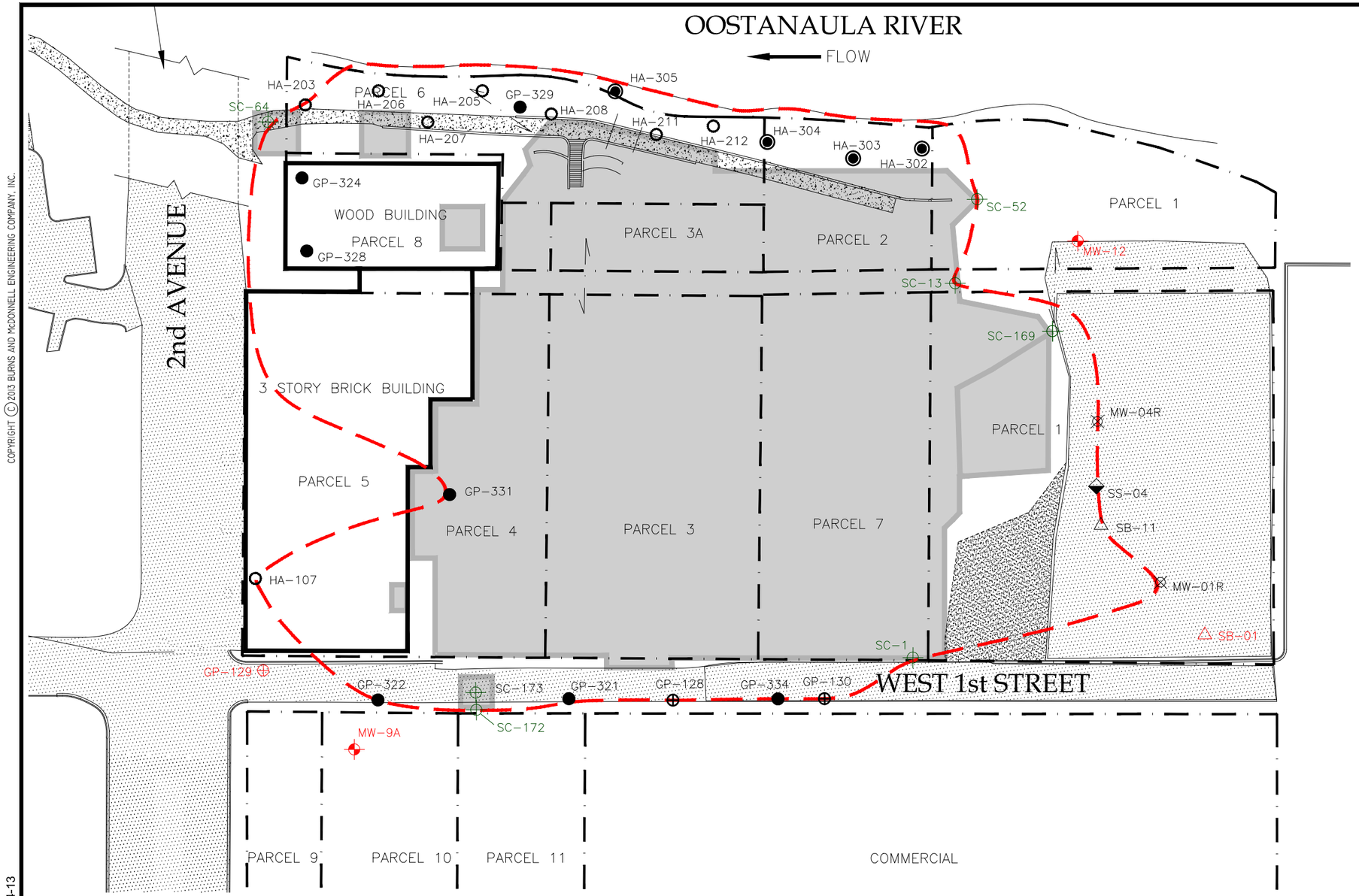
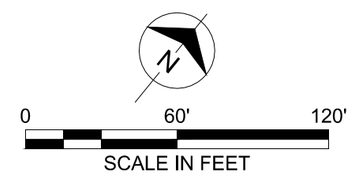


Sample ID	Depth	Nickel
Background Concentration	**NA**	**18**
SS-04	0-2'	15
MW-01R	10-12'	13
MW-04R	8-10'	15
MW-9A	13-15'	13
MW-12	10-16'	17.9
MW-12	22-24'	13.1
SB-01A	8.5-10.5'	8.6B
SB-01B	16.5-18.5'	14.0
SB-11	4.5-6.5'	<10.3
SB-11	6.5-8.5'	14
HA-107	1-3'	11
HA-203	0-2'	14
HA-205	0-2'	14
HA-206	0-2'	11
HA-207	0-2'	21
HA-208	0-2'	23
HA-211	0-2'	13
HA-212	0-2'	14
HA-302	0-2'	25
HA-303	0-2'	32
HA-304	0-2'	13
HA-305	0-2'	27
GP-128	0-5'	9.8
GP-128	5-9'	9.2J
GP-129	0-5'	13.8
GP-129	5-9'	10.2
GP-129	13-17'	16.8
GP-130	2-6'	11.1
GP-130	6-11'	7.9J
GP-321	5.5-6.5'	13
GP-322	7-9'	10
GP-324	12-14'	18
GP-328	0-2'	22
GP-329	10-12'	15
GP-331	10-12'	18
GP-334	26-28'	11
SC-1	2.5'_wall	8.5
SC-13	2.5'_wall	12
SC-52	4'_floor	14
SC-64	3'_floor	9.2
SC-169	7'_floor	22
SC-172	5'_wall	18
SC-173	11'_floor	16

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
B AND J = ESTIMATED CONCENTRATION



LEGEND

BACKGROUND BORING
ABANDONED MONITORING WELL
SOIL BORING
GEOPROBE BORING
HAND AUGER
SURFACE SAMPLES
SOIL CONFIRMATION SAMPLE
DETECTION LIMIT DL

MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR NICKEL IN SOIL
LIMITS OF EXCAVATION
PROPERTY LINE
CONCRETE HEADWALL

GRAVEL
CONCRETE
ASPHALT

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-13
HORIZONTAL DELINEATION OF NICKEL IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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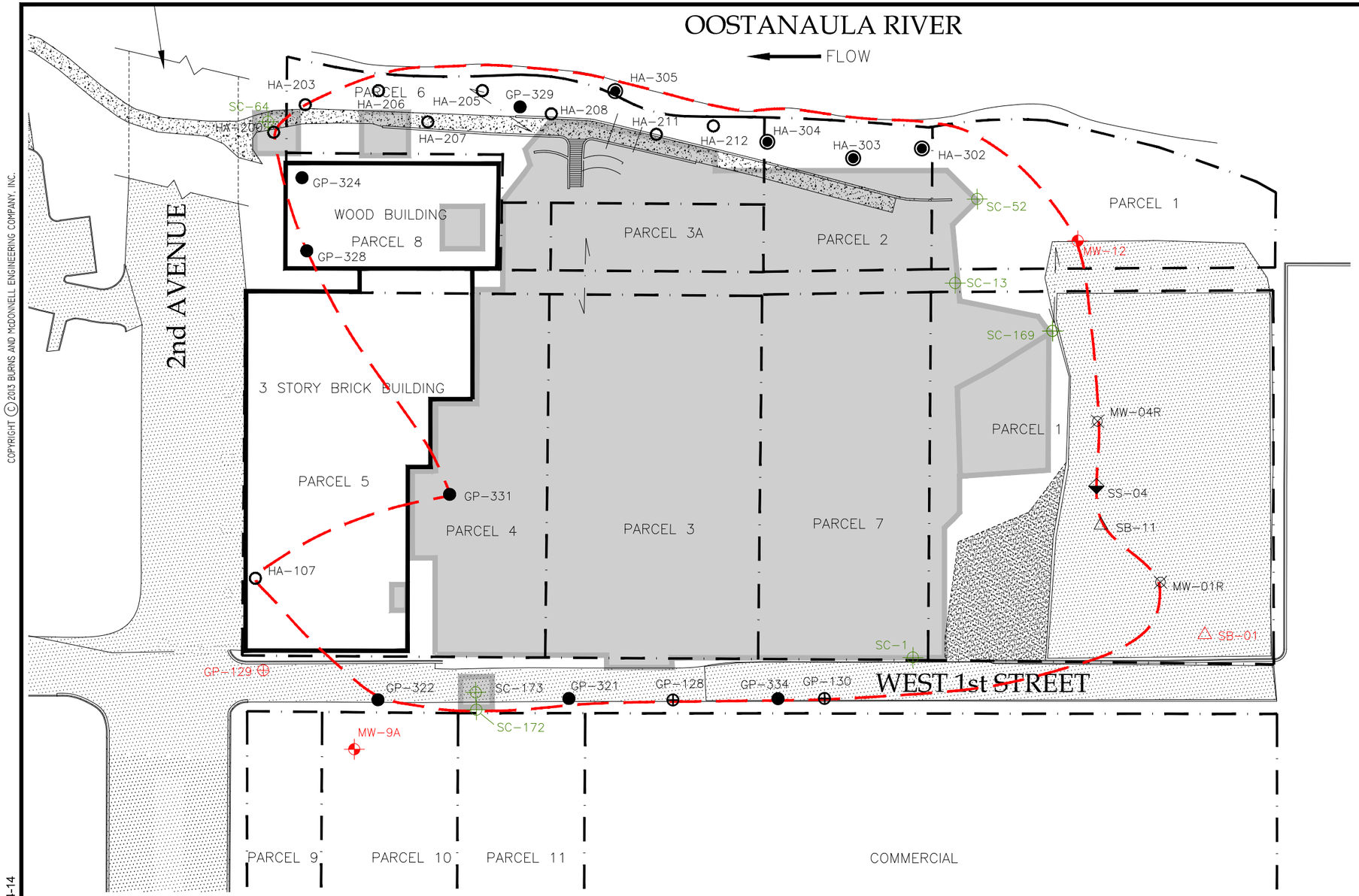

Sample ID	Depth	Selenium
Background Concentration	NA	2.3
SS-04	0-2'	0.21
MW-01R	10-12'	<0.81
MW-04R	8-10'	<0.81
MW-9A	13-15'	0.88J
MW-12	10-16'	2.30
MW-12	22-24'	0.960
SB-01A	8.5-10.5'	0.24U
SB-01B	16.5-18.5'	0.24U
SB-11	4.5-6.5'	<0.78
SB-11	6.5-8.5'	<0.70
HA-107	1-3'	1.8J
HA-200	0-2'	1.2 UN
HA-203	0-2'	<1.1
HA-205	0-2'	<1.1
HA-206	0-2'	<1.1
HA-207	0-2'	<1.1
HA-208	0-2'	<1.1
HA-211	0-2'	<1.1
HA-212	0-2'	<1.2
HA-302	0-2'	4.7
HA-303	0-2'	<1.2
HA-304	0-2'	<1.3
HA-305	0-2'	<1.3
GP-128	0-5'	<0.63
GP-128	5-9'	1.4
GP-129	0-5'	0.79J
GP-129	5-9'	0.66U
GP-129	13-17'	1.2J
GP-130	2-6'	1.3
GP-130	6-11'	0.79J
GP-321	5.5-6.5'	<1.2
GP-322	7-9'	<1.2
GP-324	12-14'	<1.2
GP-328	0-2'	<1.1
GP-329	10-12'	<1.2
GP-331	10-12'	<1.2
GP-334	26-28'	<1.1

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
U = ANALYZED FOR BUT NOT DETECTED
J = ESTIMATED CONCENTRATION
SC- SERIES SAMPLES NOT SAMPLED FOR SELENIUM
N = MATRIX SPIKE PERCENT RECOVERIES NOT WITHIN ADVISORY LIMITS

LEGEND

BACKGROUND BORING
ABANDONED MONITORING WELL
SOIL BORING
GEOPROBE BORING
HAND AUGER
SURFACE SAMPLES
SOIL CONFIRMATION SAMPLE
DETECTION LIMIT DL

MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR SELENIUM IN SOIL
LIMITS OF EXCAVATION
PROPERTY LINE
CONCRETE HEADWALL

GRAVEL
CONCRETE
ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-14
HORIZONTAL DELINEATION OF SELENIUM IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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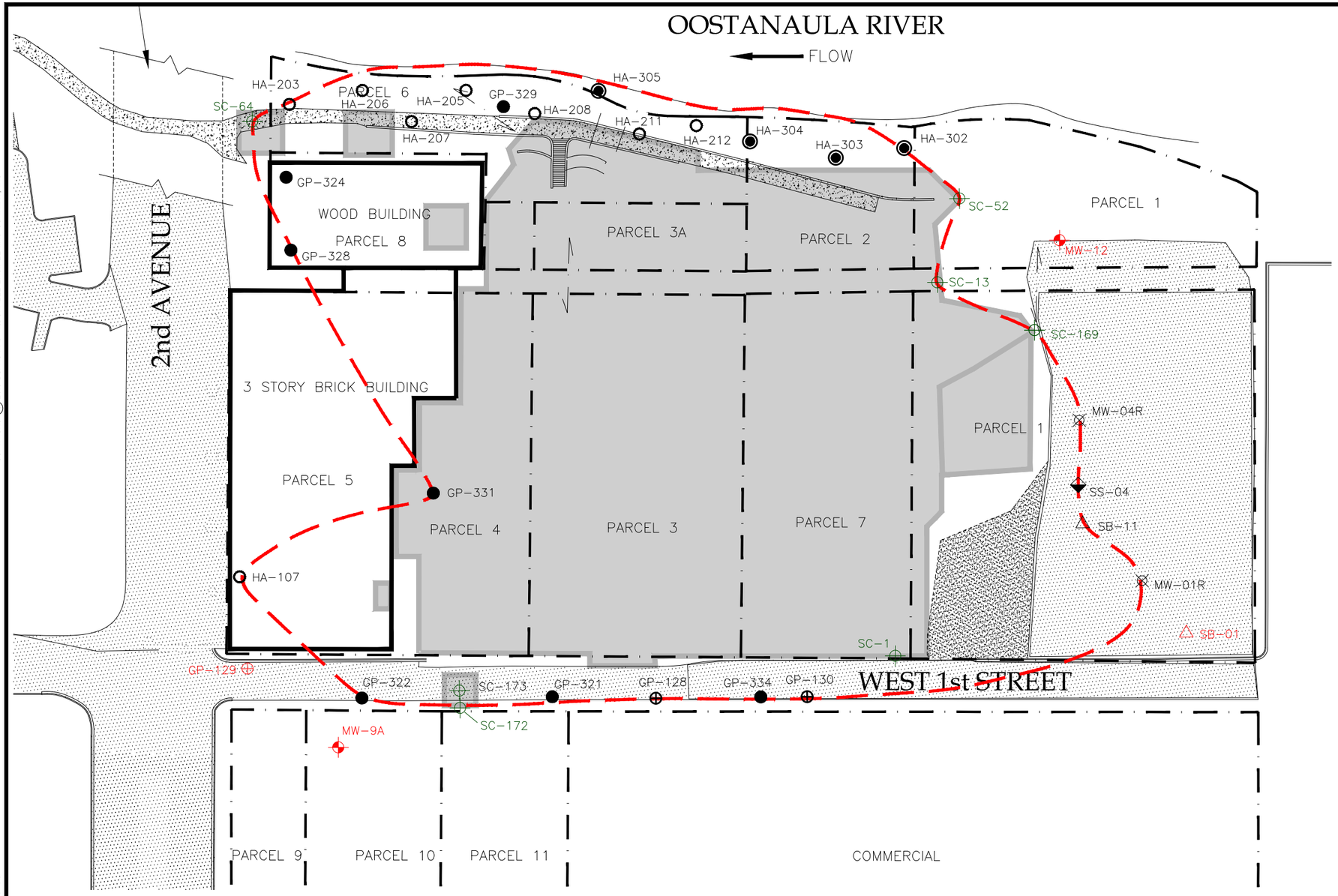
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-14



Sample ID	Depth	Silver
Background Concentration	**NA**	**0.59**
SS-04	0-2'	<0.71
MW-01R	10-12'	<1.2
MW-04R	8-10'	<1.2
MW-9A	13-15'	<0.16
MW-12	10-16'	0.09U
MW-12	22-24'	0.075U
SB-01A	8.5-10.5'	0.49U
SB-01B	16.5-18.5'	0.590
SB-11	4.5-6.5'	<5.2
SB-11	6.5-8.5'	<4.7
HA-107	1-3'	<0.19
HA-203	0-2'	<1.1
HA-205	0-2'	<1.1
HA-206	0-2'	<1.1
HA-207	0-2'	<1.1
HA-211	0-2'	<1.1
HA-212	0-2'	<1.2
HA-302	0-2'	<1.2
HA-303	0-2'	<1.2
HA-304	0-2'	<1.3
HA-305	0-2'	<1.3
GP-128	0-5'	<0.17
GP-129	0-5'	0.16U
GP-129	5-9'	0.18U
GP-129	13-17'	0.18U
GP-130	2-6'	<0.09
GP-321	5.5-6.5'	<1.2
GP-322	7-9'	<1.2
GP-324	12-14'	<1.2
GP-328	0-2'	<1.1
GP-329	10-12'	<1.2
GP-331	10-12'	<1.2
GP-334	26-28'	<1.1
SC-1	2.5'_wall	<1.3
SC-13	2.5'_wall	<1.1
SC-52	4'_floor	<1.2
SC-64	3'_floor	<1.1
SC-169	7'_floor	<1.4
SC-172	5'_wall	<1.4
SC-173	11'_floor	<1.3

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
U = ANALYZED FOR BUT NOT DETECTED

LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT (DL)
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR SILVER IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

Burns & McDonnell SINCE 1898
Atlanta Gas Light®
*An **AGL Resources** Company*

FIGURE 4-15
HORIZONTAL DELINEATION OF SILVER IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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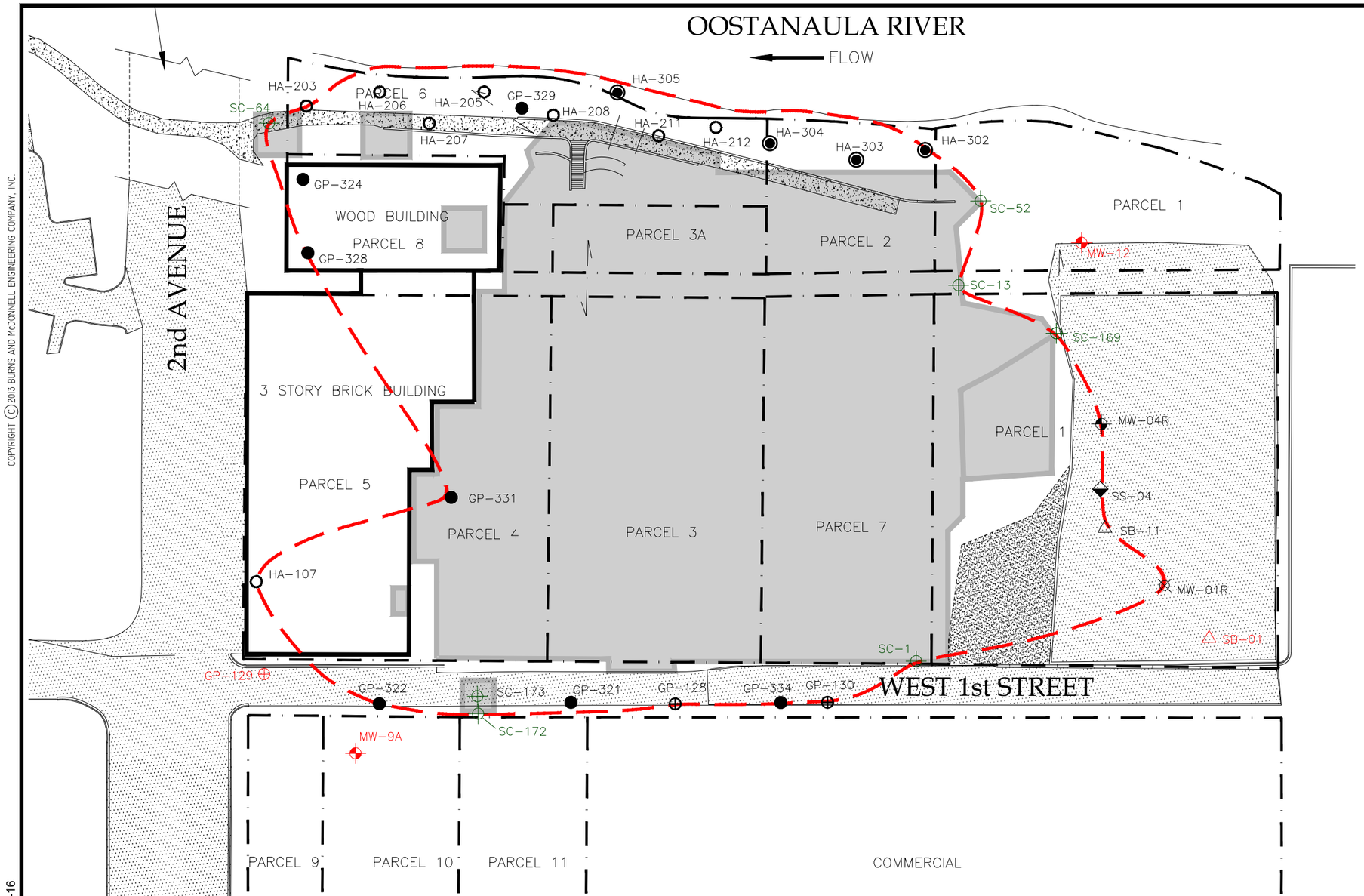
H:\NE OFFICE\CAD\GL\NEW FIGURES\FIG 4-15



Sample ID	Depth	Thallium
Background Concentration	**NA**	**0.80**
SS-04	0-2'	<0.39
MW-01R	10-12'	<1.2
MW-04R	8-10'	<1.2
MW-9A	13-15'	<0.81
MW-12	10-16'	0.9U
MW-12	22-24'	0.80J
SB-01A	8.5-10.5'	0.49U
SB-01B	16.5-18.5'	0.530
SB-11	4.5-6.5'	<0.52
SB-11	6.5-8.5'	<0.47
HA-107	1-3'	<0.87
HA-203	0-2'	<1.1
HA-205	0-2'	<1.1
HA-206	0-2'	<1.1
HA-207	0-2'	<1.1
HA-208	0-2'	<1.1
HA-211	0-2'	<1.1
HA-212	0-2'	<1.2
HA-302	0-2'	<1.2
HA-303	0-2'	1.9
HA-304	0-2'	<1.3
HA-305	0-2'	<1.3
GP-128	0-5'	<0.85
GP-128	5-9'	<0.87
GP-129	0-5'	0.81U
GP-129	5-9'	0.89U
GP-129	13-17'	0.89U
GP-130	2-6'	<0.89
GP-130	6-11'	<0.88
GP-321	5.5-6.5'	1.3
GP-322	7-9'	<1.2
GP-324	12-14'	<1.2
GP-328	0-2'	<1.1
GP-329	10-12'	<1.2
GP-331	10-12'	<1.2
GP-334	26-28'	<1.1
SC-1	2.5'_wall	<1.3
SC-13	2.5'_wall	<1.1
SC-52	4'_floor	<1.2
SC-64	3'_floor	<1.1
SC-169	7'_floor	<1.4
SC-172	5'_wall	<1.4
SC-173	11'_floor	<1.3

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
U = ANALYZED FOR BUT NOT DETECTED
J = ESTIMATED CONCENTRATION

LEGEND

BACKGROUND BORING
ABANDONED MONITORING WELL
SOIL BORING
GEOPROBE BORING
HAND AUGER
SURFACE SAMPLES
SOIL CONFIRMATION SAMPLE
DETECTION LIMIT DL

MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR THALLIUM IN SOIL
LIMITS OF EXCAVATION
PROPERTY LINE
CONCRETE HEADWALL

GRAVEL
CONCRETE
ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-16
HORIZONTAL DELINEATION OF THALLIUM IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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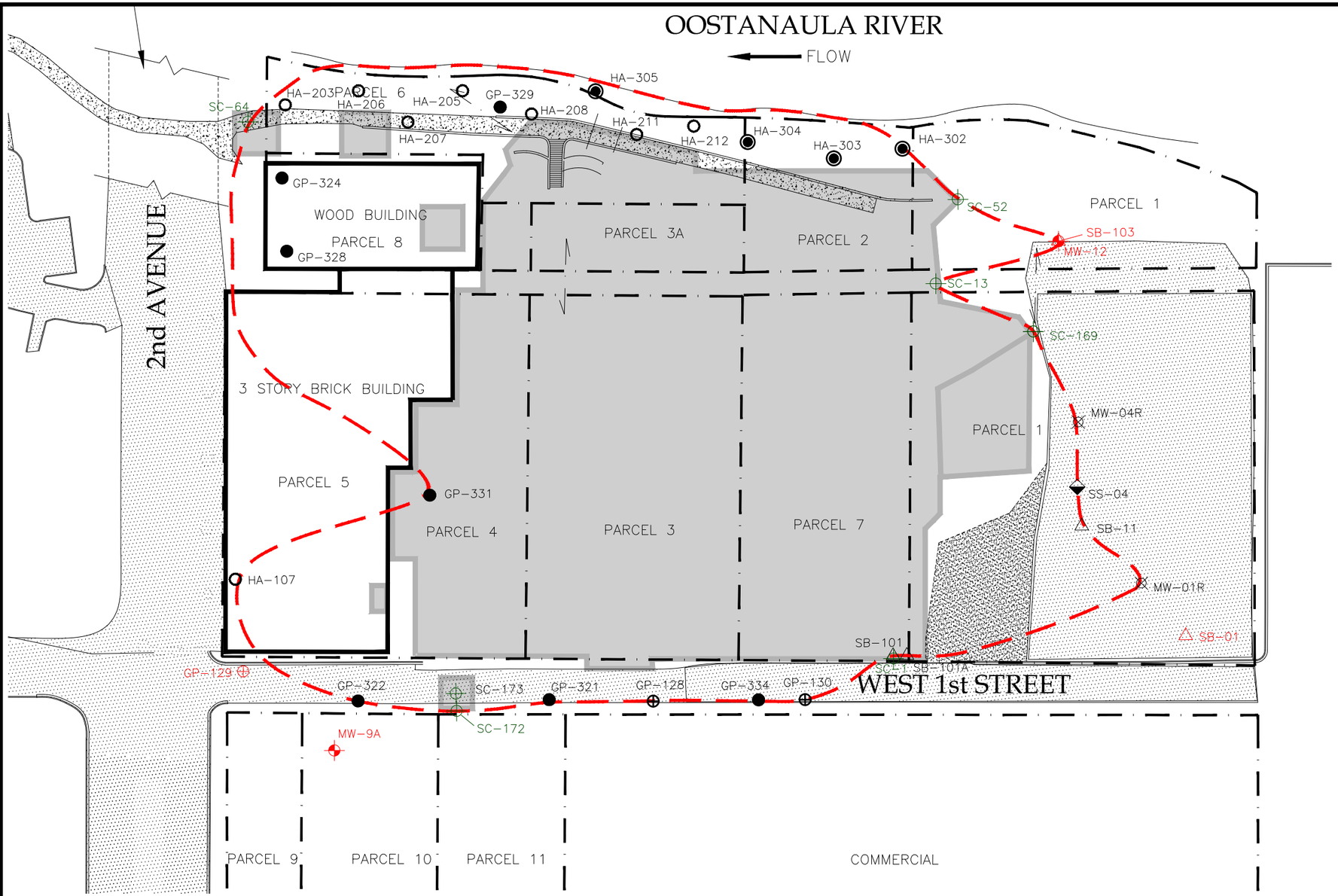
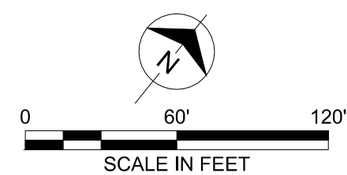


Sample ID	Depth	Zinc
Background Concentration	NA	169
SS-04	0-2'	46
MW-01R	10-12'	51
MW-04R	8-10'	61
MW-9A	13-15'	86
MW-12	10-16'	163
MW-12	22-24'	53.8
SB-01A	8.5-10.5'	50.7
SB-01B	16.5-18.5'	80.6
SB-11	4.5-6.5'	21
SB-11	6.5-8.5'	58
SB-101	0 - 2'	155
SB-101	2 - 4'	41
SB-101A	0 - 2'	70
SB-103	0 - 2'	169
SB-103	2 - 4'	58.1
SB-103	4 - 6'	42.4
HA-107	1-3'	57
HA-203	0-2'	185
HA-205	0-2'	131
HA-206	0-2'	97
HA-207	0-2'	154
HA-208	0-2'	154
HA-211	0-2'	242
HA-212	0-2'	115
HA-302	0-2'	100
HA-303	0-2'	180
HA-304	0-2'	110
HA-305	0-2'	85
GP-128	0-5'	40
GP-128	5-9'	40
GP-129	0-5'	58.7
GP-129	5-9'	107
GP-129	13-17'	73.4
GP-130	2-6'	84
GP-130	6-11'	35
GP-321	5.5-6.5'	56
GP-322	7-9'	91
GP-324	12-14'	78
GP-328	0-2'	250
GP-329	10-12'	81
GP-331	10-12'	70
GP-334	26-28'	34
SC-1	2.5'_wall	160
SC-13	2.5'_wall	74
SC-52	4'_floor	69
SC-64	3'_floor	57
SC-169	7'_floor	44
SC-172	5'_wall	730
SC-173	11'_floor	69

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg



LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT (DL)
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR ZINC IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-17
HORIZONTAL DELINEATION OF ZINC IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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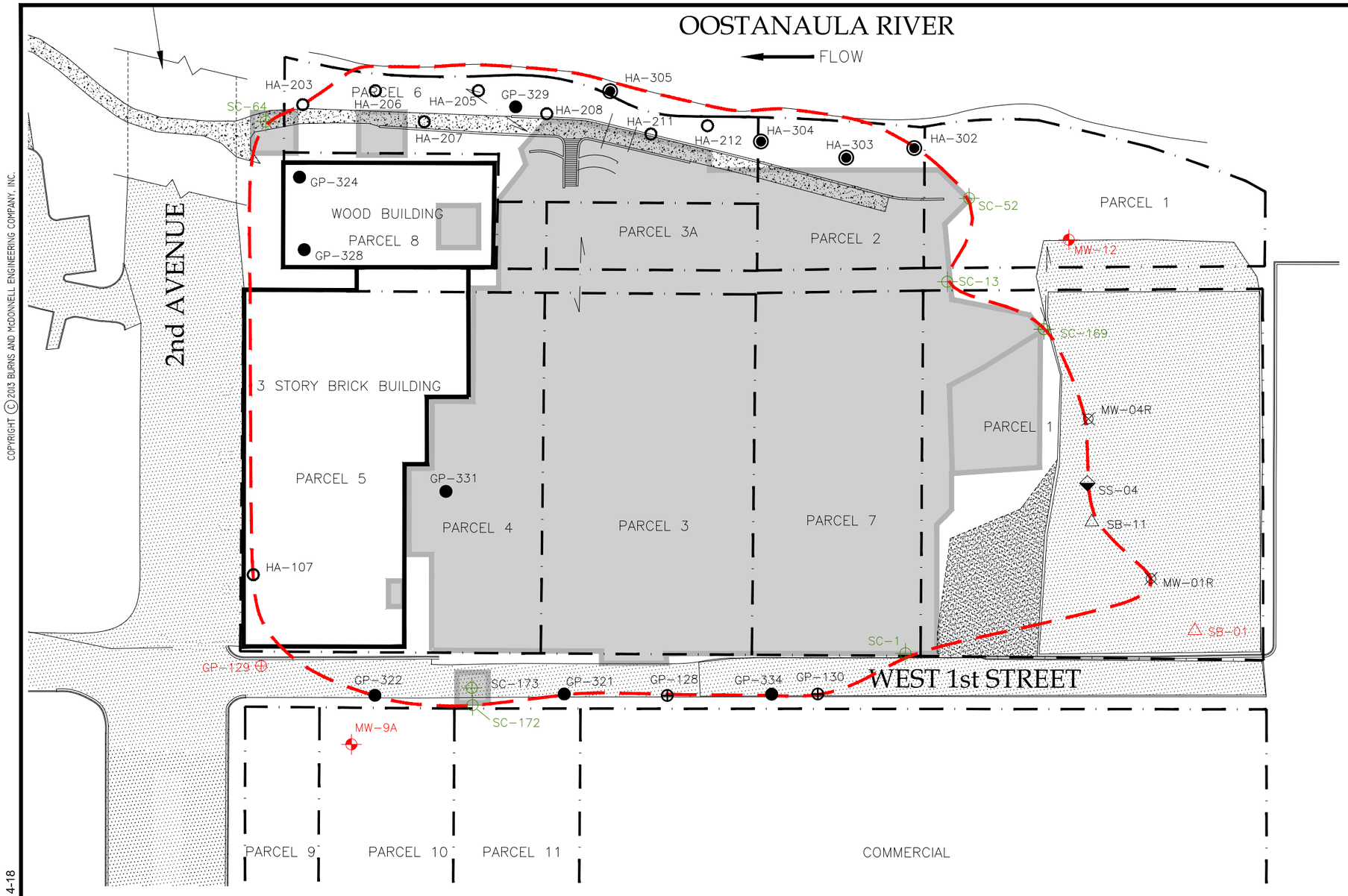
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG 4-17



Sample ID	Depth	Cyanide
Background Concentration	NA	DL
SS-04	0-2'	<1.2
MW-01R	10-12'	<1.2
MW-04R	8-10'	<1.2
MW-9A	13-15'	<0.60
MW-12	10-16'	0.63U
MW-12	22-24'	0.67U
SB-01A	8.5-10.5'	0.63U
SB-01B	16.5-18.5'	0.61U
SB-11	4.5-6.5'	<0.65
SB-11	6.5-8.5'	<0.59
HA-107	1-3'	<0.62
HA-203	0-2'	<1.1
HA-205	0-2'	<1.1
HA-206	0-2'	<1.1
HA-207	0-2'	<1.1
HA-208	0-2'	<1.1
HA-211	0-2'	1.9
HA-212	0-2'	<1.2
HA-302	0-2'	<1.2
HA-303	0-2'	<1.3
HA-304	0-2'	<1.3
HA-305	0-2'	<1.3
GP-128	0-5'	<0.58
GP-128	5-9'	<0.55
GP-129	0-5'	0.59U
GP-129	5-9'	0.63U
GP-129	13-17'	0.62U
GP-130	2-6'	<0.57
GP-130	6-11'	<0.64
GP-321	5.5-6.5'	<1.2
GP-322	7-9'	<1.2
GP-324	12-14'	<1.2
GP-328	0-2'	1.4
GP-329	10-12'	2.4
GP-331	10-12'	8.9
GP-334	26-28'	<1.1
SC-1	2.5'_wall	<1.3
SC-13	2.5'_wall	<1.1
SC-52	4'_floor	<1.2
SC-64	3'_floor	<1.2
SC-169	7'_floor	<1.4
SC-172	5'_wall	2.6
SC-173	11'_floor	<1.3

NOTES:
ALL CONCENTRATIONS LISTED IN mg/Kg
U = ANALYZED FOR BUT NOT DETECTED

LEGEND

- BACKGROUND BORING
- ABANDONED MONITORING WELL
- SOIL BORING
- GEOPROBE BORING
- HAND AUGER
- SURFACE SAMPLES
- SOIL CONFIRMATION SAMPLE
- DETECTION LIMIT (DL)
- MOST LIKELY BACKGROUND ISOCONCENTRATION LINE FOR CYANIDE IN SOIL
- LIMITS OF EXCAVATION
- PROPERTY LINE
- CONCRETE HEADWALL
- GRAVEL
- CONCRETE
- ASPHALT

0 60' 120'
SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 4-18
HORIZONTAL DELINEATION OF CYANIDE IN SOIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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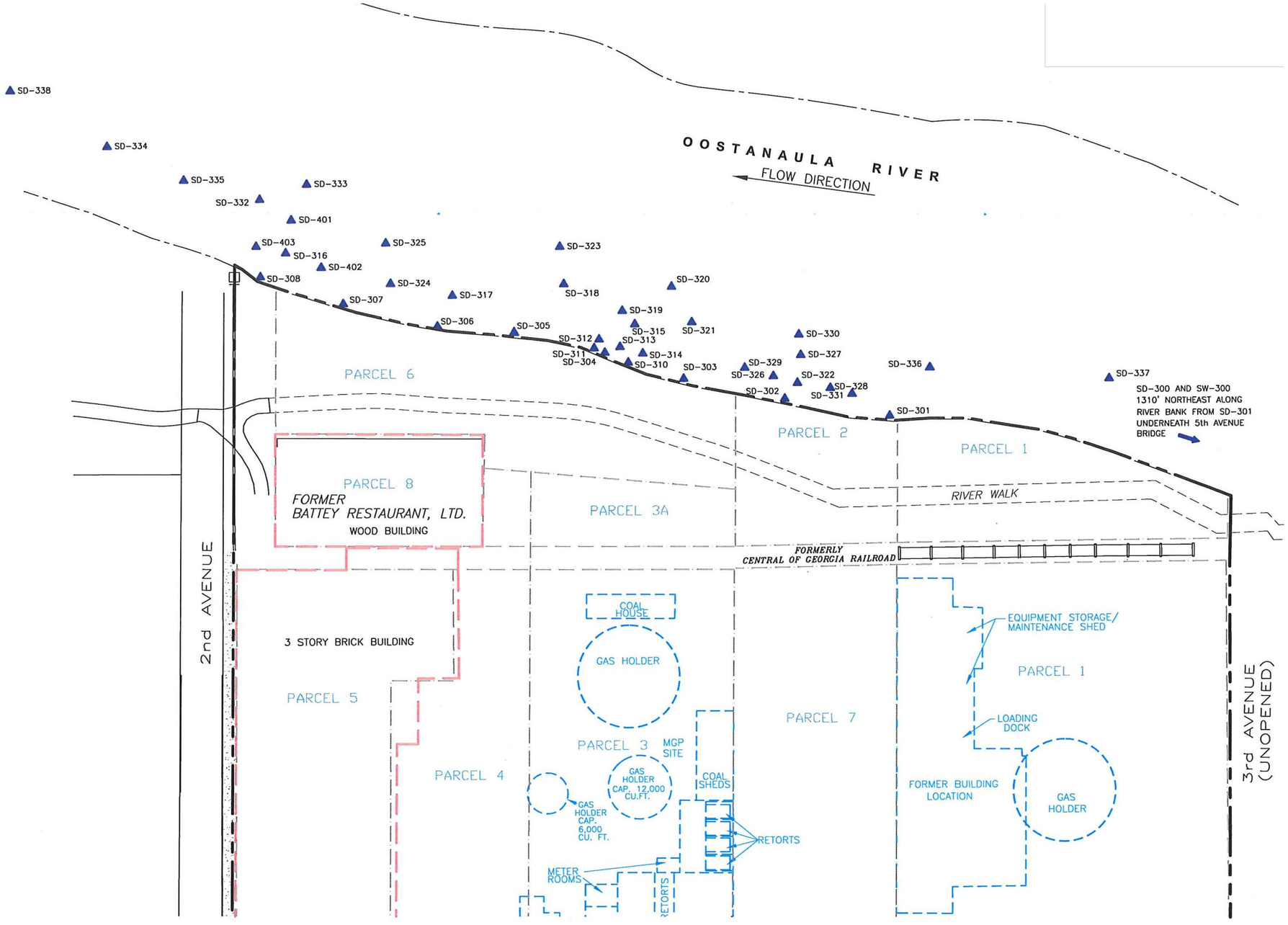

LEGEND

APPROX. SITE BOUNDARY
APPROX. PROPERTY LINE
EXISTING BUILDING
FORMER STRUCTURE
CONCRETE

SEDIMENT SAMPLE ▲ SD-307

NOTE:
RIVERBANK LOCATION IS APPROXIMATE PENDING FINAL SURVEY

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FIGURE 5-1
SAMPLE LOCATION MAP FOR OU2
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_5-1_SAMPLE LOC MAP FOR OU2

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Sample ID	Depth	Total SVOCs
SD-309	0-2	ND
SD-309	2-5	ND

Sample ID	Depth	Total SVOCs
SD-338	0-2	ND

Sample ID	Depth	Total SVOCs
SD-334	0.5-2	530
SD-334	2-3.5	4,600

Sample ID	Depth	Total SVOCs
SD-335	0-0.5	560
SD-335	0.5-2	ND
SD-335	2-4	11,700

Sample ID	Depth	Total SVOCs
SD-333	0-0.5	ND
SD-333	0.5-2	ND
SD-333	2-4	ND

Sample ID	Depth	Total SVOCs
SD-325	0-0.5	ND
SD-325	0.5-2	ND
SD-325	2-4	ND
SD-325	4-6	ND

Sample ID	Depth	Total SVOCs
SD-317	0.5-2	2180
SD-317	2-4	ND

Sample ID	Depth	Total SVOCs
SD-323	0-0.5	ND
SD-323	0.5-2	ND

Sample ID	Depth	Total SVOCs
SD-318	0-0.5	30,380
SD-318	0.5-2	14,680

Sample ID	Depth	Total SVOCs
SD-321	0-0.5	ND
SD-321	0.5-1	ND

Sample ID	Depth	Total SVOCs
SD-329	0-0.5	310,100

Sample ID	Depth	Total SVOCs
SD-330	0-0.5	ND
SD-330	0.5-2	ND
SD-330	2-4	ND

Sample ID	Depth	Total SVOCs
SD-337	0-0.5	ND
SD-337	0.5-2	ND
SD-337	2-4	ND
SD-337	4-6	ND

Sample ID	Depth	Total SVOCs
SD-327	0-0.5	ND
SD-327	0.5-2	9,140
SD-327	2-4	5,500

Sample ID	Depth	Total SVOCs
SD-336	0-0.5	ND

Sample ID	Depth	Total SVOCs
SD-324	0-0.5	ND
SD-324	0.5-2	ND

Sample ID	Depth	Total SVOCs
SD-320	0.5-2	ND

Sample ID	Depth	Total SVOCs
SD-301	0-2	ND

SD-309 SD-338 SD-334 SD-335 SD-333 SD-332 SD-401 SD-403 SD-316 SD-402 SD-308 SD-307 SD-324 SD-306 SD-325 SD-317 SD-318 SD-323 SD-320 SD-319 SD-321 SD-305 SD-315 SD-312 SD-313 SD-311 SD-304 SD-314 SD-310 SD-303 SD-329 SD-326 SD-322 SD-328 SD-331 SD-302 SD-330 SD-327 SD-336 SD-337 SD-301

OOSTANAULA RIVER
FLOW DIRECTION

SD-300 AND SW-300 1310' NORTHEAST ALONG RIVER BANK FROM SD-301 UNDERNEATH 5th AVENUE BRIDGE

PARCEL 6
PARCEL 8
FORMER BATTEY RESTAURANT, LTD.
WOOD BUILDING
PARCEL 2
PARCEL 1
PARCEL 3A
RIVER WALK
FORMERLY CENTRAL OF GEORGIA RAILROAD
2nd AVENUE
3 STORY BRICK BUILDING
PARCEL 5
COAL HOUSE
GAS HOLDER
PARCEL 3
MGP SITE
PARCEL 7
EQUIPMENT STORAGE/ MAINTENANCE SHED
PARCEL 1
LOADING DOCK
d AVENUE NOPENED)

LEGEND

APPROX. SITE BOUNDARY
APPROX. PROPERTY LINE
EXISTING BUILDING
FORMER STRUCTURE
CONCRETE

ANALYTICAL DATA BOX
UNITS IN ug/kg
ND=NOT DETECTED

Sample ID	Depth	Total SVOCs
SD-317	0.5-2	2180
SD-317	2-4	ND

SEDIMENT SAMPLE ▲ SD-307

NOTE:
DELINEATION OF TOTAL SVOCs TO BACKGROUND (ND)

NOTE:
RIVERBANK LOCATION IS APPROXIMATE

0 60' 120'
SCALE IN FEET

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FIGURE 5-2
HORIZONTAL AND VERICAL DELINEATION OF SVOCs IN SEDIMENTS
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_5-2_HORIZONTAL AND VERTICAL DELINEATION OF SVOCS IN SEDIMENTS

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I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_6-1_MW NETWORK LOCATIONS_POST EXCV_OCT 2012

FLOW

OOSTANAULA RIVER

2ND AVENUE

WEST 1ST STREET

WEST FIRST STREET ROW
(City of Rome)

Formerly Central of GA Railroad

Transformer Easement

Driveway Easement

J14D 020A
(City of Rome/Floyd County)

MW-14A

J14D 025
PARCEL 6
(City of Rome)

J14D 019
(City of Rome)

This applies to Former Parcel 2

J14D 024
PARCEL 8
(Battey Downtown, LLC)

WOOD BUILDING

MW-406A
MW-406C
MW-406B

PARCEL 3A

PARCEL 2

MW-405

MW-401B

MW-401AR

J14D 023
PARCEL 5
(Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022
PARCEL 4
(Battey Downtown, LLC)

MW-403A
MW-403B

J14D 021
PARCEL 3
(Battey Downtown, LLC)

PARKING LOT

J14D 020
PARCEL 7
(Battey Downtown, LLC)

PARKING LOT

J14D 018
PARCEL 1
(Floyd County)

PARKING GARAGE

MW-404R
MW-404B

MW-501

MW-505R

COMMERCIAL

MW-503

MW-402B
MW-402A

MW-504

MW-507

MW-09A
MW-09B

ASPHALT PARKING LOT
J14D 045
PARCEL 10
(Larry Martin)

J14D 044
PARCEL 9
(Larry Martin)

MW-508

J14D 046
PARCEL 11
(Larry Martin)

J14D 047
PARCEL 12

J14D 048

J14D 049

J14D 050
(Larry Martin)

COMMERCIAL

MW-506

MW-502

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY

NOTES:

1. MW-506 Monitoring well paved over by City of Rome
2. Wells designed without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
3. Wells designed with the letter “B” are Intermediate Monitoring Wells (e.g. MW-406B)
4. Wells designed with the letter “C” are Deep Monitoring Wells (e.g. MW-406C)

N

0 60' 120'

SCALE IN FEET

Burns & McDonnell SINCE 1898

Atlanta Gas Light®
*An **AGL Resources** Company*

FIGURE 6-1
MONITORING WELL NETWORK LOCATIONS (POST-EXCAVATION) - OCTOBER 2012
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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FLOW

OOSTANAULA RIVER

MW-14A (566.07)

J14D 025 PARCEL 6 (City of Rome)

J14D 019 (City of Rome)

This applies to Former Parcel 2

MW-406A (565.53)

MW-406C

MW-406B

J14D 024 PARCEL 8 (Battey Downtown, LLC)

WOOD BUILDING

PARCEL 3A

PARCEL 2

566

567

568

569

Formerly Central of GA Railroad

MW-405 (570.39)

MW-401B

570

MW-401AR (571.11)

571

2ND AVENUE

MW-403A (572.36)

572

MW-403B

J14D 023 PARCEL 5 (Battey Downtown, LLC)

J14D 022 PARCEL 4 (Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 021 PARCEL 3 (Battey Downtown, LLC)

J14D 020 PARCEL 7 (Battey Downtown, LLC)

J14D 018 PARCEL 1 (Floyd County)

PARKING GARAGE

PARKING LOT

PARKING LOT

J14D 020A (City of Rome/Floyd County) Driveway Easement

COMMERCIAL

MW-404R (571.88)

MW-404B

MW-501 (571.72)

MW-505R (NM)

MW-503 (565.51)

MW-402B

MW-402A (571.70)

MW-504 (571.79)

WEST FIRST STREET ROW (City of Rome)

MW-507 (571.74)

WEST 1ST STREET

Transformer Easement

MW-09A (570.70)

MW-09B

ASPHALT PARKING LOT

J14D 045 PARCEL 10 (Larry Martin)

J14D 044 PARCEL 9 (Larry Martin)

J14D 046 PARCEL 11 (Larry Martin)

MW-508 (568.45)

J14D 047 PARCEL 12

J14D 048

J14D 049

J14D 050 (Larry Martin)

COMMERCIAL

MW-506

N

0 60' 120'

SCALE IN FEET

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY
- 568 — GROUNDWATER CONTOUR IN SHALLOW AQUIFER (FT MSL)
- (572.36) — GROUNDWATER ELEVATION IN SHALLOW AQUIFER (FT MSL)
- FLOW DIRECTION
- NM — NOT MEASURED
- MW-502 (568.60)

NOTES:

1. Dashed where inferred
2. MW-506 Monitoring well paved over by City of Rome
3. Wells designed without the letters "B" or "C" or with an "A" are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
4. Wells designed with the letter "B" are Intermediate Monitoring Wells (e.g. MW-406B)
5. Wells designed with the letter "C" are Deep Monitoring Wells (e.g. MW-406C)

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*An **AGL Resources** Company*

FIGURE 6-2
SHALLOW GROUNDWATER ELEVATION CONTOURS - OCTOBER 8, 2012
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\GL\NEW FIGURES\FIG_6-3_POTENTIOMETRIC SURFACE MAP FOR INTERMEDIATE AQUIFER_OCT 8, 2012 © 2013 BURNS AND MCDONNELL ENGINEERING COMPANY, INC.

FLOW

OOSTANAULA RIVER

2ND AVENUE

WEST 1ST STREET

WEST FIRST STREET ROW (City of Rome)

Formerly Central of GA Railroad

J14D 025 PARCEL 6 (City of Rome)

J14D 024 PARCEL 8 (Battey Downtown, LLC)

WOOD BUILDING

J14D 019 (City of Rome)

This applies to Former Parcel 2

PARCEL 3A

PARCEL 2

J14D 023 PARCEL 5 (Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022 PARCEL 4 (Battey Downtown, LLC)

J14D 021 PARCEL 3 (Battey Downtown, LLC)

J14D 020 PARCEL 7 (Battey Downtown, LLC)

J14D 020A (City of Rome/Floyd County)

Driveway Easement

Transformer Easement

J14D 018 PARCEL 1 (Floyd County)

PARKING GARAGE

PARKING LOT

PARKING LOT

COMMERCIAL

J14D 044 PARCEL 9 (Larry Martin)

J14D 045 PARCEL 10 (Larry Martin)

ASPHALT PARKING LOT

J14D 046 PARCEL 11 (Larry Martin)

J14D 047 PARCEL 12

J14D 048

J14D 049

J14D 050 (Larry Martin)

COMMERCIAL

MW-14A

MW-406A

MW-406B (564.84)

MW-406C (564.10)

MW-405

MW-401B (564.68)

MW-401AR

MW-403A

MW-403B (564.44)

MW-404R

MW-404B (569.64)

MW-402B (570.04)

MW-402A

MW-501 (571.72)

MW-505R

MW-504

MW-507

MW-09A

MW-09B (567.34)

MW-508

MW-506

MW-503

MW-502

565

566

567

568

569

570

0 60' 120'

SCALE IN FEET

N

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY
- 568 — GROUNDWATER CONTOUR IN SHALLOW AQUIFER (FT MSL)
- (572.36) — GROUNDWATER ELEVATION IN SHALLOW AQUIFER (FT MSL)
- FLOW DIRECTION

NOTES:

1. Dashed where inferred
2. MW-506 Monitoring well paved over by City of Rome
3. Wells designed without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
4. Wells designed with the letter “B” are Intermediate Monitoring Wells (e.g. MW-406B)
5. Wells designed with the letter “C” are Deep Monitoring Wells (e.g. MW-406C)

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*An **AGL Resources** Company*

FIGURE 6-3
POTENTIOMETRIC SURFACE MAP FOR INTERMEDIATE AQUIFER - OCTOBER 8, 2012
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_6-4_DISSOLVED BENZENE-BTEX CONCENTRATIONS IN GW_JULY AND OCT 2012.DWG © 2013 BURNS AND MCDONNELL ENGINEERING COMPANY, INC.

FLOW

OOSTANAULA RIVER

2ND AVENUE

WEST 1ST STREET

WEST FIRST STREET ROW (City of Rome)

J14D 025 PARCEL 6 (City of Rome)

J14D 019 (City of Rome)

This applies to Former Parcel 2

PARCEL 2

PARCEL 3A

Formerly Central of GA Railroad

J14D 024 PARCEL 8 (Battey Downtown, LLC)

WOOD BUILDING

J14D 023 PARCEL 5 (Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022 PARCEL 4 (Battey Downtown, LLC)

J14D 021 PARCEL 3 (Battey Downtown, LLC)

PARKING LOT

J14D 020 PARCEL 7 (Battey Downtown, LLC)

PARKING LOT

J14D 020A (City of Rome/Floyd County)

Driveway Easement

J14D 018 PARCEL 1 (Floyd County)

PARKING GARAGE

Transformer Easement

COMMERCIAL

J14D 044 PARCEL 9 (Larry Martin)

ASPHALT PARKING LOT

J14D 045 PARCEL 10 (Larry Martin)

J14D 046 PARCEL 11 (Larry Martin)

J14D 047 PARCEL 12

J14D 048

J14D 049

J14D 050 (Larry Martin)

COMMERCIAL

MW-14A (NA)

MW-406A (NA)

MW-406C (NA)

MW-406B (NA)

MW-405 (ND/ND)

MW-401B (NS)

MW-401AR (ND/ND)

MW-403A (ND/ND)

MW-403B (ND/ND)

MW-404R

100 (510/1,211)

1000

MW-404B (ND/ND)

MW-402B (ND/ND)

MW-402A (74/108)

MW-504 (2,800/3,490)

MW-507 (ND/ND)

ND

MW-501 (ND/ND)

MW-505R (NA)

MW-503 (ND/ND)

MW-09A (ND/ND)

MW-09B (NA/NA)

MW-508 (ND/ND)

MW-506

MW-502 (NS)

0 60' 120'

SCALE IN FEET

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY
- 100 — BENZENE ISOCONCENTRATION CONTOUR (µg/L)
- (74/108) — BENZENE CONCENTRATION IN GROUNDWATER (µg/L); TOTAL BTEX CONCENTRATION IN GROUNDWATER (µg/L)
- µg/L — MICROGRAMS PER LITER
- ND — NOT DETECTED

NOTES:

1. MW-506 Monitoring well paved over by City of Rome
2. Wells designed without the letters "B" or "C" or with an "A" are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
3. Wells designed with the letter "B" are Intermediate Monitoring Wells (e.g. MW-406B)
4. Wells designed with the letter "C" are Deep Monitoring Wells (e.g. MW-406C)
5. NA - (not applicable) - MW-14A, MW-406 well cluster, and MW-505R are only sampled for cyanide only
6. NS - (not sampled) - MW-401B and MW-502 are no longer sampled as part of the Site groundwater monitoring program
7. MW-09B, MW-405, MW-501, MW-503, MW-505R and MW-508 are sampled annually only; therefore, the results shown for these wells are from April 2012 (the last annual sampling event)
8. Risk-Based Clean-up Goal calculated for benzene as part of the VRP 23,000 µg/L (Retail Worker). Groundwater concentrations in all monitoring wells meet this clean-up criteria.

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FIGURE 6-4
DISSOLVED BENZENE/BTEX CONCENTRATIONS IN GROUNDWATER - JULY AND OCTOBER, 2012
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_6-5_DISSOLVED NAPH-SVOC CONCENTRATIONS IN GW_JULY AND OCT 2012 ©2013 BURNS AND MCDONNELL ENGINEERING COMPANY, INC.

FLOW

OOSTANAULA RIVER

J14D 025
PARCEL 6
(City of Rome)

MW-14A
(NA)

J14D 019
(City of Rome)

This applies to Former Parcel 2

J14D 024
PARCEL 8
(Battey Downtown, LLC)

WOOD BUILDING

MW-406A
(NA)

MW-406C
(NA)

MW-406B
(NA)

PARCEL 3A

PARCEL 2

Formerly Central of GA Railroad

MW-405
(ND/ND)

MW-401B
(NS)

MW-401AR
(ND/ND)

2ND AVENUE

J14D 023
PARCEL 5
(Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022
PARCEL 4
(Battey Downtown, LLC)

MW-403A
(ND/ND)

MW-403B
(ND/ND)

J14D 021
PARCEL 3
(Battey Downtown, LLC)

PARKING LOT

J14D 020
PARCEL 7
(Battey Downtown, LLC)

PARKING LOT

J14D 020A
(City of Rome/Floyd County)

J14D 018
PARCEL 1
(Floyd County)

PARKING GARAGE

COMMERCIAL

MW-503
(ND/ND)

MW-404R
(230/230)

ND

100

1000

MW-404B
(ND/ND)

MW-501
(ND/ND)

Driveway Easement

MW-505R
(NA)

MW-402B
(ND/ND)

MW-402A
(33/33)

MW-504
(1,400/6,700)

WEST FIRST STREET ROW
(City of Rome)

MW-507
(ND/ND)

WEST 1ST STREET

Transformer Easement

MW-09A
(ND/ND)

MW-09B
(ND/ND)

J14D 047
PARCEL 12

J14D 048

J14D 049

J14D 050
(Larry Martin)

ASPHALT PARKING LOT

J14D 045
PARCEL 10
(Larry Martin)

J14D 044
PARCEL 9
(Larry Martin)

J14D 046
PARCEL 11
(Larry Martin)

MW-508
(ND/ND)

COMMERCIAL

MW-502
(NS)

MW-506

N

0 60' 120'

SCALE IN FEET

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY
- 100 — NAPHTHALENE ISOCONCENTRATION CONTOUR (µg/L)
- (74/108) — NAPHTHALENE CONCENTRATION IN GROUNDWATER (µg/L) / TOTAL SVOC CONCENTRATION IN GROUNDWATER (µg/L)
- µg/L — MICROGRAMS PER LITER
- ND — NOT DETECTED

NOTES:

1. MW-506 Monitoring well paved over by City of Rome
2. Wells designed without the letters "B" or "C" or with an "A" are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
3. Wells designed with the letter "B" are Intermediate Monitoring Wells (e.g. MW-406B)
4. Wells designed with the letter "C" are Deep Monitoring Wells (e.g. MW-406C)
5. NA - (not applicable) - MW-14A, MW-406 well cluster, and MW-505R are only sampled for cyanide only
6. NS - (not sampled) - MW-401B and MW-502 are no longer sampled as part of the Site groundwater monitoring program
7. MW-09B, MW-405, MW-501, MW-503, MW-505R and MW-508 are sampled annually only; therefore, the results shown for these wells are from April 2012 (the last annual sampling event)
8. Risk-Based Clean-up Goal calculated for naphthalene as part of the VRP 23,000 µg/L (Retail Worker). Groundwater concentrations in all monitoring wells meet this clean-up criteria.

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FIGURE 6-5
DISSOLVED NAPHTHALENE/SVOC CONCENTRATIONS IN GROUNDWATER - JULY AND OCTOBER, 2012
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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FLOW

OOSTANAULA RIVER

2ND AVENUE

WEST 1ST STREET

WEST FIRST STREET ROW (City of Rome)

Formerly Central of GA Railroad

Driveway Easement

Transformer Easement

J14D 025 PARCEL 6 (City of Rome)

J14D 024 PARCEL 8 (Battey Downtown, LLC)

WOOD BUILDING

J14D 019 (City of Rome)

This applies to Former Parcel 2

PARCEL 2

PARCEL 3A

J14D 023 PARCEL 5 (Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022 PARCEL 4 (Battey Downtown, LLC)

J14D 021 PARCEL 3 (Battey Downtown, LLC)

J14D 020 PARCEL 7 (Battey Downtown, LLC)

PARKING LOT

J14D 020A (City of Rome/Floyd County)

J14D 018 PARCEL 1 (Floyd County)

PARKING GARAGE

COMMERCIAL

J14D 044 PARCEL 9 (Larry Martin)

ASPHALT PARKING LOT

J14D 045 PARCEL 10 (Larry Martin)

J14D 046 PARCEL 11 (Larry Martin)

J14D 047 PARCEL 12

J14D 048

J14D 049

J14D 050 (Larry Martin)

COMMERCIAL

MW-14A (NA)

MW-406A (NA)

MW-406C (NA)

MW-406B (NA)

MW-405 (ND)

MW-401B (NS)

MW-401AR (ND)

MW-403A (ND)

MW-403B (ND)

MW-404R (1,211)

MW-404B (ND)

MW-501 (ND)

MW-505R (NA)

MW-503 (ND)

MW-402B (ND)

MW-402A (141)

MW-504 (9,990)

MW-507 (ND)

MW-09A (ND)

MW-09B (ND)

MW-508 (ND)

MW-506

ND 100 1000

0 60' 120'

SCALE IN FEET

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY
- 1,000 — BTEX AND SVOC ISOCONCENTRATION CONTOUR (µg/L)
- (108) — TOTAL BTEX AND SVOC CONCENTRATIONS IN GROUNDWATER (µg/L)
- µg/L — MICROGRAMS PER LITER
- ND — NOT DETECTED
- MW-502 (NS)

NOTES:

1. MW-506 Monitoring well paved over by City of Rome
2. Wells designed without the letters "B" or "C" or with an "A" are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
3. Wells designed with the letter "B" are Intermediate Monitoring Wells (e.g. MW-406B)
4. Wells designed with the letter "C" are Deep Monitoring Wells (e.g. MW-406C)
5. NA - (not applicable) - MW-14A, MW-406 well cluster, and MW-505R are only sampled for cyanide only
6. NS - (not sampled) - MW-401B and MW-502 are no longer sampled as part of the Site groundwater monitoring program
7. MW-09B, MW-405, MW-501, MW-503, MW-505R and MW-508 are sampled annually only; therefore, the results shown for these wells are from April 2012 (the last annual sampling event)

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FIGURE 6-6
DISSOLVED BTEX AND SVOC CONCENTRATIONS IN GROUNDWATER - JULY AND OCTOBER, 2012
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_6-7_CYANIDE CONCENTRATIONS IN GW_JULY AND OCT 2012

FLOW

OOSTANAULA RIVER

J14D 025
PARCEL 6
(City of Rome)

MW-14A
(ND)

J14D 019
(City of Rome)

This applies to Former Parcel 2

J14D 024
PARCEL 8
(Battey Downtown, LLC)

WOOD BUILDING

MW-406A
(ND)

MW-406C
(ND)

MW-406B
(ND)

PARCEL 3A

PARCEL 2

Formerly Central of GA Railroad

MW-405
(ND)

MW-401B
(NS)

MW-401AR
(ND)

ND

50

100

J14D 023
PARCEL 5
(Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022
PARCEL 4
(Battey Downtown, LLC)

MW-403A
(340)

MW-403B
(11)

J14D 021
PARCEL 3
(Battey Downtown, LLC)

PARKING LOT

J14D 020
PARCEL 7
(Battey Downtown, LLC)

PARKING LOT

J14D 020A
(City of Rome/Floyd County)

Driveway Easement

J14D 018
PARCEL 1
(Floyd County)

PARKING GARAGE

COMMERCIAL

MW-503
(ND)

MW-404R
(ND)

MW-404B
(57)

MW-501
(53)

MW-505R
(ND)

MW-402B
(77)

MW-402A
(ND)

MW-504
(46)

50

100

WEST FIRST STREET ROW
(City of Rome)

MW-507
(ND)

WEST 1ST STREET

Transformer Easement

MW-09A
(17)

MW-09B
(23)

J14D 047
PARCEL 12

J14D 048

J14D 049

J14D 050
(Larry Martin)

ASPHALT PARKING LOT

J14D 045
PARCEL 10
(Larry Martin)

J14D 044
PARCEL 9
(Larry Martin)

J14D 046
PARCEL 11
(Larry Martin)

MW-508
(ND)

COMMERCIAL

MW-506

0 60' 120'

SCALE IN FEET

LEGEND

	SITE BOUNDARY
	EXISTING BUILDING
PARCEL 10	HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
J14D 045	CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
	EXISTING EASEMENT
MW-403A	SEMIANNUAL MONITORING WELL
MW-508	ANNUAL MONITORING WELL
MW-502	MONITORING WELL TO BE GAUGED ONLY
50	CYANIDE ISOCONCENTRATION CONTOUR (µg/L)
(20)	CYANIDE CONCENTRATION IN GROUNDWATER (µg/L)
µg/L	MICROGRAMS PER LITER
ND	NOT DETECTED

MW-502
(NS)

NOTES:

1. MW-506 Monitoring well paved over by City of Rome
2. Wells designed without the letters "B" or "C" or with an "A" are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
3. Wells designed with the letter "B" are Intermediate Monitoring Wells (e.g. MW-406B)
4. Wells designed with the letter "C" are Deep Monitoring Wells (e.g. MW-406C)
5. NS - (not sampled) - MW-401B and MW-502 are no longer sampled as part of the Site groundwater monitoring program
6. MW-09B, MW-405, MW-501, MW-503, MW-505R and MW-508 are sampled annually only; therefore, the results shown for these wells are from April 2012 (the last annual sampling event
7. Risk-Based Clean-up Goal calculated for cyanide as part of the VRP 14,900 µg/L (Retail Worker). Groundwater concentrations in all monitoring wells meet this clean-up criteria.

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FIGURE 6-7
CYANIDE CONCENTRATIONS IN GROUNDWATER - JULY AND OCTOBER, 2012
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_6-8_DELINEATION OF TOTAL VOCS IN GW_JULY AND OCT 2012

FLOW

OOSTANAULA RIVER

2ND AVENUE

WEST 1ST STREET

WEST FIRST STREET ROW (City of Rome)

J14D 025 PARCEL 6 (City of Rome)

J14D 024 PARCEL 8 (Battey Downtown, LLC)

WOOD BUILDING

J14D 023 PARCEL 5 (Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022 PARCEL 4 (Battey Downtown, LLC)

J14D 021 PARCEL 3 (Battey Downtown, LLC)

PARKING LOT

J14D 019 (City of Rome)

This applies to Former Parcel 2

PARCEL 2

PARCEL 3A

Formerly Central of GA Railroad

J14D 020 PARCEL 7 (Battey Downtown, LLC)

PARKING LOT

J14D 020A (City of Rome/Floyd County)

Driveway Easement

J14D 018 PARCEL 1 (Floyd County)

PARKING GARAGE

Transformer Easement

COMMERCIAL

J14D 044 PARCEL 9 (Larry Martin)

ASPHALT PARKING LOT

J14D 045 PARCEL 10 (Larry Martin)

J14D 046 PARCEL 11 (Larry Martin)

J14D 047 PARCEL 12

J14D 048

J14D 049

J14D 050 (Larry Martin)

COMMERCIAL

MW-14A (NA)

MW-406A (NA)

MW-406C (NA)

MW-406B (NA)

MW-405 (ND)

MW-401B (NS)

MW-401AR (ND)

MW-403A (ND)

MW-403B (ND)

MW-404R (1,259)

MW-404B (ND)

MW-402B (ND)

MW-402A (108)

MW-504 (3,490)

MW-501 (ND)

MW-505R (NA)

MW-507 (ND)

MW-09A (ND)

MW-09B (ND)

MW-508 (ND)

MW-503 (ND*)

MW-506

ND 100 1000

0 60' 120'

SCALE IN FEET

N

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY
- 1,000 — TOTAL VOCs ISOCONCENTRATION CONTOUR (µg/L)
- (108) — TOTAL VOC CONCENTRATIONS IN GROUNDWATER (µg/L)
- µg/L — MICROGRAMS PER LITER
- ND — NOT DETECTED
- MW-502 (NS)

NOTES:

1. MW-506 Monitoring well paved over by City of Rome
2. Wells designed without the letters "B" or "C" or with an "A" are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
3. Wells designed with the letter "B" are Intermediate Monitoring Wells (e.g. MW-406B)
4. Wells designed with the letter "C" are Deep Monitoring Wells (e.g. MW-406C)
5. NA - (not applicable) - MW-14A, MW-406 well cluster, and MW-505R are only sampled for cyanide only
6. ND* - Groundwater concentration shown for MW-503 is based on historical data
7. NS - (not sampled) - MW-401B and MW-502 are no longer sampled as part of the Site groundwater monitoring program
8. MW-09B, MW-405, MW-501, MW-503, and MW-508 are sampled annually only; therefore, the results shown for these wells are from April 2012 (the last annual sampling event)

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Atlanta Gas Light®

*An **AGL Resources** Company*

FIGURE 6-8
DELINEATION OF TOTAL VOCs IN GROUNDWATER - JULY AND OCTOBER 2012
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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FLOW

OOSTANAULA RIVER

2ND AVENUE

J14D 025
PARCEL 6
(City of Rome)

MW-14A
(NA)

J14D 024
PARCEL 8
(Battey Downtown, LLC)

WOOD BUILDING

MW-406A
(NA)

MW-406C
(NA)

MW-406B
(NA)

PARCEL 3A

J14D 019
(City of Rome)

This applies to Former Parcel 2

PARCEL 2

Formerly Central of GA Railroad

MW-405
(ND)

MW-401B
(NS)

MW-401AR
(ND)

J14D 023
PARCEL 5
(Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022
PARCEL 4
(Battey Downtown, LLC)

MW-403A
(ND)

MW-403B
(ND)

J14D 021
PARCEL 3
(Battey Downtown, LLC)

J14D 020
PARCEL 7
(Battey Downtown, LLC)

PARKING LOT

J14D 020A
(City of Rome/Floyd County)

J14D 018
PARCEL 1
(Floyd County)

PARKING GARAGE

COMMERCIAL

MW-503
(ND*)

ND
100
1000

MW-404R
(230)

MW-404B
(ND)

MW-501
(NA)

Driveway Easement

MW-505R
(NA)

MW-402B
(ND)

MW-402A
(33)

MW-504
(6,700)

WEST FIRST STREET ROW
(City of Rome)

MW-507
(ND)

WEST 1ST STREET

Transformer Easement

MW-09A
(ND)

MW-09B
(ND)

ASPHALT PARKING LOT
J14D 045
PARCEL 10
(Larry Martin)

J14D 044
PARCEL 9
(Larry Martin)

J14D 046
PARCEL 11
(Larry Martin)

J14D 047
PARCEL 12

J14D 048

J14D 049

J14D 050
(Larry Martin)

MW-508
(NA)

COMMERCIAL

MW-506

0 60' 120'

SCALE IN FEET

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY
- MONITORING WELL TO BE GAUGED ONLY
- 1,000 — TOTAL SVOCs ISOCONCENTRATION CONTOUR (µg/L)
- (33) — TOTAL SVOC CONCENTRATIONS IN GROUNDWATER (µg/L)
- µg/L — MICROGRAMS PER LITER
- ND — NOT DETECTED
- MW-502 (NS)

NOTES:

1. MW-506 Monitoring well paved over by City of Rome
2. Wells designed without the letters "B" or "C" or with an "A" are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
3. Wells designed with the letter "B" are Intermediate Monitoring Wells (e.g. MW-406B)
4. Wells designed with the letter "C" are Deep Monitoring Wells (e.g. MW-406C)
5. NA - (not applicable) - MW-14A, MW-406 well cluster, and MW-505R are only sampled for cyanide only
6. ND* - Groundwater concentration shown for MW-503 is based on historical data
7. NS - (not sampled) - MW-401B and MW-502 are no longer sampled as part of the Site groundwater monitoring program
8. MW-09B, MW-405, MW-501, MW-503, and MW-508 are sampled annually only; therefore, the results shown for these wells are from April 2012 (the last annual sampling event)

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FIGURE 6-9
DELINEATION OF TOTAL SVOCs IN GROUNDWATER - JULY AND OCTOBER 2012
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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H:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_7-1_FINAL EXCAVATION AREAS - OU 1 WITH SOIL CONF SAMPLES

OOSTANAULA RIVER

FLOW DIRECTION

PARCEL 6

PARCEL 2

PARCEL I

PARCEL 8

FORMER RESTAURANT

PARCEL 3

PARCEL 5

FORMER APARTMENT BUILDING

PARCEL 4

PARCEL 7

MANHOLE (APPROX. LOCATION)

TOP OF SLOPE

PROPOSED CONCRETE RIVERWALK

ABANDONED RAILROAD TRACKS

CONCRETE HEADER CURB

2nd AVENUE

3rd AVENUE (UNOPENED)

WEST 1st STREET

53+00N
52+80N
52+60N
52+40N
52+20N
52+00N
51+80N
51+60N
51+40N
51+20N
51+00N
50+80N
50+60N
50+40N
50+20N
50+00N

50+00E
50+20E
50+40E
50+60E
50+80E
51+00E
51+20E
51+40E
51+60E
51+80E
52+00E
52+20E
52+40E
52+60E
52+80E

LEGEND

- 2' - 3'
- 4' - 7'
- 8' - 11'
- 12' - 16'
- 24' - GW

FINAL SOIL EXCAVATION DEPTHS

- EXISTING STRUCTURES
- APPROX. PROPERTY BOUNDARY
- FORMER STRUCTURES
- SOIL CONFIRMATION SAMPLE

0 20' 40' 80'

SCALE IN FEET

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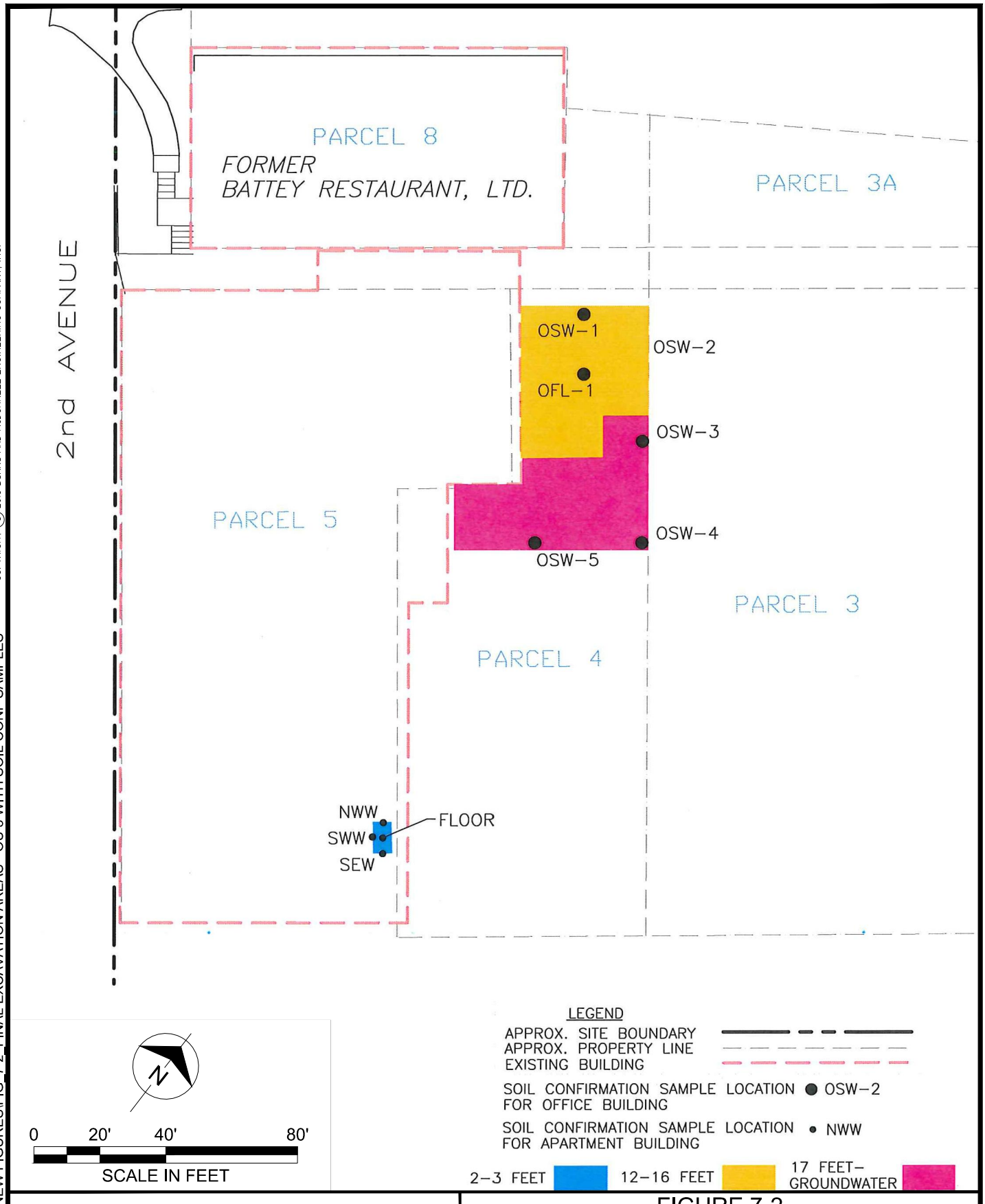
FIGURE 7-1
FINAL EXCAVATION AREAS - OU 1
WITH SOIL CONFIRMATION SAMPLES
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA



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I:\NE Office\CAD\AGL\NEW FIGURES\FIG_7-2_FINAL EXCAVATION AREAS - OU 3 WITH SOIL CONF SAMPLES

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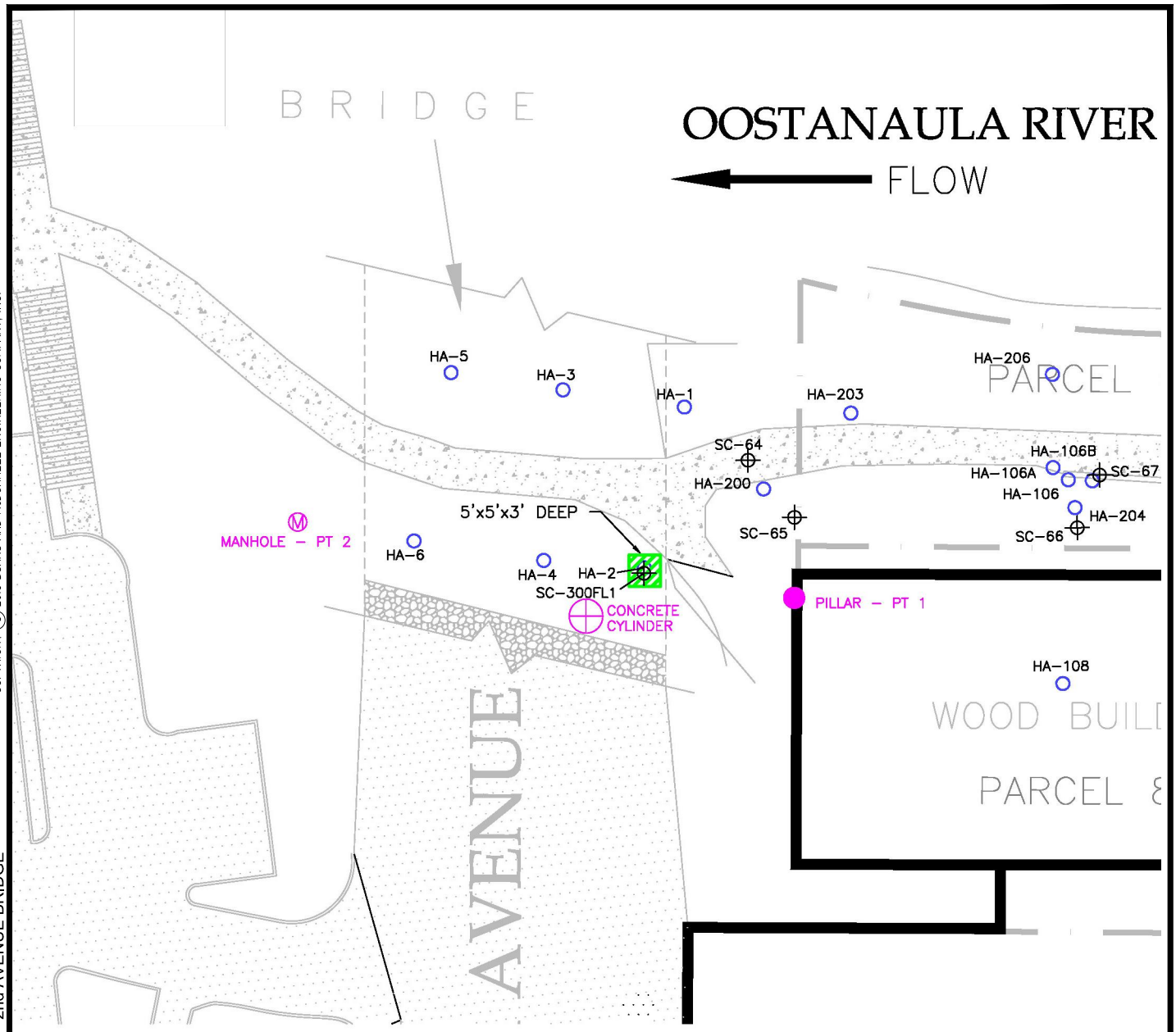
FIGURE 7-2
FINAL EXCAVATION AREAS - OU 3 WITH SOIL CONFIRMATION SAMPLES
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA



LEGEND

- HAND AUGER
- SOIL CONFIRMATION SAMPLE
- ASPHALT
- CONCRETE
- ROCK RUBLE
- FENCE
- EXCAVATION AREA

N

0 30' 60'

SCALE IN FEET

BASEMAP, SURVEYED BY DONALDSON, GARRETT & ASSOCIATES, INC., ROME, GA.

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FIGURE 7-3
FINAL EXCAVATION LIMITS - 2nd AVENUE BRIDGE
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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I:\NE Office\CAD\AGL\NEW FIGURES\FIG_7-3_FINAL EXCAVATION LIMITS - 2nd AVENUE BRIDGE

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FLOW

OOSTANAULA RIVER

MW-14A

J14D 025
PARCEL 6
(City of Rome)

J14D 019
(City of Rome)

This applies to Former Parcel 2

MW-406A
MW-406C
MW-406B

J14D 024
PARCEL 8
(Battey Downtown, LLC)

WOOD BUILDING

PARCEL 3A

PARCEL 2

Formerly Central of GA Railroad

MW-405

MW-401B

MW-401AR

2ND AVENUE

J14D 023
PARCEL 5
(Battey Downtown, LLC)

3 STORY BRICK BUILDING

J14D 022
PARCEL 4
(Battey Downtown, LLC)

MW-403A
MW-403B

J14D 021
PARCEL 3
(Battey Downtown, LLC)

PARKING LOT

J14D 020
PARCEL 7
(Battey Downtown, LLC)

PARKING LOT

J14D 020A
(City of Rome/Floyd County)

J14D 018
PARCEL 1
(Floyd County)

PARKING GARAGE

COMMERCIAL

MW-404R
MW-404B

MW-501

Driveway Easement

MW-505R

MW-503

MW-402B
MW-402A

MW-504

Transformer Easement

WEST FIRST STREET ROW
(City of Rome)

MW-507

WEST 1ST STREET

MW-09A
MW-09B

ASPHALT PARKING LOT

J14D 045
PARCEL 10
(Larry Martin)

J14D 044
PARCEL 9
(Larry Martin)

J14D 046
PARCEL 11
(Larry Martin)

MW-508

J14D 047
PARCEL 12

J14D 048

J14D 049

J14D 050
(Larry Martin)

COMMERCIAL

MW-506

MW-502

LEGEND

- SITE BOUNDARY
- EXISTING BUILDING
- PARCEL 10 — HISTORIC PARCEL BOUNDARY/ PARCEL NUMBER
- J14D 045 — CURRENT PARCEL BOUNDARY/ TAX ID NUMBER
- EXISTING EASEMENT
- MW-403A — SEMIANNUAL MONITORING WELL
- MW-508 — ANNUAL MONITORING WELL
- MW-502 — MONITORING WELL TO BE GAUGED ONLY

N

0 60' 120'

SCALE IN FEET

NOTES:

1. MW-506 Monitoring well paved over by City of Rome
2. Wells designed without the letters “B” or “C” or with an “A” are Shallow Monitoring Wells (e.g. MW-406A, MW-404R, MW-503)
3. Wells designed with the letter “B” are Intermediate Monitoring Wells (e.g. MW-406B)
4. Wells designed with the letter “C” are Deep Monitoring Wells (e.g. MW-406C)
5. Groundwater is in compliance with non-residential, Risk-Based Cleanup Goals with institutional controls in the form of Universal Environmental Covenants

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FIGURE 7-4
AREAS OF RBCG EXCEEDANCES IN GROUNDWATER
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_7-4_AREAS OF RBCG EXCEEDANCES IN GW

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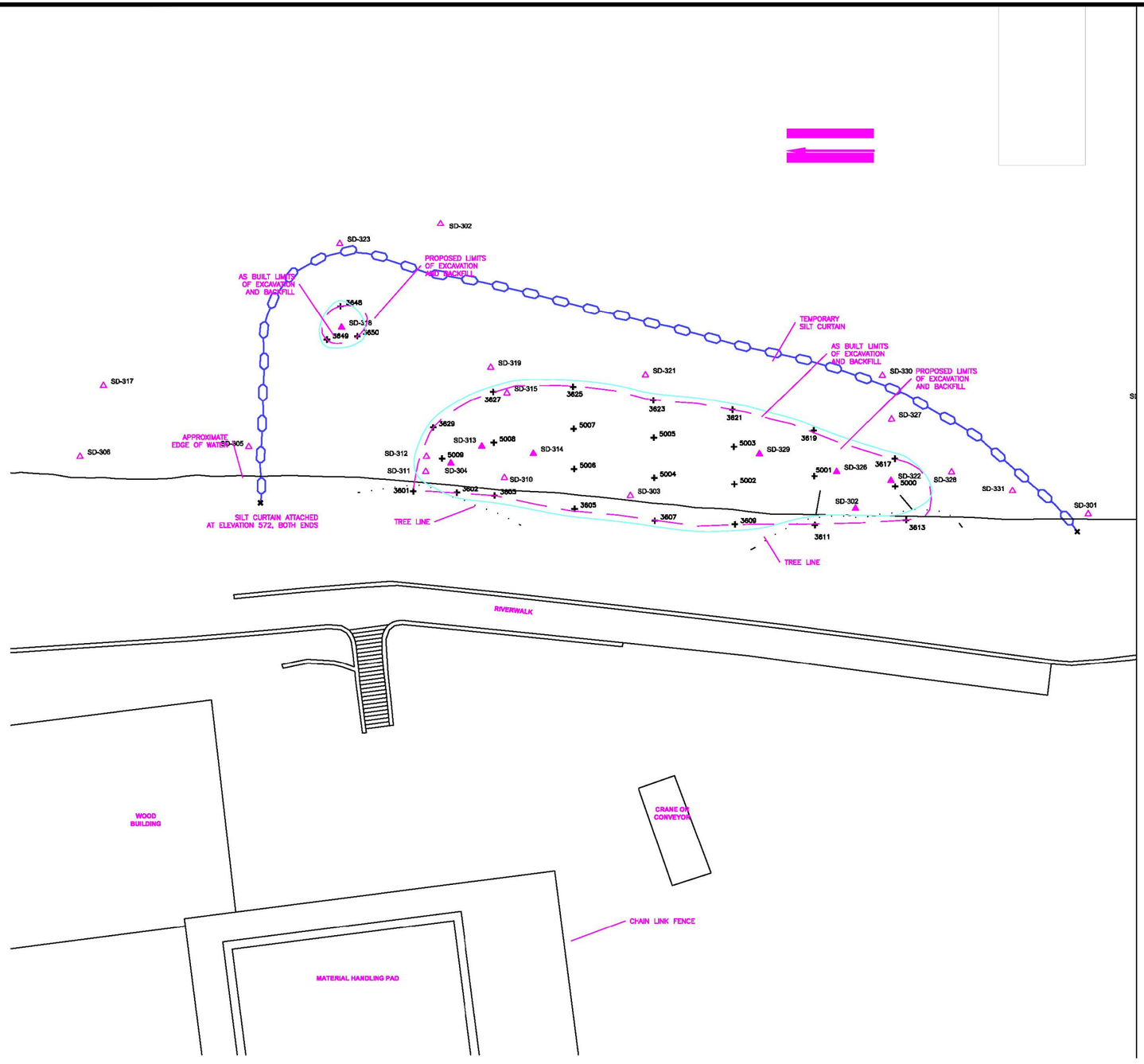

RIVER EXCAVATION SURVEY DATA
MGP SITE, ROME, GEORGIA
October and November, 2001

SURVEY POINT	NORTHING	EASTING	SURVEYED TOP OF SEDIMENTS	SURVEYED BOTTOM OF EXCAVATION	CALCULATED DEPTH OF EXCAVATION	SURVEYED TOP OF BACKFILL	CALCULATED DEPTH OF BACKFILL	NOTES
3601	1549095.063	1991899.718	569.44	N\A	N\A	N\A	N\A	Above water line, Tree
3602	1549100.070	1991908.377	564.32	562.39	1.93	563.64	1.25	Above water line
3603	1549104.186	1991917.579	566.34	565.07	1.27	N\A	N\A	Above water line
3605	1549111.343	1991936.638	567.21	566.71	0.50	N\A	N\A	Above water line
3607	1549119.669	1991954.985	569.55	568.89	0.66	N\A	N\A	Above water line
3609	1549129.104	1991972.656	571.28	569.45	1.83	N\A	N\A	Above water line
3611	1549139.558	1991989.707	572.66	N\A	N\A	N\A	N\A	Above water line, Tree
3613	1549150.544	1992006.433	573.84	N\A	N\A	N\A	N\A	Above water line, Tree
3617	1549163.520	1991998.527	559.01	558.45	0.56	560.17	1.72	
3619	1549158.663	1991978.066	557.51	556.87	0.64	557.81	0.94	
3621	1549153.413	1991957.845	557.36	556.09	1.27	557.92	1.83	
3623	1549145.376	1991939.322	556.92	556.03	0.89	557.85	1.82	
3625	1549136.044	1991920.369	556.89	556.77	0.12	557.59	0.82	Concrete or Rock Debris (5' x 7')
3627	1549126.769	1991903.819	556.61	556.27	0.34	557.30	1.03	Concrete or Rock Debris (8' x 5')
3629	1549110.675	1991894.669	558.53	557.45	1.08	558.14	0.69	
3648	1549125.503	1991860.088	556.61	555.01	1.60	556.34	1.33	
3649	1549115.644	1991861.820	556.08	555.47	0.61	556.38	0.91	
3650	1549120.788	1991866.869	556.25	555.73	0.52	557.28	1.55	
5000	1549156.949	1992002.530	562.21	560.57	1.64	562.15	1.58	
5001	1549148.951	1991983.983	561.74	560.18	1.56	560.99	0.81	
5002	1549137.048	1991967.817	563.73	563.05	0.68	564.03	0.98	
5003	1549144.988	1991962.978	559.45	558.65	0.80	559.81	1.16	
5004	1549128.209	1991949.782	562.03	560.27	1.76	561.40	1.13	
5005	1549136.749	1991944.578	559.58	558.83	0.75	560.44	1.61	
5006	1549119.883	1991931.435	562.12	560.85	1.27	562.24	1.39	
5007	1549128.422	1991926.232	558.32	557.82	0.50	559.34	1.52	
5008	1549115.288	1991910.814	559.89	558.46	1.43	559.26	0.80	
5009	1549105.271	1991901.654	560.97	558.24	2.73	560.07	1.83	

DIMENSIONS IN FEET

LEGEND

- 3611 — SURVEY POINT
- SD-302 — TOTAL PAH'S ≥ 2.7 mg/kg
- SD-302 — TOTAL PAH'S < 2.7 mg/kg
- PROPOSED EXCAVATION
- ASBUILT EXCAVATION
- SILT CURTAIN
- TREE LINE

0 30' 60'
SCALE IN FEET

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FIGURE 7-5
SEDIMENT REMEDIATION DREDGE ZONE DETAIL
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_7-5_SEDIMENT REMEDIATION DREDGE ZONE DETAIL

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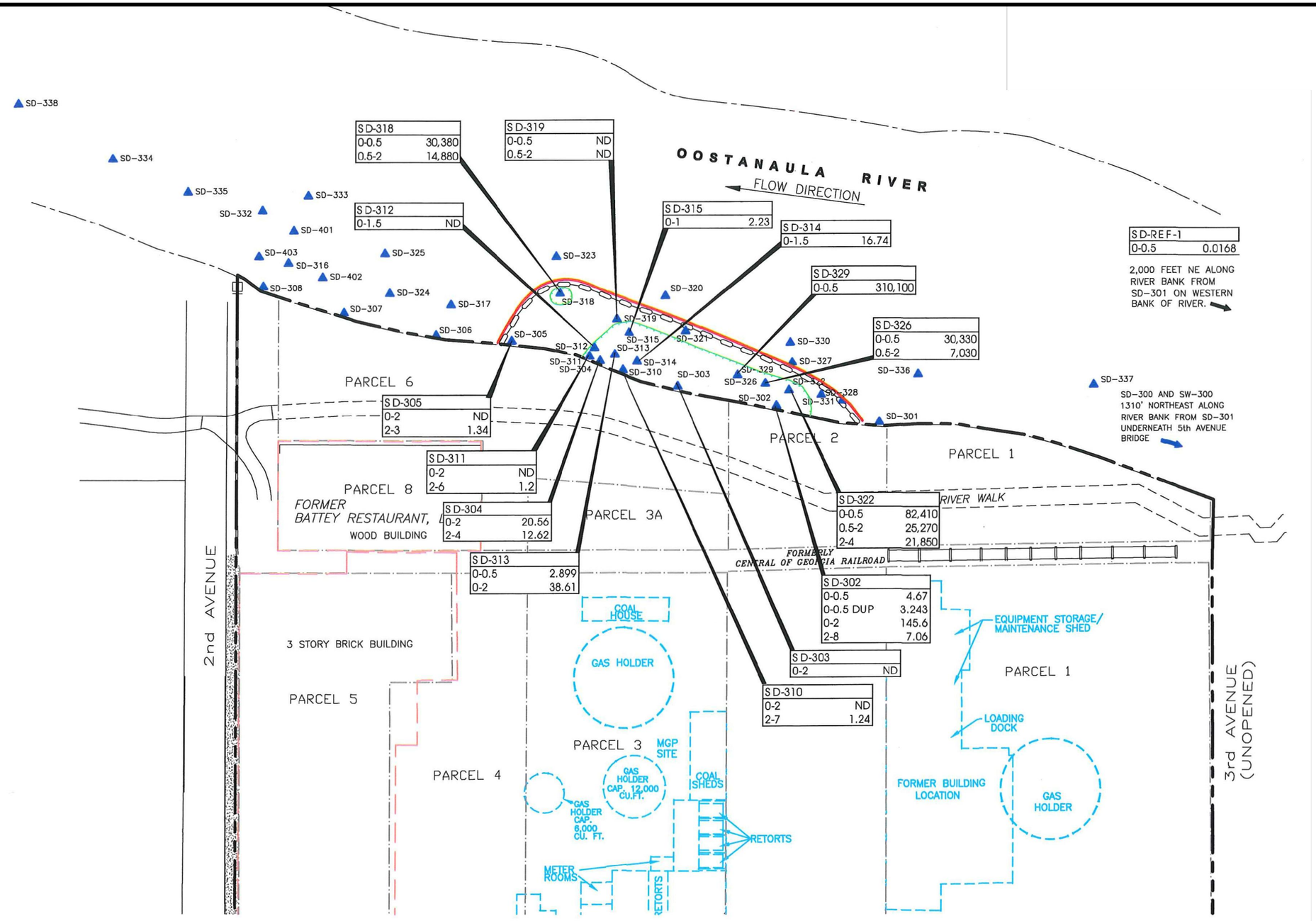
I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_7-6_SILT CURTAIN LAYOUT AND SEDIMENT REMOVAL AREA



LEGEND

- APPROX. SITE BOUNDARY
- APPROX. PROPERTY LINE
- EXISTING BUILDING
- FORMER STRUCTURE
- CONCRETE
- ANALYTICAL DATA BOX (TOTAL SVOCs) — SAMPLE ug/Kg / DEPTH VALUE
- SEDIMENT SAMPLE — SD-307
- TARGET EXCAVATION AREA
- SILT CURTAIN
- ABSORBENT BOOM

Burns & McDonnell SINCE 1898

Atlanta Gas Light®
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FIGURE 7-6
SILT CURTAIN LAYOUT AND SEDIMENT REMOVAL AREA
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

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LEGEND:

- 5001 — SURVEY POINT LOCATION
- 564.37 — ELEVATION IN ft. AMSL
- EXCAVATION
- TREE LINE
- TURBIDITY BARRIER
- REAL–TIME MONITORING AND LABORATORY SAMPLE COLLECTION LOCATIONS
- AREA OF STONE PLACEMENT (APPOXIMATELY 1600 SF – PLACE 1.5' OF D_{50} RIPRAP)

OOSTANUALA RIVER

FLOW

APPROXIMATE EDGE OF WATER

TREE LINE

TREE LINE

RIVERWALK

3648 558.15
3649 557.62
3650 558.13
3601
3602
3603
3605
3607
3609
3611
3613
3617 562.68
3619 560.12
3621 559.18
3623 559.77
3625 559.48
3627 559.61
3629 559.24
5000 564.18
5001 564.37
5002 564.93
5003 563.11
5004 564.55
5005 561.43
5006 563.89
5007 561.18
5008 560.27
5009 562.52

N

0 10' 20' 40'

SCALE IN FEET

Burns & McDonnell SINCE 1898

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FIGURE 7-7
POST-CONSTRUCTION ARMORING DETAIL-2008
ROME FORMER MGP SITE
WEST 1ST STREET
ROME, GEORGIA

I:\NE OFFICE\CAD\AGL\NEW FIGURES\FIG_7-7_POST-CONSTRUCTION ARMORING DETAIL-2008

APPENDICES

APPENDIX A

Sanborn Maps

"Linking Technology with Tradition"

Sanborn® Map Report

Ship to: Christie Battenhouse
ThermoRetec
1150 Hammond Dr.
Atlanta, GA 30328

1211517CRG 770-522-9300

Order Date: 8/24/2001 **Completion Date:** 08/24/2001
Inquiry #: 672901.5s
P.O. #: NA
Site Name: AGLC Former MGP Site
Address: 100 Second Ave.
City/State: Rome, GA 30161
Cross Streets: West 1st Street

Based on client-supplied information, fire insurance maps for the following years were identified

1885 - 1 - map
1888 - 1 - map
1893 - 1 - map
1898 - 1 - map
1903 - 1 - map
1909 - 1 - map
1915 - 1 - map
1926 - 1 - map
1950 - 1 - map
1969 - 1 - map

Total Maps: 10

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Electronic Sanborn Map Images
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Organization of Electronic Sanborn Image File

- First Page — Sanborn Map Report, listing years of coverage
- Second Page — Electronic Sanborn Map Images USER'S GUIDE
- Third Page — Oldest Sanborn Map Image
- Last Page — Most recent Sanborn Map Image

Navigating the Electronic Sanborn Image File

- Open file on screen.
- Identify TP (Target Property) on the most recent map.
- Find TP on older printed images.
- To view the image more clearly, zoom to 250%.
  - 200-250% is the approximate equivalent scale of hardcopy Sanborn Maps.
  - Viewing above 400% will tend to pixelate the display.
- Zooming in on an image:
  - Click on the % in the lower left hand corner and type in ____%.
  - Use the magnifying tool and drag a box around the TP area.

Printing a Sanborn Map from the Electronic File

- EDR recommends printing all images at 300 dpi (300 dpi prints faster than 600 dpi).
- To print only the TP area, cut and paste the area from Adobe Acrobat to your word processor.

  <u>For Adobe Acrobat Version 3</u>
  - Go to the Menu Bar.
  - Highlight 'Tools'.
  - Highlight 'Select Graphics'.
  - Draw a box around the area of interest.
  - Go to the Menu Bar.
  - Highlight 'Edit'.
  - Highlight 'Copy'.
  - Go to a word processor such as Microsoft Word and paste. Print from the word processor.

  <u>For Adobe Acrobat Version 4</u>
  - Go to the Menu Bar.
  - Press and hold the 'T' button.
  - Choose the Graphics Select Tool.
  - Draw a box around the area of interest.
  - Go to the Menu Bar.
  - Highlight 'Edit'.
  - Highlight 'Copy'.
  - Go to a word processor such as Microsoft Word and paste. Print from the word processor.

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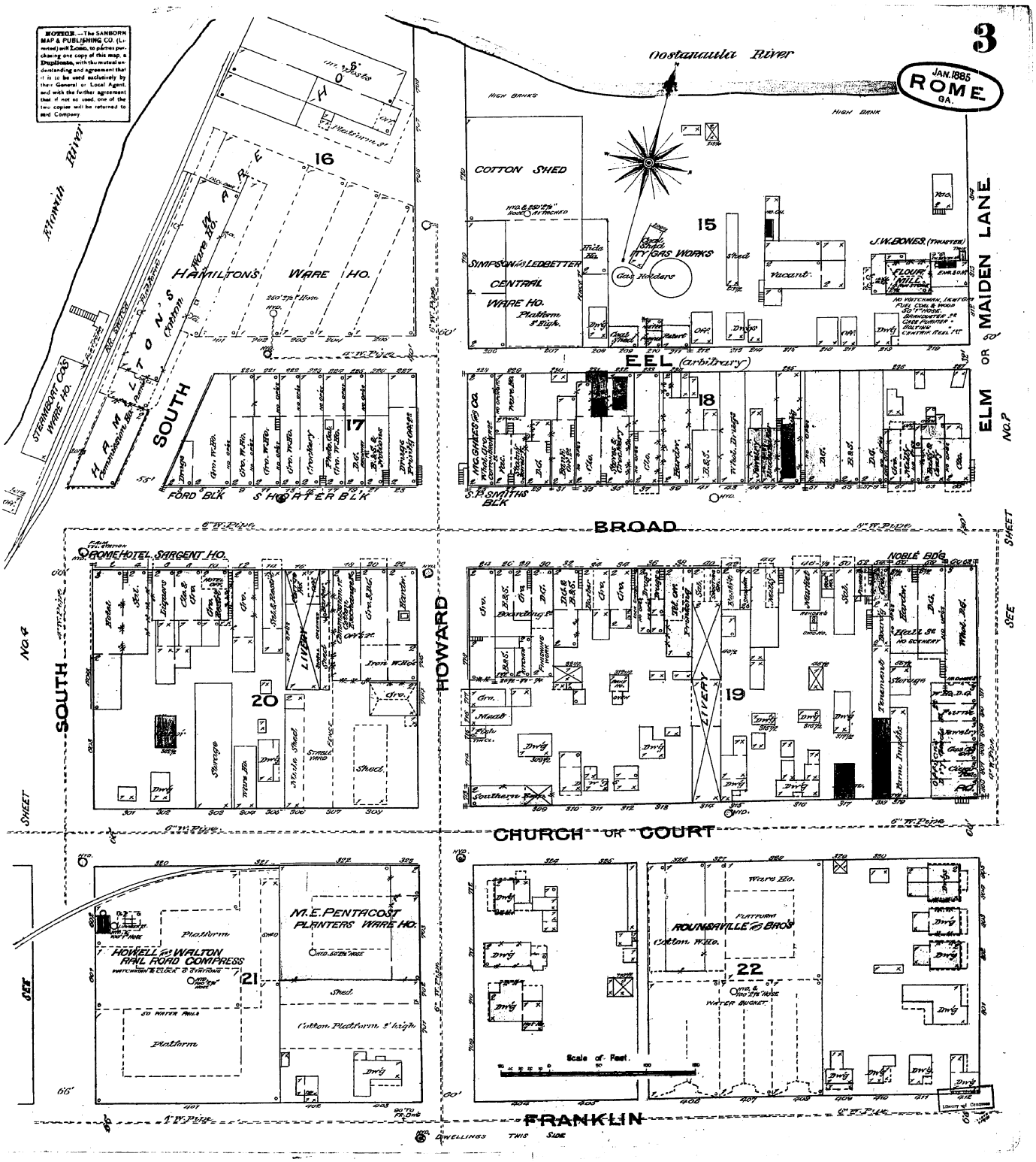

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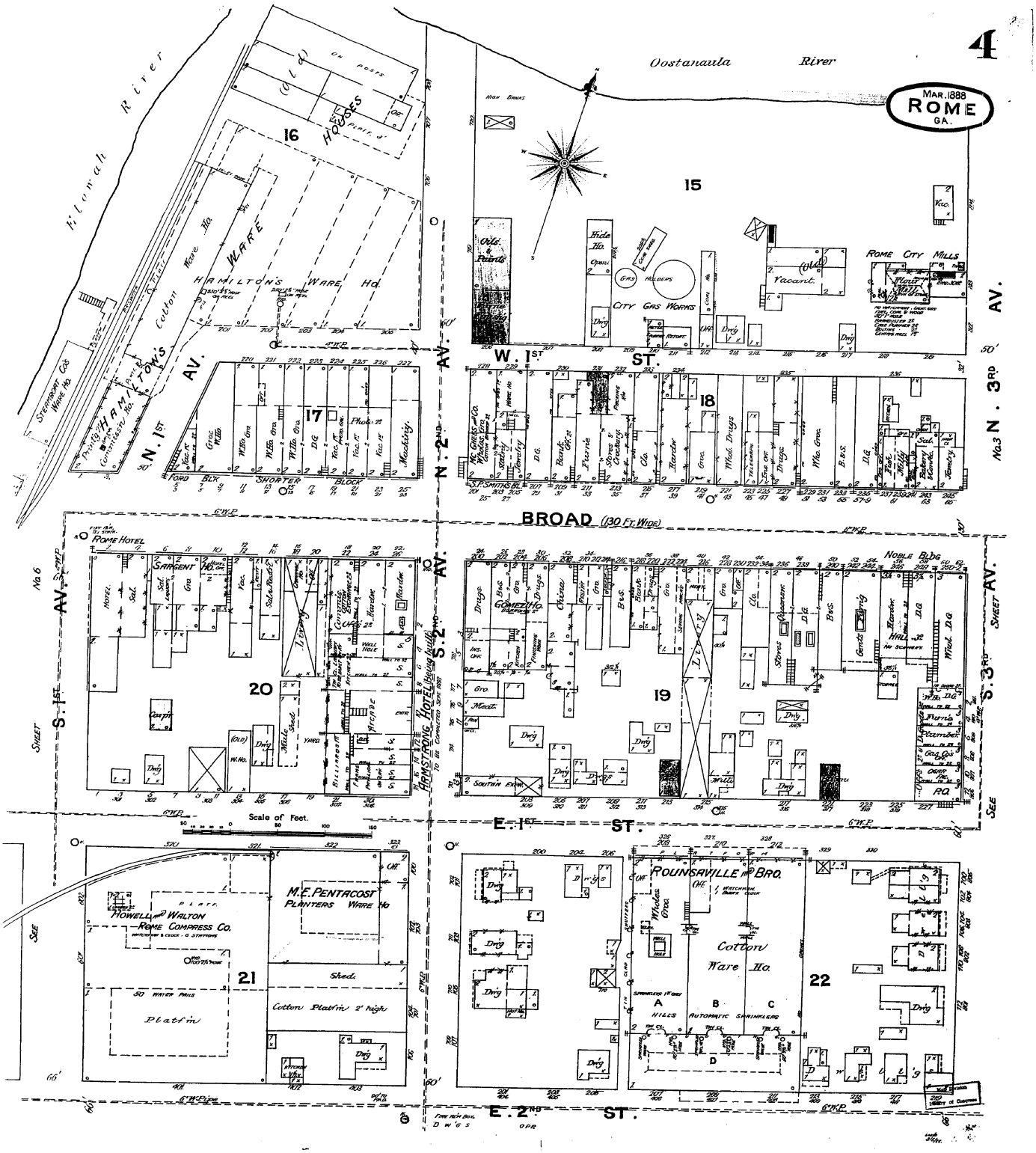

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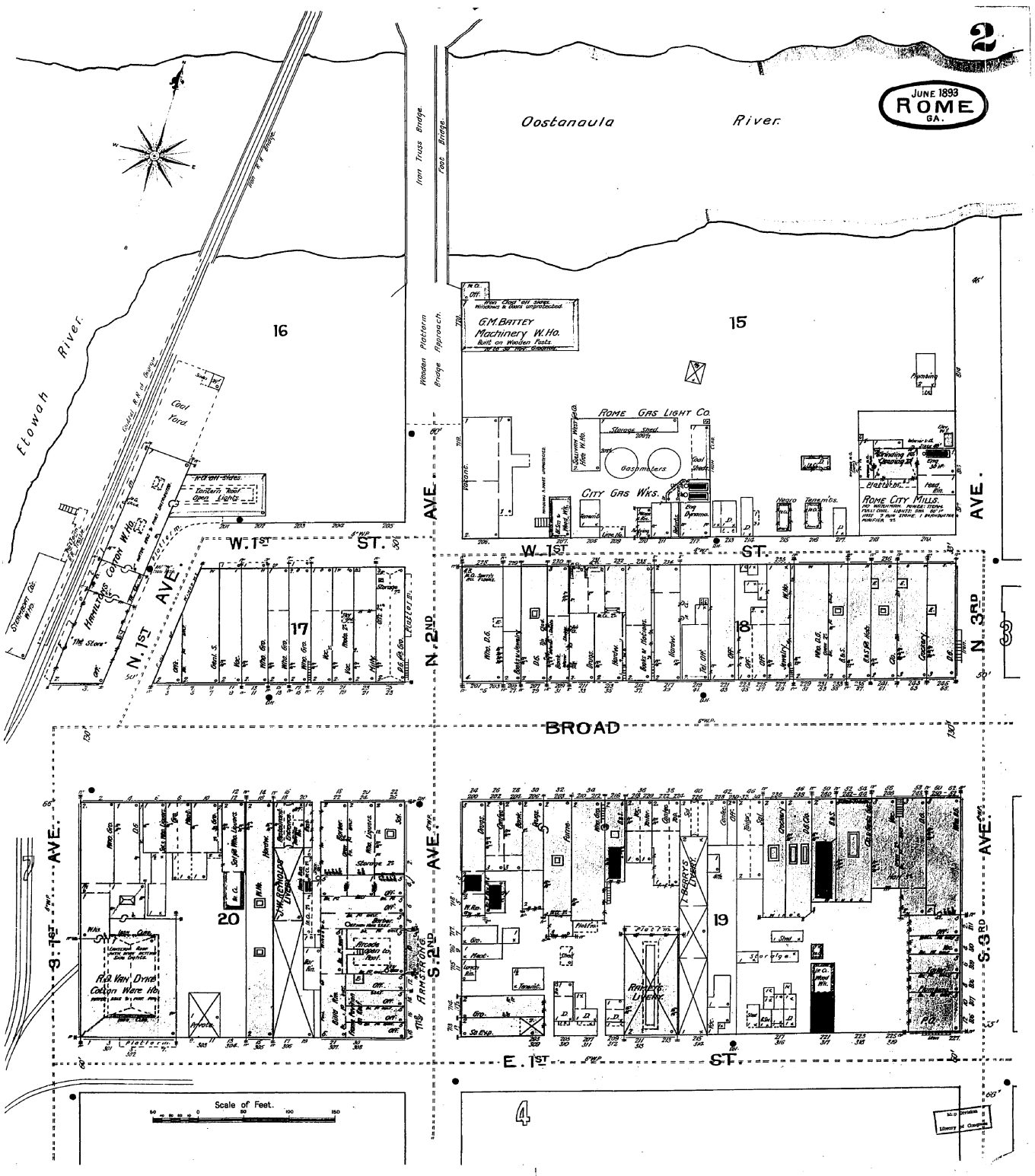

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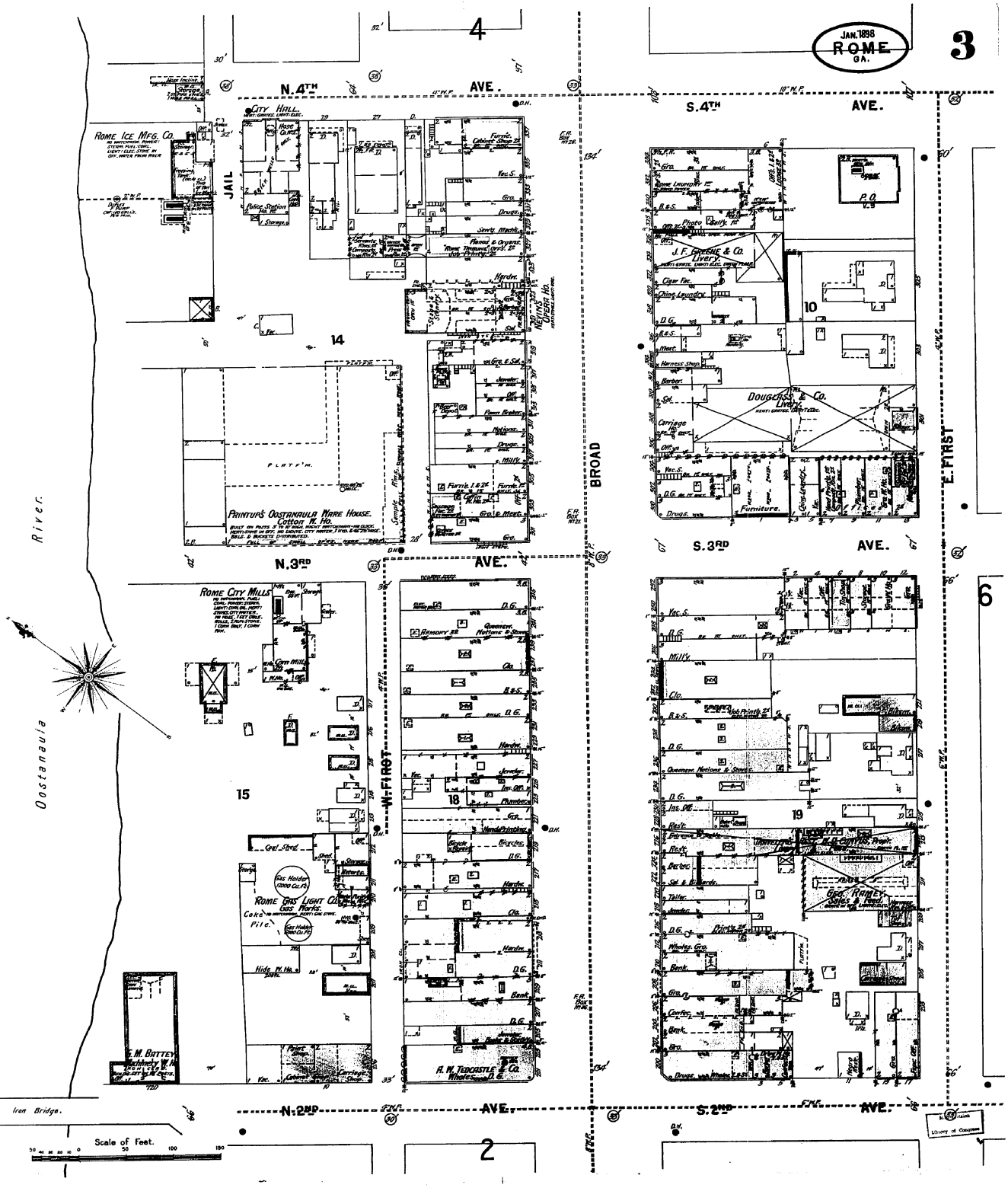

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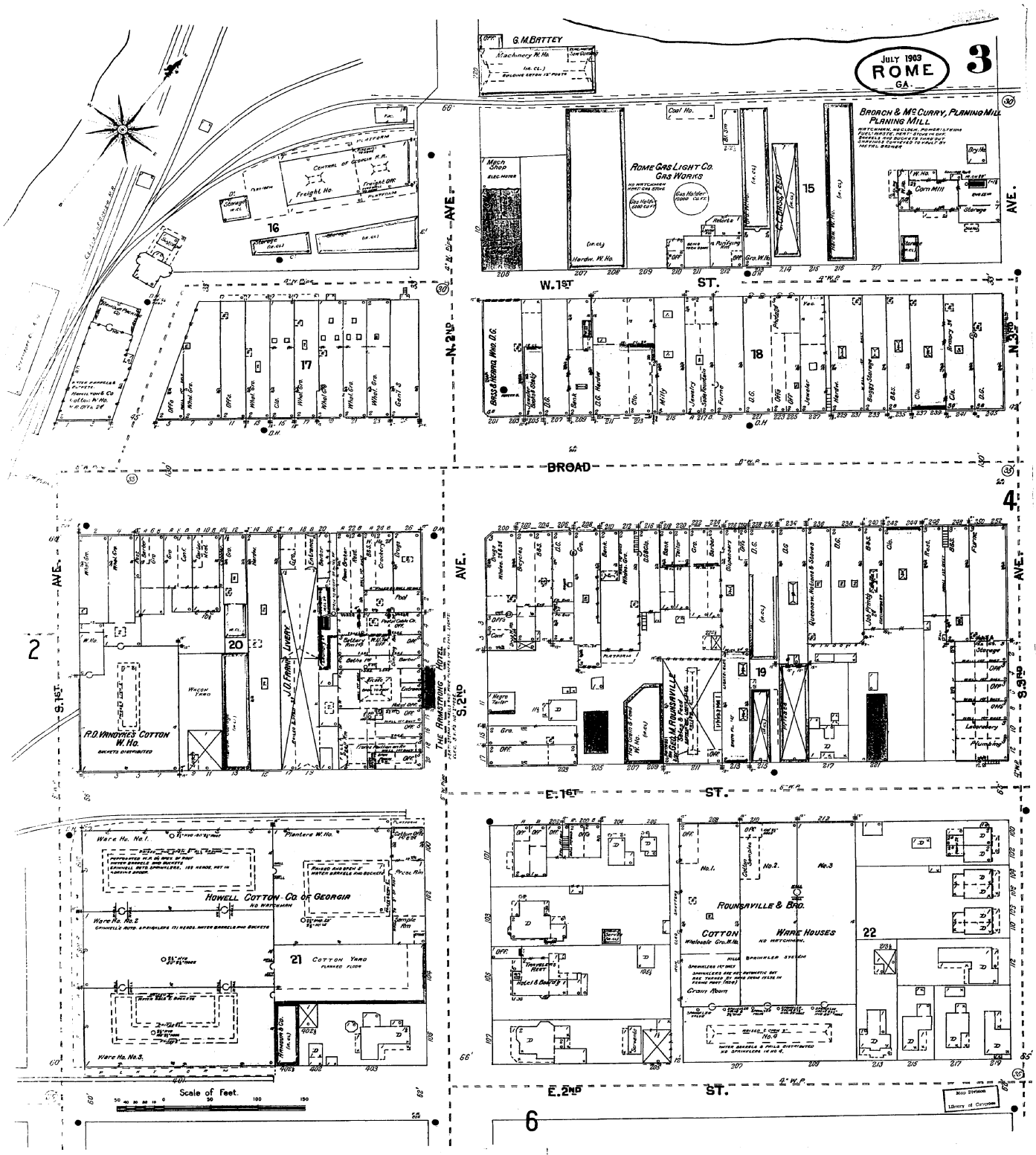

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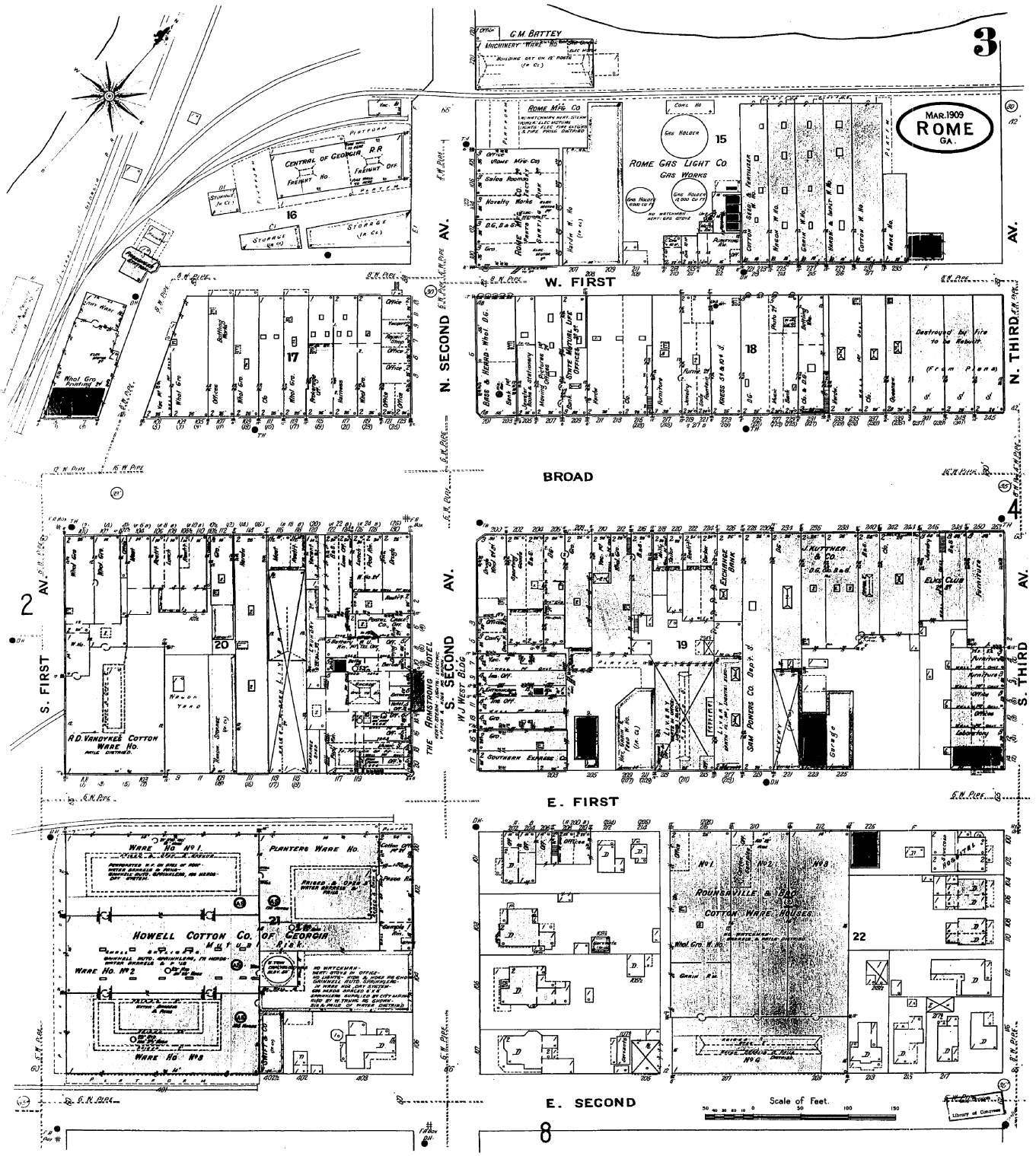

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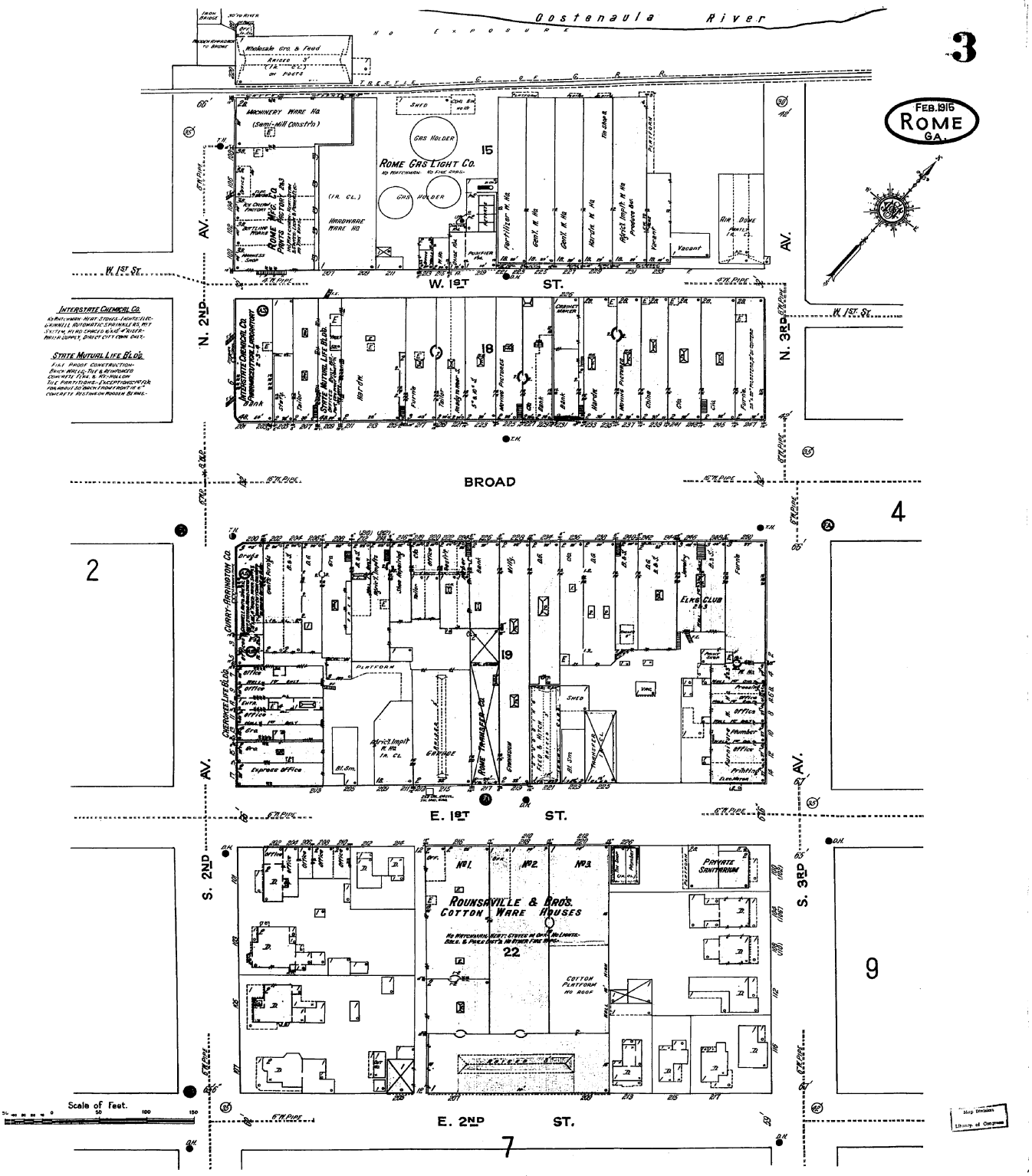

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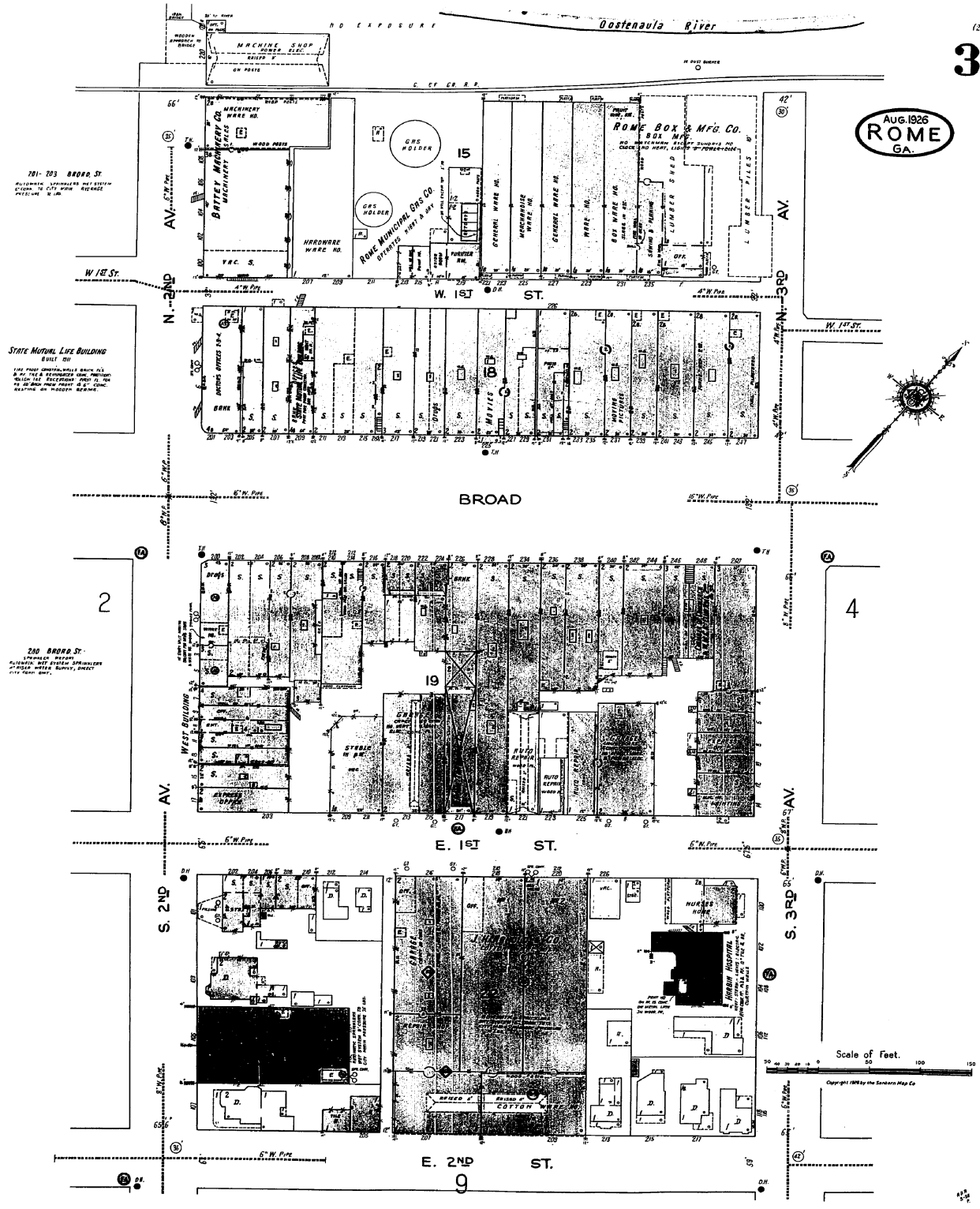

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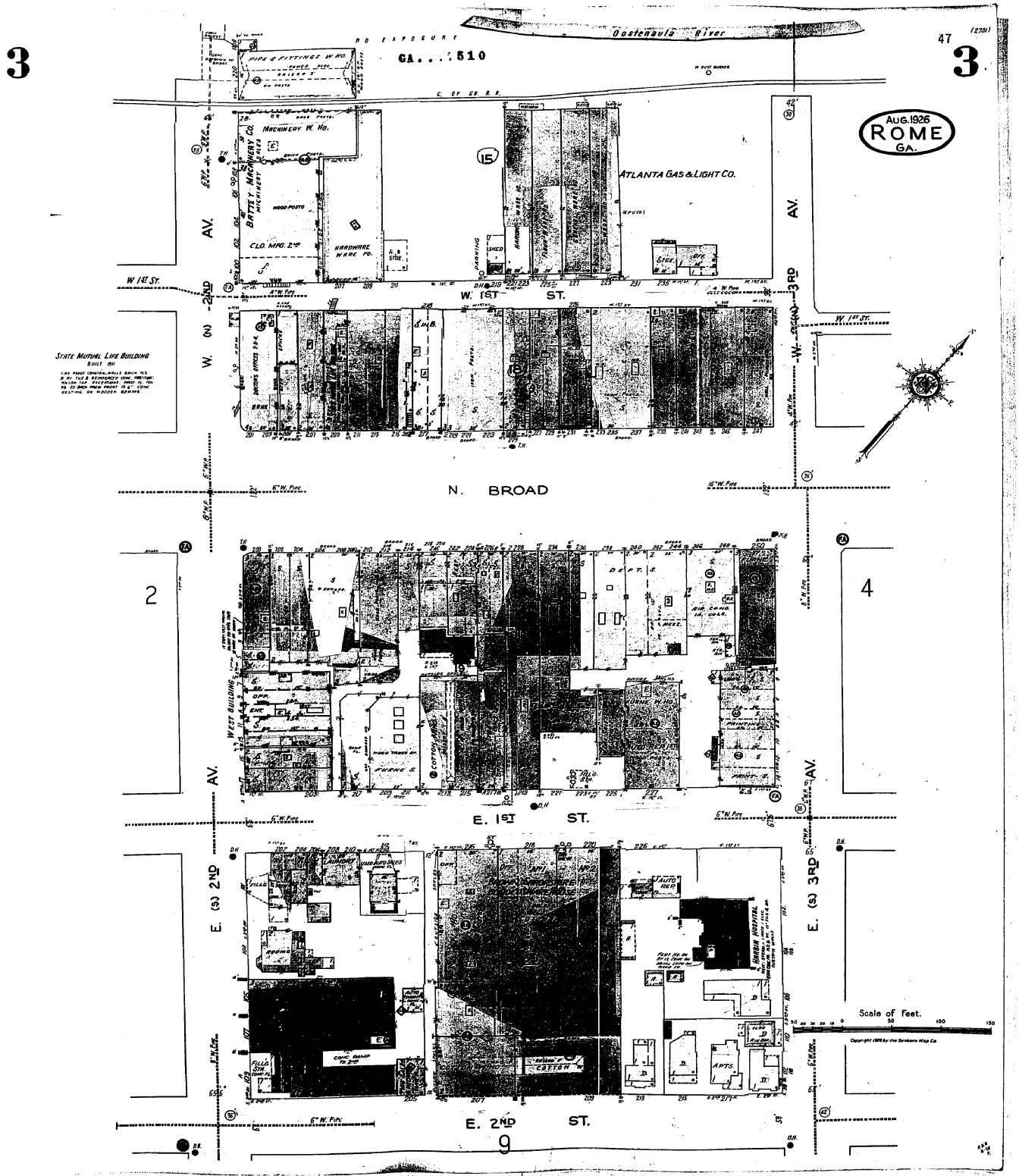

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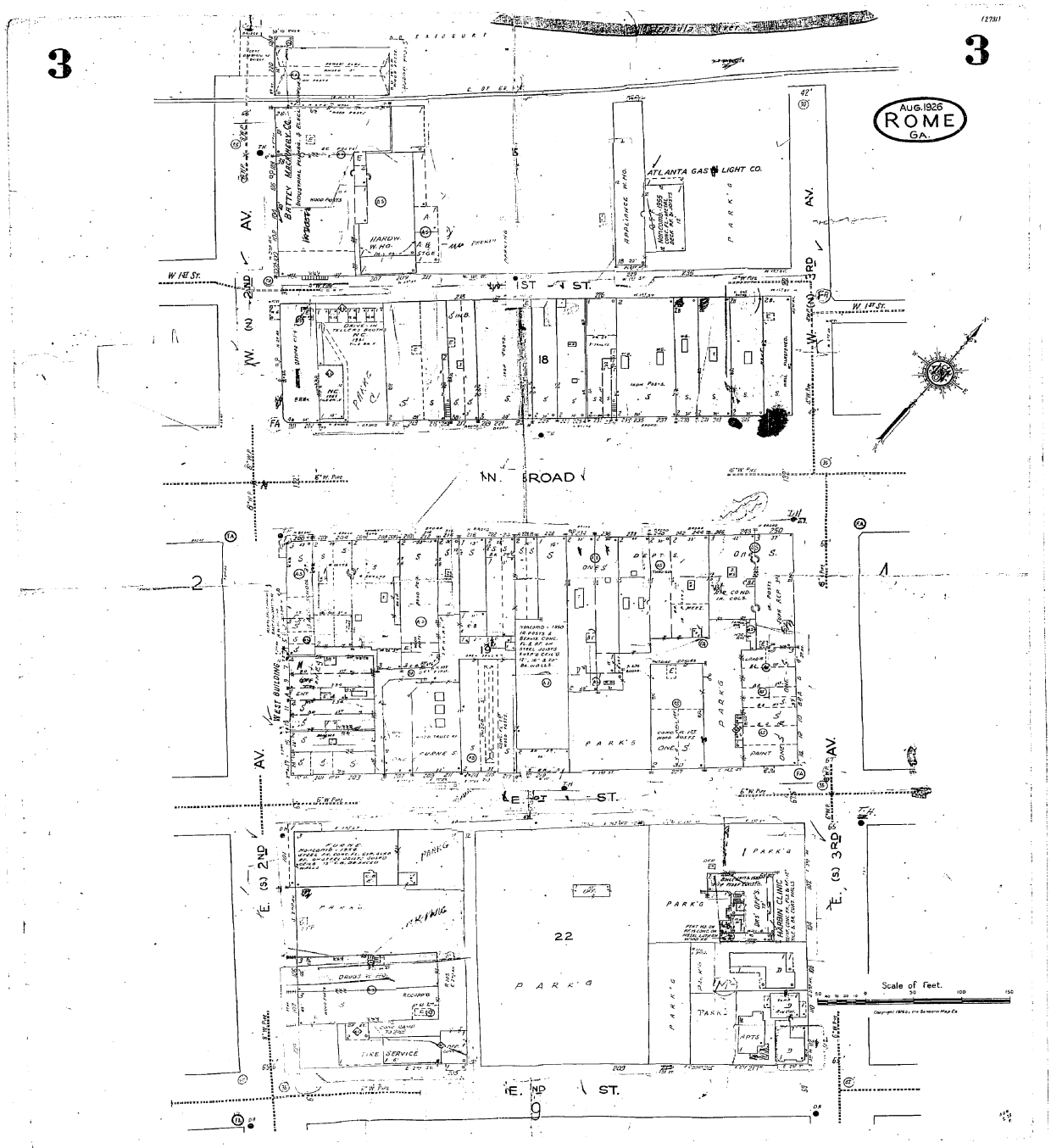

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Ship to: Christie Battenhouse
ThermoRetec
1150 Hammond Dr.
Atlanta, GA 30328

1211517CRG 770-522-9300

Order Date: 8/24/2001 **Completion Date:** 08/24/2001
Inquiry #: 672904.5s
P.O. #: NA
Site Name: 100 Block of Broad St.
Address: 1-100 Broad Street
City/State: Rome, GA 30161
Cross Streets: Second Avenue

Based on client-supplied information, fire insurance maps for the following years were identified

1885 - 1 - map
1888 - 1 - map
1893 - 1 - map
1898 - 1 - map
1903 - 1 - map
1909 - 1 - map
1915 - 1 - map
1926 - 1 - map
1950 - 1 - map
1969 - 1 - map

Total Maps: 10

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Electronic Sanborn Map Images
USER'S GUIDE

Thank you for your interest in electronic Sanborn Map images. The following are guidelines for accessing the images and for transferring them to your system. If you have any questions about the use of electronic Sanborn Map images, contact your EDR Account Executive at 1-800-352-0050.

Organization of Electronic Sanborn Image File

- First Page — Sanborn Map Report, listing years of coverage
- Second Page — Electronic Sanborn Map Images USER'S GUIDE
- Third Page — Oldest Sanborn Map Image
- Last Page — Most recent Sanborn Map Image

Navigating the Electronic Sanborn Image File

- Open file on screen.
- Identify TP (Target Property) on the most recent map.
- Find TP on older printed images.
- To view the image more clearly, zoom to 250%.
  - 200-250% is the approximate equivalent scale of hardcopy Sanborn Maps.
  - Viewing above 400% will tend to pixelate the display.
- Zooming in on an image:
  - Click on the % in the lower left hand corner and type in ____%.
  - Use the magnifying tool and drag a box around the TP area.

Printing a Sanborn Map from the Electronic File

- EDR recommends printing all images at 300 dpi (300 dpi prints faster than 600 dpi).
- To print only the TP area, cut and paste the area from Adobe Acrobat to your word processor.

  <u>For Adobe Acrobat Version 3</u>
  - Go to the Menu Bar.
  - Highlight 'Tools'.
  - Highlight 'Select Graphics'.
  - Draw a box around the area of interest.
  - Go to the Menu Bar.
  - Highlight 'Edit'.
  - Highlight 'Copy'.
  - Go to a word processor such as Microsoft Word and paste. Print from the word processor.

  <u>For Adobe Acrobat Version 4</u>
  - Go to the Menu Bar.
  - Press and hold the 'T' button.
  - Choose the Graphics Select Tool.
  - Draw a box around the area of interest.
  - Go to the Menu Bar.
  - Highlight 'Edit'.
  - Highlight 'Copy'.
  - Go to a word processor such as Microsoft Word and paste. Print from the word processor.

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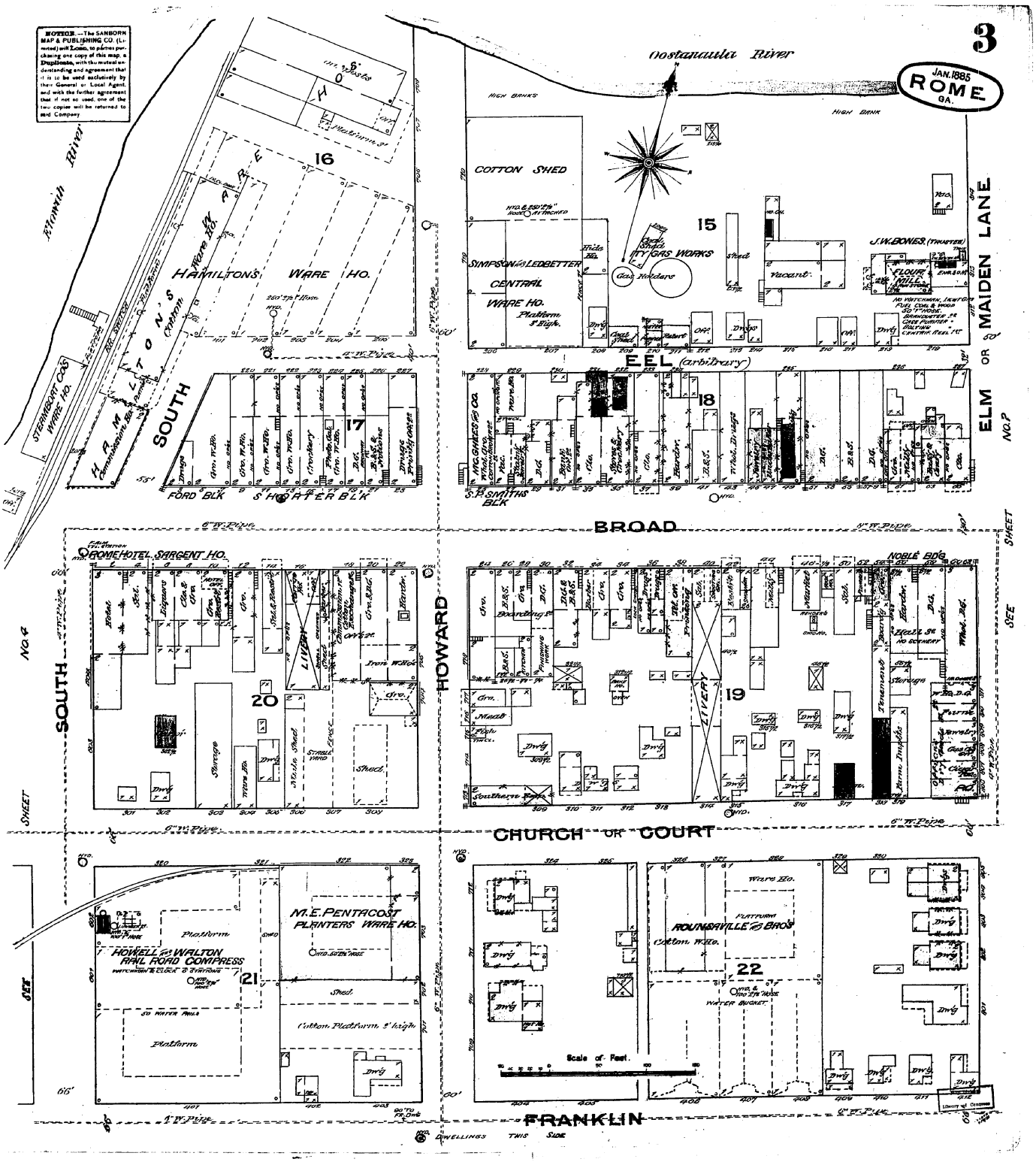
- In cases where in excess of 6-7 map years are available, the file size typically exceeds 2MB. In these cases, you will receive multiple files, labeled as 1 of 3, 2 of 3, etc. including all available map years.
- Due to file size limitations, certain ISPs, including AOL, may occasionally delay or decline to deliver files. Please contact your ISP to identify their specific file size limitations.



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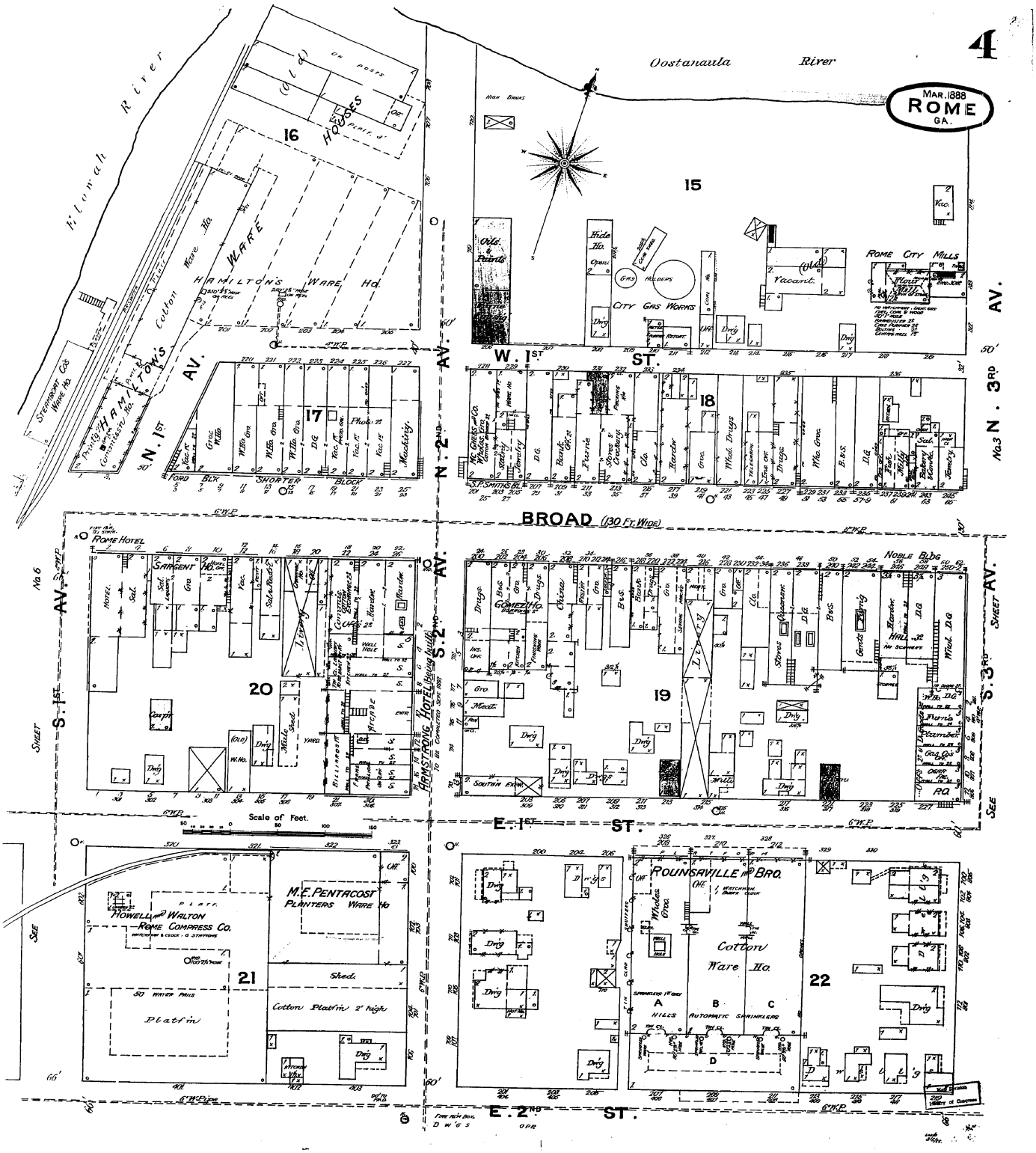

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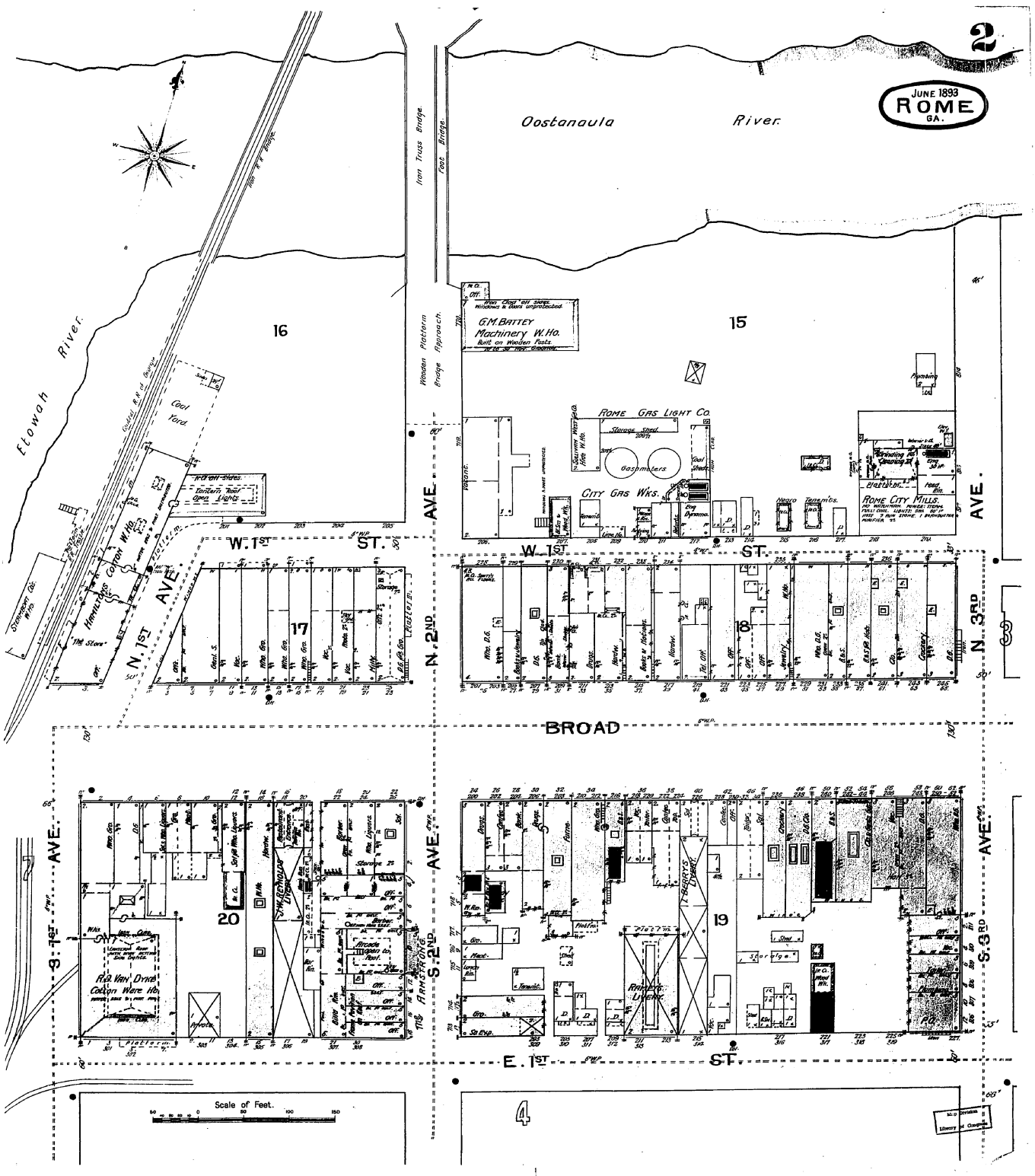

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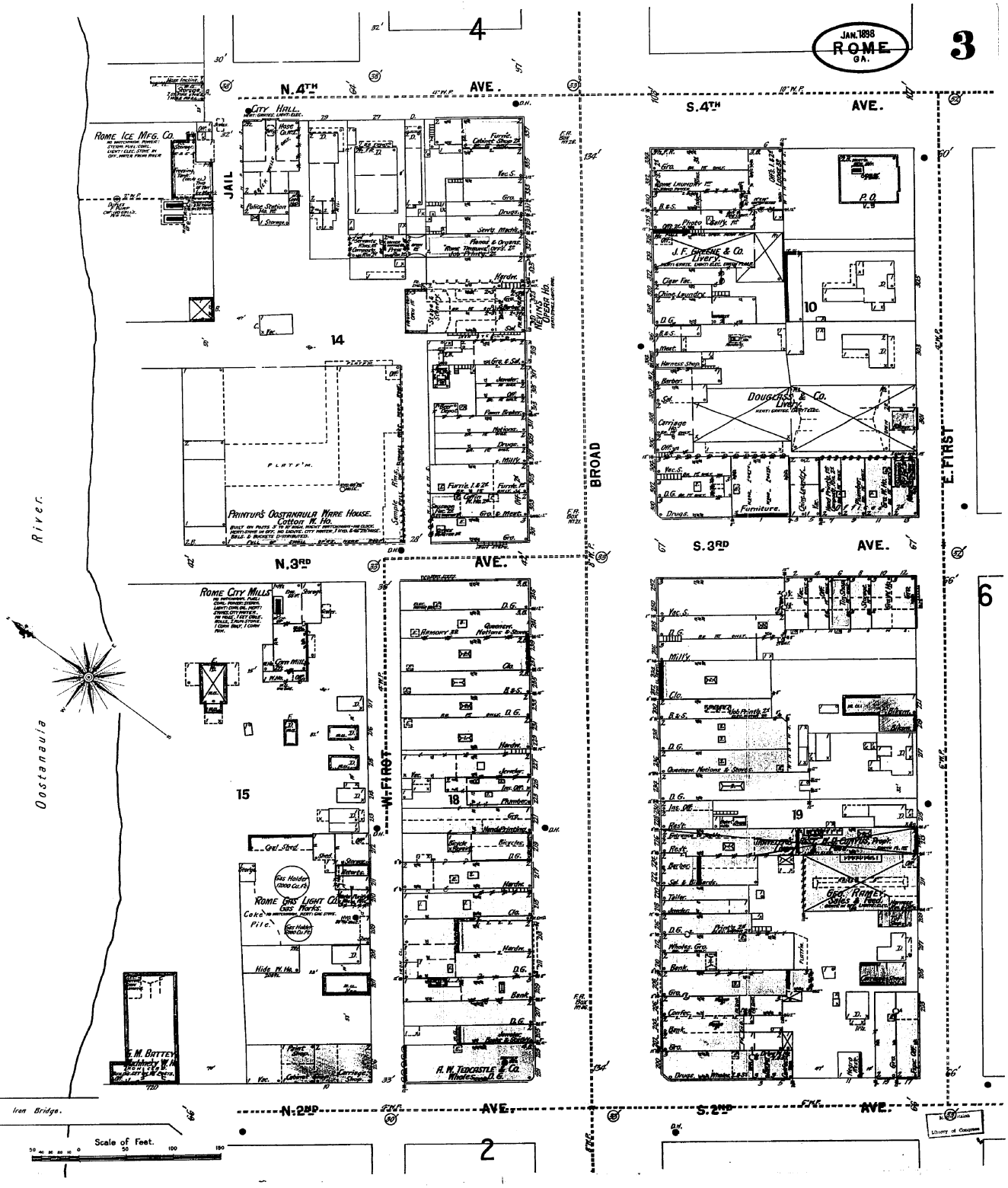

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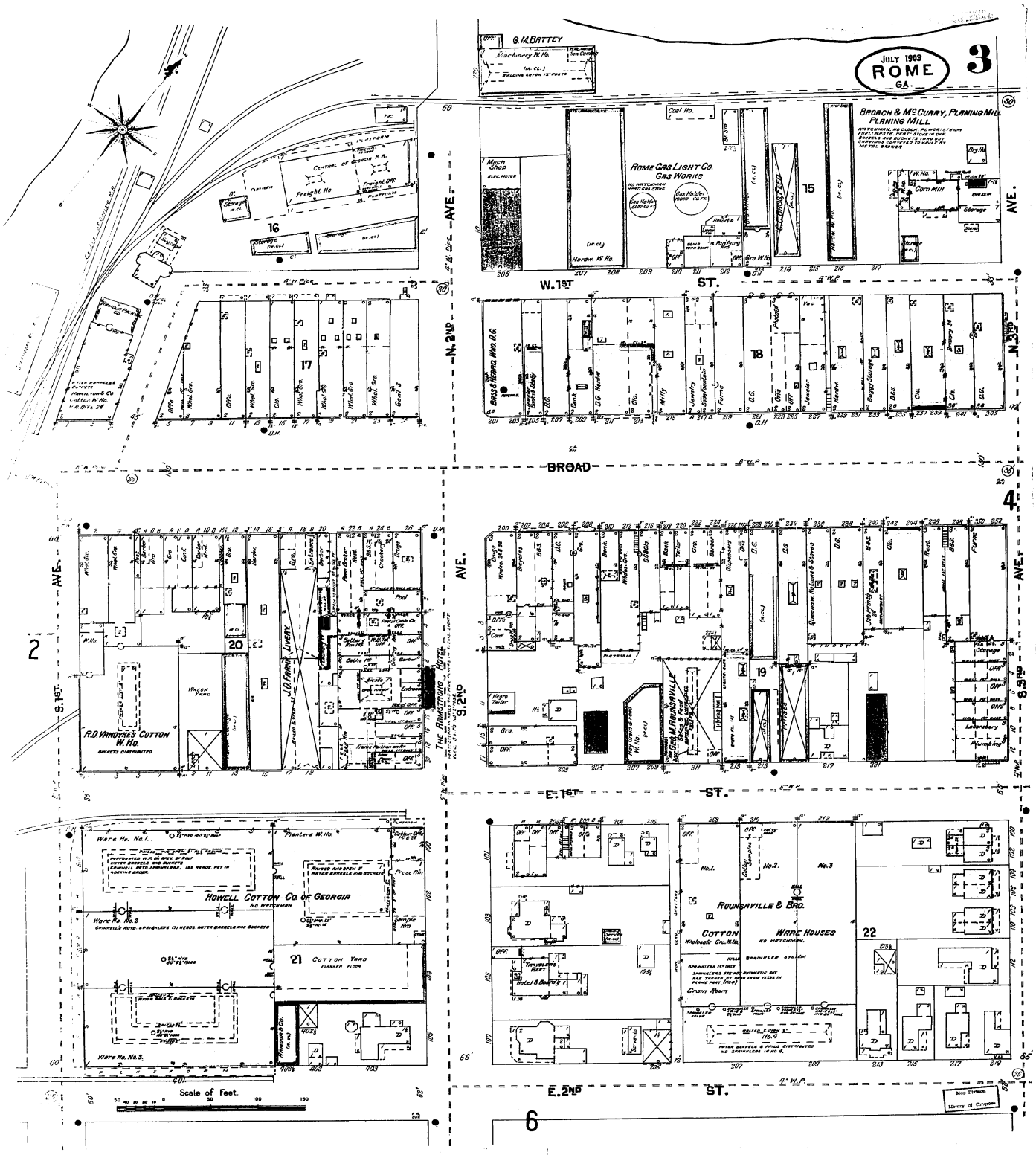

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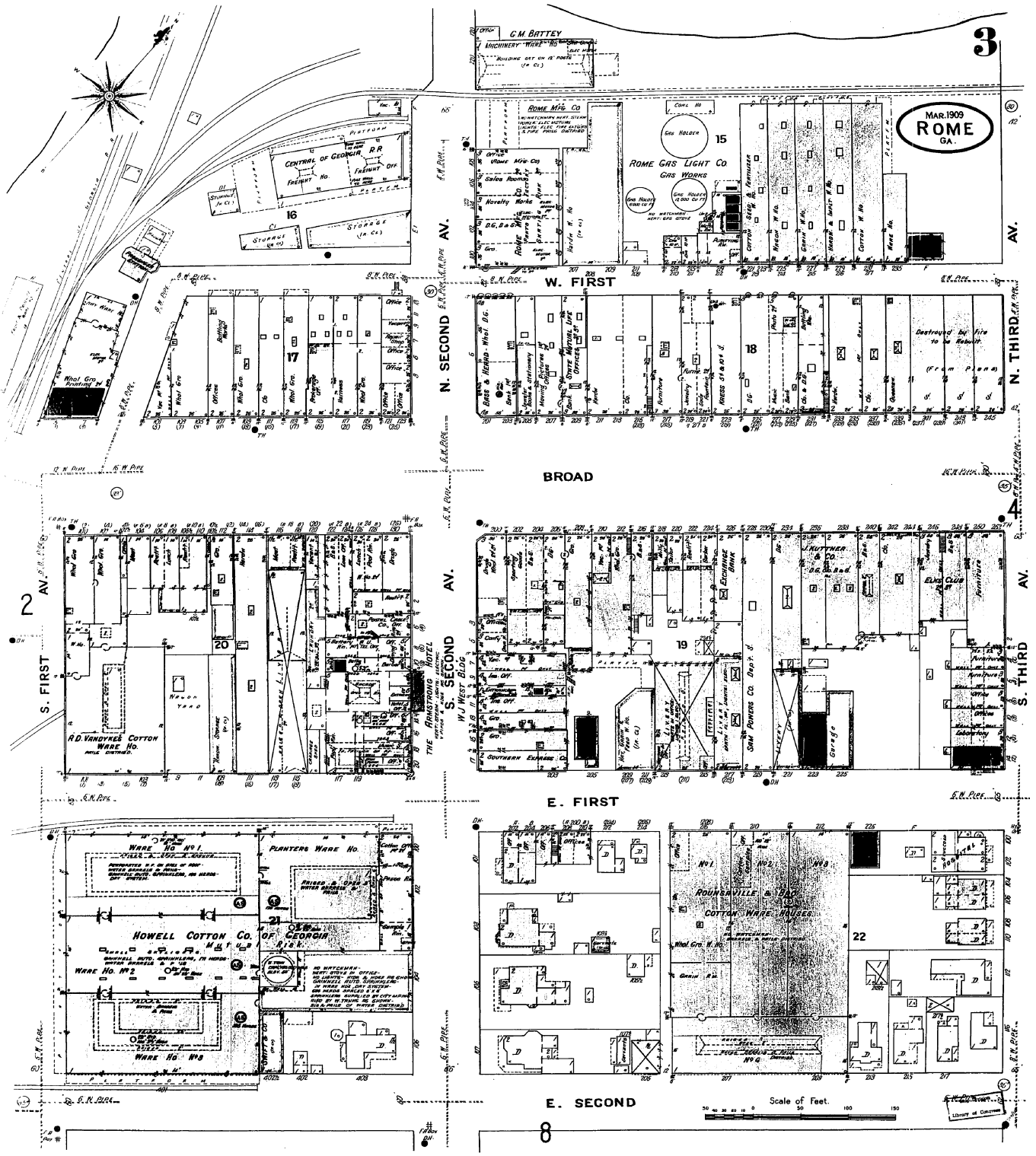

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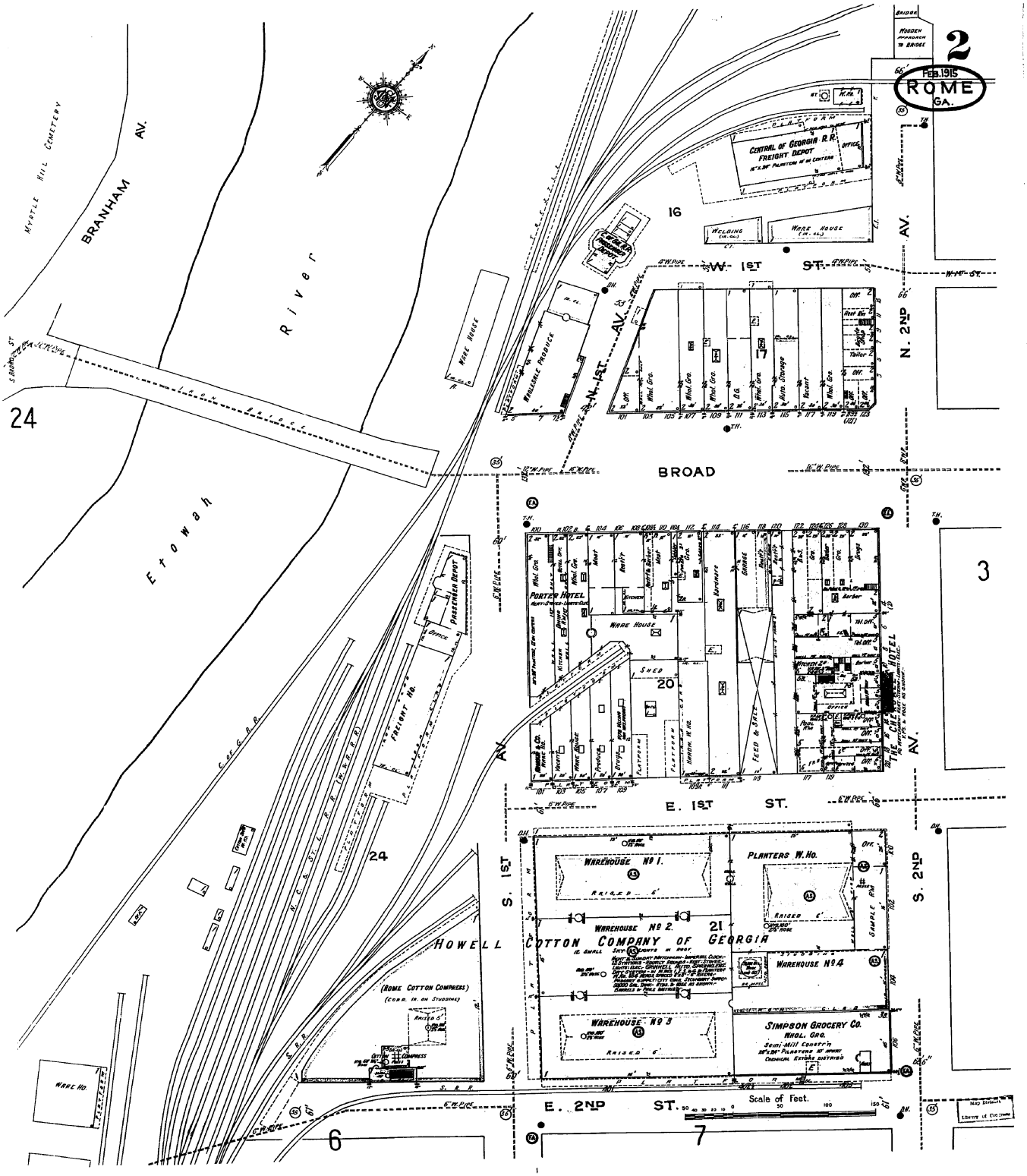

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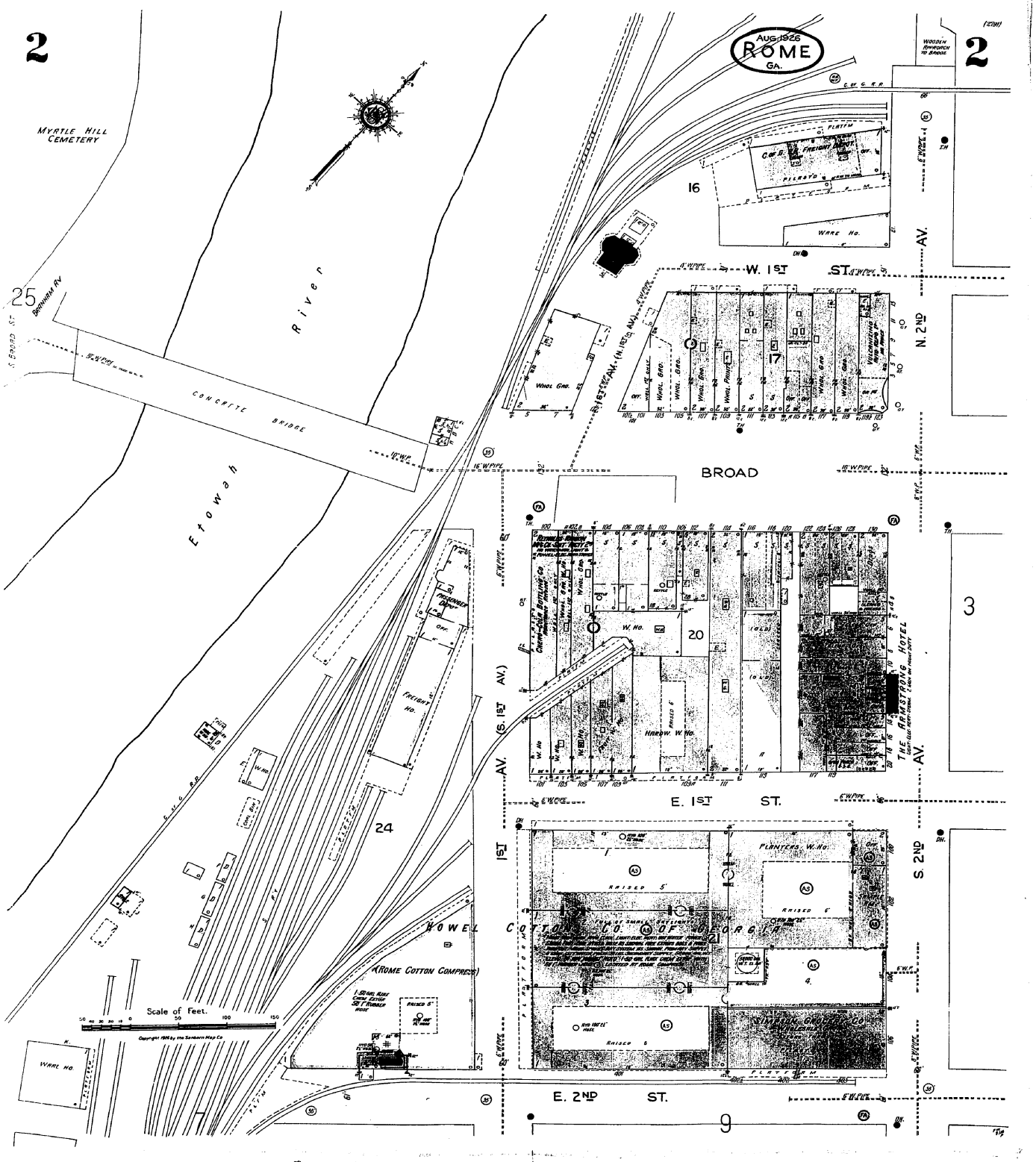

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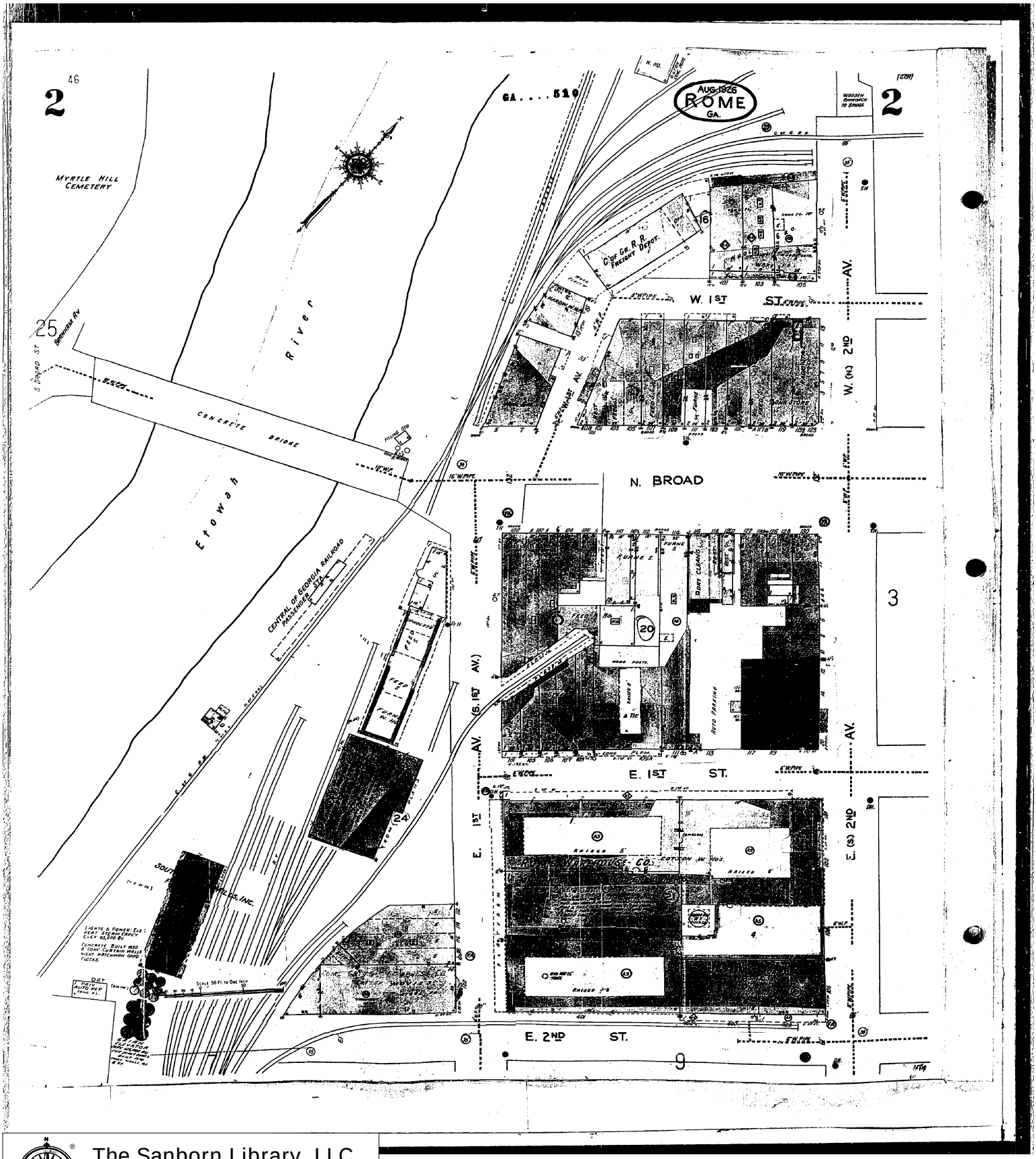

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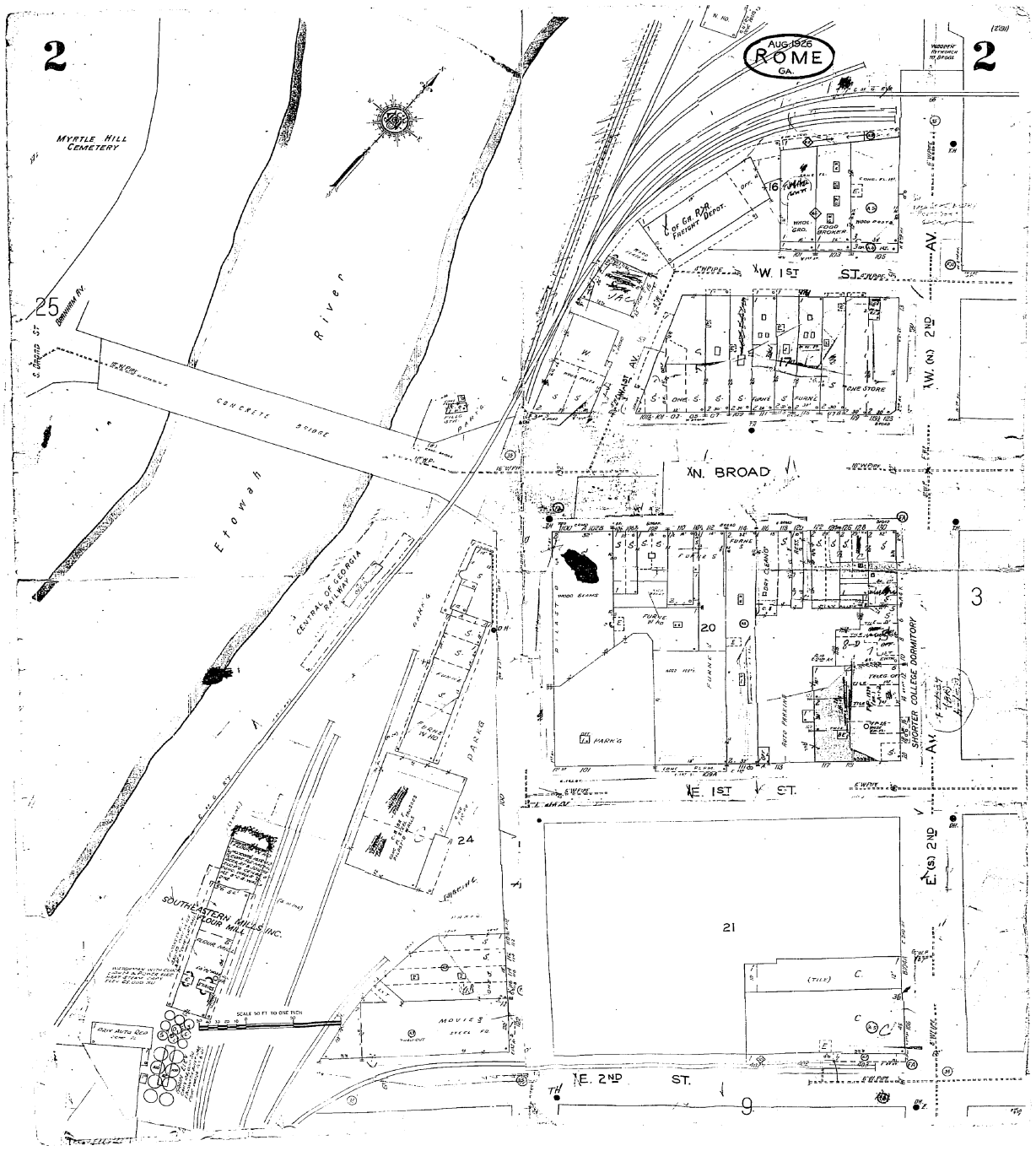

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APPENDIX B

Boring and Monitoring Well Construction Logs (after 1997)

Soil Boring Logs

BORING LOG

BORING NUMBER	GH-300	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Holder # 1

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/01/98 **START** 7:30 **FINISH** 12:30 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC FIL LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								0.0-0.5' Asphalt Parking Area.
	(0.5-2.0')	VOC Total metals SVOC	8:30	55%	0.5	Fill.		0.5-2.0' Reddish brown clayey sand and gravel fill with slight odor of BPLM or moth ball like odor.
	(2-4')		8:35	50%	0.3	Fill.		2.0-3.0' Dark gray and black sand and gravel fill.
								3.0-4.0' Reddish brown clayey sand with angular white gravel fill.
	(4-6')		9:05	50%	0	Fill		4.0-4.5' Black gravel and asphalt like material fill.
5								4.5-10.0' Reddish brown wet soft clayey sand.
	(6-8')		9:25	25%	0	Fill.		
	(8-10')		9:33	25%	0	Fill.		
10								
	(10-12')		11:35	75%	0	Fill.		10-12' Reddish brown wet soft clayey sand with gray fragments of shale or silt stone.
	(12-14')		11:45	75%	0.1	Fill.		12-14' Brown wet silty sand with yellowish saturated BPLM and strong odor. Spoon refusal at 14 feet below ground surface.
	EOH					End of Boring.		Boring terminated at 14 feet below ground surface.
15								
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-301	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Holder # 1

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/03/98 **START** 10:50 **FINISH** 11:30 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0							FL	0.0-0.5' Asphalt Parking Area.
	(0.5-2.0')	VOC	10:55	15%	0	Fill.		0.5-2.0' Reddish brown clayey sand and gravel fill.
	(2-4')	VOC	11:00	25%	0	Fill.		2.0-5.0' Same as above
	(4-6')	VOC	11:05	25%	0	Fill		
5								5.0-5.2' Black gravel fill.
								5.2-8.0' Reddish brown clayey sand and gravel fill.
	(6-8')	VOC	11:10	30%	0	Fill.		
	(8-10')	VOC SVOC Encore Metals	11:25	50%	0	Fill.		8.0-14' Same as above; wet
10								
	(10-12')	VOC	11:30	50%	0	Fill.		
	(12-14')	VOC SVOC Metals	11:35	75%	0	Fill.		Spoon refusal at 14 feet below ground surface.
	EOH					Refusal. End of Boring.		Boring terminated at 14 feet below ground surface.
15								
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-302	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Holder # 1

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/03/98 **START** 12:40 **FINISH** 13:45 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0							FL	0.0-0.5' Asphalt Parking Area.
	(0.5-2.0')			5%	0	Fill.		0.5-2.0' Reddish brown loose, dry clayey sand and gravel fill.
	(2-4')	VOC SVOC Metals	12:50	75%	0	Fill.		2.0-5.0' Same as above.
	(4-6')	VOC	13:00	50%	0	Fill		
5								5.0-5.2' Black gravel.
	(6-8')	VOC SVOC Metals	13:05	50%	0	Fill.		5.2-8.0' Reddish brown coarse sand and gravel.
	(8-10')		13:10	30%	0	Fill.		8.0-10' Same as above; wet.
10	(10-12')	VOC SVOC Metals Encore	13:15	100%	0	Fill.		10-14' Same as above.
	(12-14')	VOC SVOC Metals	13:20	100%	0	Fill.		
	EOH					Refusal. End of Boring.		Boring terminated at 14 feet below ground surface.
15								
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-303	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Holder # 1

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/03/98 **START** 9:05 **FINISH** 10:00 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0							FL	0.0-0.5' Asphalt Parking Area.
	(0.5-2.0')	VOC	9:10	25%	0	Fill.		0.5-2.0' Reddish brown clayey sand and gravel fill with no odor of BPLM or BPLM or staining. (fill)
	(2-4')	VOC	9:15	25%	0	Fill.		2.0-5.0' Same as above.
	(4-6')	VOC SVOC Metals	9:20	50%	0	Fill		
5								5.0-5.2' Black gravel fill.
								5.2-8.0' Reddish brown sand and gravel.
	(6-8')	VOC	9:25	25%	0	Fill.		
	(8-10')	VOC SVOC Metals	9:35	75%	0	Fill.		8.0-10' Same as above; moist soft
10	(10-12')	VOC SVOC Metals	9:40	75%	0	Fill.		10-12' Reddish brown clayey sand and gravel with odor and staining. (fill)
	(12-14')	VOC SVOC Metals	9:50	50%	0	Fill.		12-14' Same as above; no odor or staining.
	EOH					Refusal. End of Boring.		Boring terminated at 14 feet below ground surface.
15								
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-304	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Holder # 1

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12-01 & 12-03-9[illegible] **START** 13:30 **FINISH** 17:00 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0							FL	0.0-0.5' Asphalt Parking Area.
	(0.5-2.0')	VOC, SVOC Total metals	13:45	75%	0	Fill.		0.5-4.0' Reddish brown clayey sand and gravel fill.
	(2-4')	VOC, SVOC Metals Encore	13:50 *13:55	25%		Fill.		
	(4-6')	VOC, SVOC Metals Encore	14:00 *14:00	25%		Fill		4.0-4.5' Black gravel and asphalt like material fill.
5								4.5-8.0' Reddish brown clayey sand with small fragments of silt stone with no odor or staining.
	(6-8')	VOC, SVOC Metals Encore	14:15 *14:05	25%		Fill.		
	(8-10')	VOC, SVOC metals	14:30	51%	0	Fill.		8.0-10' Same as above; soft, wet.
10								
	(10-12')	VOC	14:45	12%	0	Fill.		10-12' Grayish green wet soft clayey sand with gray fragments of shale or siltstone with BPLM-like odor.
	(12-14')	VOC Encore	15:00	25%		Fill.		12-22' Brown and black stained, wet clayey sand and gravel with strong odor.
	(14-16')	VOC, SVOC Metals	15:30	100%	0	Fill, Refusal.		14' Encountered spoon refusal at 14 feet in 2nd boring.
15								
	(16-18')	VOC, SVOC Metals	15:50	50%		Fill.		
	(18-20')	VOC, SVOC Metals	16:10	100%		Fill.		
20								
	(20-22')	VOC, SVOC Metals	16:40	100%		Fill.		
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-305	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT	Rome MGP Site	**DRILLING CONTRACTOR**	TransGlobal Environmental Group (TEG)
BORING LOCATION	Holder # 2	**GROUND ELEVATION**	NA
DRILLING METHOD AND EQUIPMENT	DPT	**SURFACE ELEVATION**	NA
DATE	12/04/98	**START** 7:20 **FINISH**	**LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0							FL	0.0-0.5' Asphalt Parking Area.
	(0.5-2.0')			5%	0	Fill.		0.5-2.0' Gray and black gravel
	(2-4')		7:35	20%	0	Fill.		2-4': Black-dark gray and reddish brown gravel consisting of ALM and CLM
	(4-6')		7:40	25%	0	Fill		4-6': Material is loose and dry above 6'
5								
	(6-8')		7:50	20%	0	Fill.		6-8': Material below 6' is saturated (appears to be water); no odor or sheen noted
	(8-10')		7:55	25%	0	Fill.		8-10': Black ALM and dark gray CLM
10								
	(10-12')		8:00	5%	0	Fill.		10-12': Same as above
	(12-14')		8:15	5%	0	Fill.		12-14': Same as above
	(14-15.5')			10%	NA	Fill.		14-15.5': Spoon refusal @15.5' bgs; black, wet. Stained ALM and CLM with odor, residual BPLM, and sheen; concrete of holder bottom appears to be stained Fluoresce
15								Refusal @ 15.5' bgs; boring terminated
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-306	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Holder # 2

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/04/98 **START** 16:30 **FINISH** 17:30 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC FIL LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								0.0-1.0' Reddish orange sand and gravel, moist
	(0.5-2.0')			100%	0	Fill.		1-2' Black & dark gray with reddish brown cinder
	(2-4')	VOC	16:40	50%	0	Fill.		2-3 Black ash and cinder like material
	(4-6')			25%	0	Fill		4-6 Black and dark gray coal like ash and cinder
5								no odor,
	(6-8')			25%	0	Fill.		
	(8-10')			25%	0	Fill.		
10								
	(10-12')			15%	0	Fill.		
	(12-14')			20%	0	Fill.		
	14-15.5'			15%	0	Fill.		Concrete bottom of holder is soft and has a dark green color. Bottom of holder has a strong sewage like odor.
15								
	EOH					Spoon refusal.		15.5' Boring terminated at 15.5' below ground surface.
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-307	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Holder # 2

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/05/98 **START** 11:30 **FINISH** 12:30 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0							FL	0.0-0.5' Asphalt Parking Area.
	(0.5-2.0')			50%	0	Fill.		
	(2-4')			30%	0	Fill.		2-4 Black, reddish brown and dark gray angular gravel like coal cinder with no odor.
5	(4-6')	GH-307-4-6' VOC only	12:10	30%	0	Fill		
	(6-8')			30%	0	Fill.		
	(8-10')			30%	0	Fill.		
10	(10-12')				0	Fill.		
	(12-14')				0	Fill.		
	14-15.5'	GH-307-14'-15.5' VOC only	12:30	40%		Fill.		Strong odor and residual BPLM like material. Concrete bottom of holder is soft and has a dark green color. Bottom of holder has a strong sewage like odor.
15	EOH					Spoon refusal.		15.5' Boring terminated at 15.5' below ground surface.
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-308	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Holder # 2

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/03/98 **START** 15:50 **FINISH** 16:45 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								0.0-0.5' Asphalt Parking Area.
	(0.5-2.0')			50%	0	Fill.	FL	0.5-15.5' Black, reddish brown and dark gray angular gravel like coal cinder with no odor.
	(2-4')			50%	0	Fill.		
	(4-6')			50%	0	Fill		
5								
	(6-8')			25%	0	Fill.		
	(8-10')			25%	0	Fill.		
10								
	(10-12')			50%	0	Fill.		
	(12-14')			75%	0	Fill.		
	14-15.5'			25%	0	Fill.		Concrete bottom of holder is soft and has a dark green color. Bottom of holder has a strong sewage like odor.
15								
	EOH					Spoon refusal.		15.5' Boring terminated at 15.5' below ground surface.
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-309	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Holder # 2

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/05/98 **START** 10:15 **FINISH** 11:20 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC FIL LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								0.0-0.5' Asphalt Parking Area.
	(0.5-2.0')			100%	0	Fill.		0.5-15.5' Black, reddish brown and dark gray angular gravel like coal cinder with no odor.
	(2-4')			80%	0	Fill.		
	(4-6')			15%	0	Fill		
5								
	(6-8')			20%	0	Fill.		6-8 Black, dark gray and reddish brown, CLM, No odor or stainning
	(8-10')	VOC	10:55	20%	0	Fill.		
10								
	(10-12')			20%	0	Fill.		
	(12-14')	VOC	11:05	20%	0	Fill.		
	14-15.5'			10%	7.7	Fill.		Strong BPLM odor and residual BPLM like material. Concrete bottom of holder is soft and has a dark green color. Bottom of holder has a strong sewage like odor.
15								
	EOH					Spoon refusal.		15.5' Boring terminated at 15.5' below ground surface.
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GH-310	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT	Rome MGP Site	**DRILLING CONTRACTOR**	TEG
BORING LOCATION	EPA Holder	**GROUND ELEVATION**	NA
DRILLING METHOD AND EQUIPMENT	DPT	**SURFACE ELEVATION**	NA
DATE	12/08/98	**START** 13:30 **FINISH** 14:30	**LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0						Fill.	FL	Pre-probed with DPT to locate bottom of holder prior to sampling. Probe refusal @ 12' bgs
						Fill.		
						Fill		
5						Fill.		
						Fill.		
10	(10-12')	VOC SVOC metals CN	14:30			Fill.		10-12': brown and black silty sand; wet, loose no odor noted
						Fill.		Refusal @ 12' bgs; boring terminated
15						Fill.		
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GP-300	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT	Rome MGP Site	**DRILLING CONTRACTOR**	TransGlobal Environmental Group (TEG)
BORING LOCATION	Outside Holder # 1	**GROUND ELEVATION**	NA
DRILLING METHOD AND EQUIPMENT	DPT	**SURFACE ELEVATION**	NA
DATE	12/02/98	**START** 1300	**FINISH** 1420	**LOGGER**	Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-4'			80%			FL	0-3' Black and dark gray cinders, slag like material, and coal. No odor, dry, loose
								3-5' Red brick
5	4-8'			50%		Fill		5-8' Black cinders and coal, moist to wet, no odor
	8-12'			0%		No recovery		8-12' No recovery
10								
	12-16'			75%		Fill.		12-16' Black cinders and silty black sludge, does not appear to be tar, but is black like tar with heavy sheen & very strong odor. Saturated with water.
15								
								Refusal at 17' BGS
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GP-301	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION West side Holder # 1 near MW-6A

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/02/98 **START** 14:40 **FINISH** 15:15 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0.0-4.0'	Not Sampled	NA	80%	NS	Fill.	FL	0.0-1' Reddish brown clayey sand 1-4' Black and dark gray cinders and slag like material. Dry, loose, no odor Gravel size chunks of slag up to chips
5	4-8'			50%		Fill		4.0-6' Ash and cinder like material 6-8' Gray and olive gray stained clayey sand and clay with moderate to low plasticity, moist to wet
10	8-12'			100%		Fill		8-12' Entire sample mottled yellowish brown and olive gray clayey sand and clay, moist, slight odor, moderate to low plasticity.
15	12-16'			100%		Fill		12-16' All dark olive gray to olive clayey sand and clay, with very slight odor. Becomes less stained to bottom, moist, low to moderate plasticity
20	16-20'			100%		Fill		16-20' SAA, not saturated
25	EOH					Boring terminated.		20' Boring terminated at 20 feet below ground surface.

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GP-302	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT	Rome MGP Site	**DRILLING CONTRACTOR**	TransGlobal Environmental Group (TEG)
BORING LOCATION	West side Holder # 1 near MW-6A	**GROUND ELEVATION**	NA
DRILLING METHOD AND EQUIPMENT	DPT	**SURFACE ELEVATION**	NA
DATE 12/02/98	**START** 15:15	**FINISH** 16:00	**LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0.0-4.0'	Not Sampled	NA	100%	NS	Fill.	FL	0.0-1' Asphalt and reddish brown clayey sand 1-3' Black and dark gray loose sand, gravel like material cinder like and slag
								3.0-4.0' Reddish brown and brown clayey sand and clay with moderate to low moderate to low plasticity, moist, no odor
	4-8'			50%		Fill		4.0-8.0' Black and dark gray cinders & slag like material with some blueish-green soft clay-like material. (like paint)
5								Bottom of sample is gray clay, slight odor with BPLM staining.
	8-12'			100%		Fill.		8-12' Dark gray and gray mottled clayey sand and clay with wood fragments.
10								
	12-16'			100%		Fill.	CL	12-16' Dark gray and olive clay and clayey sand with moderate to low plasticity. (similar to GP-301)
15								
	16-20'			100%		Fill		16-20' SAA
20	EOH					Boring terminated.		20' Boring terminated at 20 feet below ground surface.
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-303	PAGE	1	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION Top of bank by balcony

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT / Split Spoon 24"

SURFACE ELEVATION

DATE 12/5/1998 **START** 1400 **FINISH** 1730 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'		1420	90%	0		FL	0-2 Reddish brown, black and brown medium clayey sand and gravel. No odor. Some black ash-like stain.
	2'-4'		1425	80%	0			2-4 Reddish brown, black and brown clayey sand fill.
5	4'-6'	voc svoc metals cn	(1430)	90%	0			4-6 Reddish brown, black and brown clayey sand fill.
	6'-8'		1435	20%	0			6-8 Mottled reddish orange and gray, moist clayey sand with moderate plasticity.
10	8'-10'	voc svoc metals cn	(1440)	60%	0			Mottled reddish orange and gray, moist clayey sand with moderate plasticity.
	10'-12'			50%	0			10-12 Reddish orange and gray mottled clayey sand and moist gravel. Moderate plasticity, no stain, no odor.
	12'-14'	voc svoc metals cn	(1445)	50%	0			12-14 Reddish orange, brown and gray mottled clayey sand. No odor or stain.
15	14'-16'			50%	0			Reddish orange, brown and gray mottled clayey sand. No odor or stain.
	16'-18'	voc svoc metals cn	(1515)	25%	0			Reddish orange, brown and gray mottled clayey sand. 16-18 No odor or stain. 17.5 Top of clayey native soil.
20	18'-20'	voc svoc metals cn	(1540)	75%	0		SC	18-20 Olive gray uniform soil, clayey sand and clay with moderate plasticity, no odor or stain.
	20'-22'	voc svoc metals cn	(1545)	75%	0			20-22 Olive gray uniform soil, clayey sand and clay with moderate plasticity, no odor or stain. More organic material.
	22'-24'	voc svoc metals cn	(1600)	50%	0		SM	23 Reddish orange silty sand.
25	24'-26'		(1615)	75%	0			Fine-grained silty sand, uniform, no stain or odor.

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-303	PAGE	2	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION Top of bank by balcony

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT / 24" Split Spoon

SURFACE ELEVATION

DATE 12/5/1998 **START** 1400 **FINISH** 1730 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
	24-26			75%	0		SM	Fine-grained silty sand.
	26'-28'	voc svoc metals CN	(1630)	75%	0			Fine-grained silty sand. Moist, soft, loose, non plastics
	28'-30'	voc svoc metals CN	1645	100%	0			Fine-grained silty sand. Wet, non plastic, no odor, no stain.
30								
	30'-32'	voc svoc metals CN	1705	100%	0			Fine-grained silty sand. Wet, non plastic, no odor, no stain.
	32'-33.5'	voc svoc metals syringe	1730	100%	0	Refusal at 33.5' BGS	GW	Coarse-grained, rounded gravel, no stain, no odor.
35								
40								
45								
50								

(Continued on next page if over 55 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-304	PAGE	1	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION outside Holder #2

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION

DATE 12/4/1998 **START** 0850 **FINISH** 1400 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'			25%	ovm 0		FILL	Asphalt 0-2 Reddish brown clayey sand, dry, loose (next to drain pipe) in pipe trench.
	2'-4'			50%	ovm 0.9			2-3 Reddish brown, clayey sand and gravel fill in pipe trench. 3-4 Black ash and cinder.
5	4'-6'			100%	ovm 7.7			4-4.5 Black ash and cinder. 4.5-5.5 Black tar-like material with strong odor. 5.5-6 Reddish brown clayey sand and clay.
	6'-8'			100%	ovm 75			6-7 Black tar-like material with strong odor. 7-8 Reddish brown clay and clayey sand.
10	8'-10'			100%	ova 0			8-10 Reddish brown & gray mottled clayey sand with tar-like residue layers and sand intrusion.
	10'-12'			100%	ova 28			10-12 Same lithology with black tar-like layer.
	12'-14'	syringe		50%	ova 4.4			12-14 Reddish orange clayey sand with less to no tar-like staining.
15	14'-16'	voc svoc metals cn	1225	100%	ova 22			
	16'-18'			100%	ova 5.4			Olive gray to gray silty sand.
	18'-20'			100%	ova 3.8		SM	
20	20'-22'			80%	ova o			
	22'-24'	voc svoc metals cn	1235	100%	ova 70			
25	24'-26'			100%	ova 40			

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-304	PAGE	2	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION Outside Holder #2

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION

DATE 12/4/1998 **START** 0850 **FINISH** 1400 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
							SM	
	26'-28'			80%	30			26-27.9 Black and dark gray silty sand and river terrace-like rounded gravel (50%) clay at 27.9-28 feet.
	28'-30'	voc svoc metals CN	1345	50%	12			28-29 Black and dark gray silty sand.
30							GM	29-30 Sandy rounded gravel
	30'-32'			50%	48			Dark gray and black silty sand and gravel.
	32'-34'			50%	NA			Reddish brown silty sand and gravel, dry, stiff , no stain, no odor.
35								
40								
45								
50								

(Continued on next page if over 55 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-305	PAGE	1	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION Top of Bank

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION

DATE 12/6/1998 **START** 0730 **FINISH** 1130 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
0	0-2'			50%	0		FL	Reddish brown; black and brown mottled clayey sand with organic matter like roots. No odor, no stain, fine-grained gravel.
	2'-4'			50%	0			Soft, nonplastic
5	4'-6'			10%	0			Soft, nonplastic
	6'-8'			10%	0			Soft, nonplastic
	8'-10'		0815	10%	0			Black, unconsolidated coal ash and cinder.
10	10'-12'		0830	10%	0			Black coal ash and cinder with no odor, no sheen, not wet, loose, gravel size ash.
	12'-14'		0835	50%	0			Black coal ash and cinder with no odor, no sheen, not wet, loose, gravel size ash, moist unconsolidated.
15	14'-16'		0850	50%	0			Black coal ash and cinder with no odor, no sheen, not wet, loose, gravel size ash, moist unconsolidated.
	16'-18'	syringe voc svoc, cn metals	0900	50%	0			Black coal ash and cinder with no odor, no sheen, not wet, loose, gravel size ash, moist unconsolidated, more coal-like material, no BPLM. Base of fill.
	18'-20'		0910	15%	0		SC	Olive gray to gray, clayey sand and clay with moderate plasticity, no BPLM like odor or stain.
20	20'-22'	voc svoc metals cn, syringe	0920	50%	0			Dark olive gray, clayey sand and clay with moderate platicity, organic odor, but not like BPLM, moist.
	22'-24'			0%	0			Clayey sand and clay.
25	24'-26'	voc, cn, svoc metals, syringe	0940	50%	0		SM	Black and dark olive gray silty sand.

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-305	PAGE	2	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION Top of Bank

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT / 2" dia. 24" split spoon.

SURFACE ELEVATION

DATE 12/6/1998 **START** 0730 **FINISH** 1130 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
		voc, svoc, cn metals, syringe		50%			SM	
	26'-28'		0950	50%	0			Olive green and gray silty, very fine-grained sand, low plasticity.
	28'-30'	voc svoc metals CN	1000	75%	0		SC	Mottled olive gray and gray, silty sand and clay, no stain or odor.
30								
	30'-32'		1025	25%	0			Mottled olive gray and gray, silty sand and clay, no stain or odor.
	32'-34'		1040	25%	0		GM	Rounded 1-.5" gravel and sand. No odor, no stain.
35	34'-36'		1100	50%	0			Light olive and tan gravelly sand with rounded .5-1" diameter gravel, no odor, no stain. (wet)
	36'-38'		1120	75%	0		SW	Medium to fine-grained tan, silty sand.
40								
45								
50								

(Continued on next page if over 55 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-306	PAGE	1	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION Parcel #2

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION

DATE 12/6/1998 to 12/7/98 **START** 1235 **FINISH** 1730 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'		1255	50%	0		FL	Gravel Concrete, sand and gravel. Fill with no odor or stain.
	2'-4'		1300	25%	0			Dark gray, black and reddish brown ash and cinder fill, moist, no odor.
5	4'-6'		1305	25%	0			Mixed brick, gravel, coal cinder, fill material.
	6'-8'		1310	25%	0			Reddish brown clayey sand and black coal cinder.
	8'-10'		1315	20%	0			Dark gray and red uncosolidated coal cinder and ash.
10	10'-12'		1320	15%	0			Coal cinder.
	12'-14'	voc svoc, cn metals	1330	15%	0			Red and black coal cinder.
15	14'-16'		1340	100%	0	14.5	SC	14-14.5 Coal, ash and cinder. 14.5 Reddish orange, clayey sand, no odor, no stain, dry, stiff.
	16'-18'		1350	100%	0			Coal, ash and cinder. Reddish orange, clayey sand, no odor, no stain, dry, stiff.
	18'-20'		1400	100%	0			Coal, ash and cinder. Reddish orange, clayey sand, no odor, no stain, dry, stiff.
20	20'-22'	voc svoc metals cn	1420	100%	0			Coal, ash and cinder. Reddish orange, clayey sand, no odor, no stain, dry, stiff.
	22'-24'	voc, cn, svoc metals	1500	50%	0	23.5		Coal, ash and cinder. Reddish orange, clayey sand, no odor, no stain, dry, stiff.
25	24'-26'			25%	0			Reddish orange, clayey sand, no odor, no stain, dry, stiff.

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-306	PAGE	2	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION Parcel #2

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION

DATE 12/6/1998 **START** 1235 **FINISH** 1730 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
							SC	
	26'-28'	voc svoc metals CN, syringe	1550	75%	0		GM	Coarse, subrounded gravel and sand.
	28'-30'		1600	75%	0			
30								Base of gravel at 30 feet.
	30'-32'		1615	100%	0			
35								
40								
45								
50								

(Continued on next page if over 55 feet deep)

BORING LOG

BORING NUMBER	GP-307	PAGE	1	OF	2	PROJECT NUMBER	1644-0130

PROJECT	Rome MGP Site	**DRILLING CONTRACTOR**	TransGlobal Environmental Group (TEG)
BORING LOCATION	Between Holders #1 and #2.	**GROUND ELEVATION**	NA
DRILLING METHOD AND EQUIPMENT	DPT	**SURFACE ELEVATION**	NA
DATE 12/07/98	**START** 9:00	**FINISH** 12:30	**LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'			100%	0	Fill		0.0-0.5' Asphalt Parking Area.
								0.5-2.0' Black and dark gray coal and coal cinder like material. Dry, loose, strong odor.
	2-4'			100%	0	Fill		2.0-4.0' Same as above; no odor.
	4-6'			25%	0	Fill		4-15' Black and dark gray unconsolidated coal and coal cinder-like material with no BPLM or stain, containing wood at 8 feet with odor.
5								
	6-8'			50%	0	Fill		
	8-10'			2%	0	Fill.		
10								
	10-12'				0	Fill		
	12-14'			12%	0	Fill.		
	14-16'	GP-307-14'-16'	10:05	75%	0	Fill		
15						Clayey Sand (CS).	SC	15-21' Dark gray and olive gray moist soft mottled clayey sand with mild odor, mild odor,but not BPLM-like odor.
	16-18'			75%	0	CS		
	18-20'			75%	0	CS		
20						Gravel and Sand (G&S)	GW	
	20-22'	GP-307-20'-22'	10:50	75%	0	G&S		21-26' Coarse, moist unconsolidated sub-rounded gravel and sand with BPLM residual BPLM, stain and odor.
	22-24'			75%	0	G&S		
	24-26'			75%	0	G&S		
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GP-307	PAGE	2	OF	2	PROJECT NUMBER	1644-0130

PROJECT	Rome MGP Site	**DRILLING CONTRACTOR**	TEG
BORING LOCATION	Between Holders #1 and #2	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**SURFACE ELEVATION**	
DATE 12-07-98	**START** 09:00	**FINISH** 12:30	**LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26'			75%			GM	Coarse grained dry unconsolidated sub-rounded gravel and sand with minor BPLM like stain or odor.
	26-28'			75%				
	28-30'	GP-307-28'-29.5'		75%				
30						Refusal at 29.5'.	BR	29.5' Boring terminated at 29.5 feet below ground surface. Bedrock, dry, hard.
35								
40								
45								
50								

(Continued on next page if over 55 feet deep)

BORING LOG

BORING NUMBER	GP-308	PAGE	1	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR TransGlobal Environmental Group (TEG)

BORING LOCATION Between Holders #1 and #2.

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION NA

DATE 12/07/98 **START** 14:00 **FINISH** 17:30 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'			100%	0	Fill	FL	0.0-0.5' Asphalt Parking Area. 0.5-11' Reddish brown and dark gray dry unconsolidated gravel like coal ash andcinder with no BPLM like odor or stain.
	2-4'			25%	0	Fill		
	4-6'			25%	0	Fill		
5	6-8'			5%	0	Fill		
	8-10'			10%	0	Fill.		
10	10-12'	GP-308-10'-12'	14:30	25%	0	Fill		
						Clayey Sand (CS).	SC	11' Dark gray and olive gray moist soft mottled clayey sand with mild odor, but not BPLM like odor.
	12-14'			100%	0	CS		
	14-16'			100%	0	CS		
15	16-18'			100%	0	CS		
	18-20'			100%	0	CS		
20	20-22'			100%	0			
	22-24'	GP-308-22'-24'	1540	100%	0			
	24-26'			100%	0	Clay and sandy clay.	CL	Gray and olive gray mottled clay and sandy clay with no BPLM like or stain.
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	GP-308	PAGE	2	OF	2	PROJECT NUMBER	1644-0130

PROJECT	Rome MGP Site	**DRILLING CONTRACTOR**	TEG
BORING LOCATION	Coal Storage.	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**SURFACE ELEVATION**	
DATE	12-07-98	**START** 14:00	**FINISH** 17:30
LOGGER	Art Busby		

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26'			100%	0		GW	Coarse grained dry unconsolidated sub-rounded gravel and sand with no BPLM like stain or odor.
	26-28'				0	Clay and Sandy clay.	SC	
	28-30'				0	Clay and Sandy clay.		
30	30-32'	GP-308-30'-32'	17:30		0	Clay and Sandy clay.		
				50%	0	Gravel and sand Refusal.	GW	31.5' Top of unconsolidated sub-rounded gravel and sand.
35							BR	34' Boring terminated at 34 feet below ground surface. Bedrock
40								
45								
50								

(Continued on next page if over 55 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-309	PAGE	1	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION Outside EPA Holder

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION

DATE 12/9/1998 **START** 0730 **FINISH** 1120 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'	voc svoc metals cn	0745	100%	0		FILL	Asphalt Black stained angular gravel and coal cinder with wood chips, no odor, moist, loose.
	2'-4'		750	25%				Black stained angular gravel and coal cinder with wood chips, no odor, moist, loose.
5	4'-6'			0%				Black stained angular gravel and coal cinder with wood chips, no odor, moist, loose.
	6'-8'		0815	75%	5.5			Black and brown mottled clayey sand moist with moderate plasticity, stain and odor like burnt material.
	8'-10'			75%			SC	Black and brown mottled clayey sand moist with moderate plasticity, stain and odor like burnt material.
10	10'-12'		0845	100%	9			Reddish brown and light olive gray mottled stiff, clayey sand with low plasticity, dry, no odor or stain.
	12'-14'	voc svoc metals cn	0925	100%	0			Layered black clayey sand, mottled reddish brown and olive clayey sand.
15	14'-16'		0930	100%	10.5			Layered black clayey sand, mottled reddish brown and olive clayey sand. Black stained fine to medium-grained silty sand.
	16'-18'				10		SM	Black and dark olive gray silty sand with strong odor of BPLM like material.
	18'-20'							Black and dark olive gray silty sand with strong odor of BPLM like material.
20	20'-22'	voc svoc metals cn			5			Black and dark olive gray silty sand with strong odor of BPLM like material.
	22'-24'	voc svoc metals cn			220			Residual BPLM with odor, wet.
25	24'-26'						GM	Coarse-grained subrounded gravel and sand with strong BPLM odor and stain.

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-309	PAGE	2	OF	2	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR TEG

BORING LOCATION Parcel 3 outside EPA Holder

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT

SURFACE ELEVATION

DATE 12/9/1998 **START** 0730 **FINISH** 1120 **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE						SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS
	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS		NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
							GM	Coarse-grained subrounded, unconsolidate gravel and
	26'-28'						SW	sand with strong BPLM-like odor and residual BPLM.
	28'-30'		1115				BR	Phylite BR
30								
35								
40								
45								
50								

(Continued on next page if over 55 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-310	PAGE	1	OF	2	PROJECT NUMBER	1644-0130

PROJECT	Rome GA MGP	**DRILLING CONTRACTOR**	TEG
BORING LOCATION	Parcel #3	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**SURFACE ELEVATION**	
DATE	12/9/1998	**START** 1300 **FINISH**	**LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								Asphalt
	0-2'		1310	100%			FILL	.5-1 Reddish brown clayey sand and gravel. Fill. 1-2 Black coal ash and cinder, no odor or BPLM.
	2'-4'		1315	100%	0			2.3-4 Reddish brown and olive silty sand and gravel. Fill, moist, soft, no odor, no stain.
5	4'-6'		1325	100%				Mottled reddish brown and olive silty sand, moist, soft no odor or stain.
	6'-8'			100%	0			Fine-grained silty sand with no BPLM staining or odor, moist, soft.
	8'-10'			100%	7			Fine-grained silty sand with no BPLM s or o, moist, soft.
10	10'-12'	voc svoc metals cn	1600	100%			SM	Silty sand.
	12'-14'			100%	3.5			Black odor and stain.
15	14'-16'			100%	20			
	16'-18'	voc svoc metals cn	1410	100%	5			Black odor and sheen. Fluoresce
	18'-20'			100%	6			
20	20'-22'			100%				
	22'-24'			100%			GW	Coarse gravel.
25	24'-26'			100%	8			Coarse subrounded gravel with stain and odor.

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-310	PAGE	2	OF	2	PROJECT NUMBER	1644-0130

PROJECT	Rome GA MGP	**DRILLING CONTRACTOR**	TEG
BORING LOCATION	Parcel 3	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**SURFACE ELEVATION**	
DATE	12/9/1998	**START** 1300 **FINISH** 1730	**LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
							GW	
	26'-28'			100%	8			Coarse-grained subrounded gravel with BPLM like odor and stain.
	28'-30'	voc svoc metals cn	1450	100%	3			Subrounded gravel that becomes finer on top of phylite, BR, black stain, no odor.
30								
	30'-32'			100%	3		BR	Phylite
	32'-36'			100%				Phylite, mottled gray and orange tan, soft phylite with no BPLM stain or odor.
35								
40								
45								
50								

(Continued on next page if over 55 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-311 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/14/98 **START** 1130 **FINISH**		**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2				0.25		FL	0-0.5' Asphalt and gravel 0.5-1' Dark yellowish orange clayey sand and gravel fill 1-2' Black to brownish black SLM, CLM, and gravel
	2-4				1			2-3' SAA with thin layer residual BPLM and wood chips, hydrocarbon-like odor 3-3.5' Light brown silty to gravelly sand 3.5-4' Grayish green friable cement
	4-6				0.25			4-4.2' Brick
5						Fill Material		4.2-5' Grayish green friable cement
						Clay	CL	5-6' Dark yellowish brown clay
	6-8				0.25			6-8' SAA with mottled staining
	8-10	GP-311-8'-10'	1235		10			8-10' SAA
10								
	10-12				6			10-12' Same as above, less staining, small residual BPLM Globules (1MM)
	12-14				5			12-16' Same as above, residual BPLM stringer at 12.5' residual BPLM globules throughout
	14-16				5			
15								
	16-18				60			16-19.5' Same as above
	18-20	GP-311-18'-20'	1350		20			
20								19.5-20' Moderate yellowish brown sandy clay with mica flakes
	20-22				6	Sand	SC	20-22' Moderate yellowish brown fine silty dry sand
	22-24				100			22-24' Same as above, clayey, abundant mica flakes
	24-26	GP-311-24'-26'	1415		115	▽		24-26' SAA, Dusky yellowish green
25								25' Wet

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-311 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/14/98 **START** 1130 **FINISH**		**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26	GP-311-24'-26'	1415		115	Sand	SC	24-26' Same as 22-24', dusky yellowish green 25' Wet
	26-28				110			26-28' SAA, pungent odor
	28-30	GP-311-28'-30'	1500		10	Gravelly Sand	SW	28-30' Dusky yellowish green, wet gravelly sand, gravel subrounded
30								30-30.5 SAA
	30-32				100	Saprolite	CL	30.5-32' Saprolite, grayish orange fine silty clay
								Boring termination at 32' BGS
35								
40								
45								
50								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-312 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/14/98 **START** 1700 **FINISH**		**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			80%	0		FL	0-0.5' Asphalt and gravel 0.5-2' Black sandy gravel fill, SLM, CLM, wood
	2-4			50%	0			2-4' SAA without brick or wood
5	4-6			30%	8			4-11' SAA
	6-8			20%	9			
	8-10	GP-312-8'-11'	0930	20%	30			
10	10-12			30%	0	Fill Material		
		GP-312-11'-13'	0940			Clay	CL	11-12' Dark yellowish brown clay, mod. soft, plastic
	12-14			100%	1			12-14' Same as above, mod. yellowish brown
15	14-16			100%	2			14-16' Same as above, containing wood possibly a root
	16-18			100%	1			16-28' Moderate yellowish brown clay, firm
	18-20			100%	0			
20	20-22			100%	0			
	22-24			100%	0			
25	24-26			100%	0			

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-312 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/14/98 **START** 1700 **FINISH**		**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26			100%	0	Clay	CL	16-28' Moderate yellowish brown clay, firm
	26-28			100%	5			
	28-30			95%	0	Gravelly clay		28-32' SAA, with minor subrounded stream gravel
30	30-32			90%	0			
		GP-312-31'-33'	0911					
	32-34			80%	1			32-33' Moderate yellowish brown sandy gravelly clay, gravels rounded
						Saprolite		33-35.25' Moderate yellowish brown saprolite, foliated, friable
	34-35.25			80%	0			
35								Boring termination at 35.25' BGS due to refusal.
40								
45								
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(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-313 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/15/98 **START** 1100 **FINISH**		**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			95%	0		FL	0-0.5' Asphalt and gravel 0.5-2' Black to brownish black gravelly sand, CLM, SLM, brick at base
	2-4			50%	0			2-4' SAA
5	4-6			40%	20			4-10' SAA, No brick
	6-8			20%	2			
	8-10	GP-313-8'-10'	1130	20%	3			
10						Fill Material		
	10-12			100%	N/A	Clay	CL	10-12' Dark yellowish brown, soft, moist, plastic clay
	12-14			100%	0			12-24' Moderate yellowish brown stiff, plastic clay
15	14-16			100%	0			
	16-18			100%	0			
	18-20			100%	0			
20	20-22			100%	0			
	22-24			100%	0			
	24-26			100%	0	Gravelly clay		24-31' SAA, with minor rounded stream gravel
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-313 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/15/98 **START** 1100 **FINISH**		**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26			100%	0	Gravelly clay	CL	24-31' Same as 12-24' with minor rounded stream gravel
	26-28			90%	0			
	28-30	GP-313-28'-30'	1230	90%	2			
30	30-33	GP-313-30'-33'	1240	90%	0			
						Gravelly Sand ▽	SC	31-33' Moderate yellowish brown gravelly clayey sand, rounded gravels
	33-34			95%	0	Saprolite	CL	33-34' Moderate yellowish brown saprolite, foliated; angular quartz gravel, clayey gravelly sand, friable
35								Boring termination at 34' BGS
40								
45								
50								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-314 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/15/98 **START** 1400 **FINISH**		**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	GP-314-0'-2'	1630	100%	3.5	Duplicate 100	FL	0-0.5' Asphalt and gravel
						Fill		0.5-6.5' Grayish brown black gravelly clayey fine sand, friable
	2-4			80%	2.5			
5	4-6			80%	7			
	6-8	GP-314-6'-8'	1705	20%	6			6.5-7' Weathered friable concrete
								7-8' Grayish brown black gravelly clayey fine sand, friable
	8-10			50%	4			8-9' Brick
						Fill Material		
						Clay	CL	9-10' Dark yellowish brown sandy clay, soft, plastic
10	10-12			100%	4.5			10-12' Dark yellowish brown firm, plastic sandy clay
	12-14			100%	0			12-20' Moderate yellowish brown stiff, plastic clay
	14-16			100%	0			
15								
	16-18			100%	0			
	18-20			95%	0			
20								
	20-22			95%	0	Gravelly clay		20-24' SAA with rounded gravel
	22-24	GP-314-22'-24'	1620	100%	0			
								Boring terminated at 24' BGS
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-315 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/16/98	**START** 0830 **FINISH**		**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	GP-315-0'-2'	0840	90%		Fill	FL	0-0.3' Asphalt and gravel 0.3-1' Dark yellowish orange sandy (fine) clay some gravel 1-4' Dark yellowish brown clayey silt, friable, dry containing shale gravel
	2-4			90%				
5	4-6			90%				4-6' SAA
	6-8	GP-315-6'-8'	0910	70%				6-8' SAA
	8-10			70%		Fill Material Clay		8' Brick 8.4-10' Dark yellowish brown clay, soft, plastic
10	10-12			60%			CL	10-12' SAA
	12-14			100%				12-16' Moderate yellowish brown stiff, plastic clay
15	14-16			100%				
	16-18			100%				16-20' SAA; containing minor gravel at base
	18-20			100%				
20	20-22			100%				20-24' SAA with minor (rounded) gravel @ 23-24'
	22-24	GP-315-22'-24'	0945	100%				
25								Boring terminated at 24' BGS

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-316 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/16/98	**START** 1015 **FINISH** 1145	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	GP-316-0'-2'	1030	90%		Fill	FL	0-0.5' Asphalt and gravel 0.5-0.6' Black gravelly silty sand, CLM, SLM 0.6-2' Dark yellowish orange very clayey silt, friable, cohesive
	2-4			60%				2-4' Brownish black silty gravelly sand, CLM, SLM, glass, fill
5	4-6			40%				4-6' SAA, no glass
	6-8			40%				6-8' SAA
	8-10	GP-316-8'-10'	1045	60%				8-10' SAA; wet @ top of clay (base); glass
10						Fill Material ▽		
	10-12			100%		Clay	CL	10-12' Moderate yellowish brown, soft, plastic clay
	12-16							
15								
	16-20							
20								
	20-22							
	22-24	GP-316-22'-24'	1145					
25								Boring terminated at 24' BGS

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-317 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Parcel #7		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/16/98 **START** 1300 **FINISH** 1400		**LOGGER**	A. Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	GP-317-0'-2'	1310	100%	0.5	Fill	FL	Asphalt Dark gray clayey sand with slate and chert gravel, dry
	2-4			100%	0			
		GP-317-3'-5'	1315					
	4-6			100%	0			
5						Fill Material		
		GP-317-5'-7'	1320			Clay sand	SC	Mottled brown and gray clayey sand with moderate plasticity, no odor, no stain, moist
	6-8			100%	0			
	8-10			100%	0			
10								
	10-12			100%	0			
	12-16			100%	0			
						Silty sand		Silty sand
				100%	0			Silty sand
15								
	16-20			100%	0			Silty sand
20						▽		
	20-24			100%	0			Wet, moderate to high plasticity
		GP-317-22'-24'	1400					
						Gravel & sand	GC	Wet coarse grain subrounded gravel and sand with silt, brown, loose
25								Boring terminated at 24' BGS

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-318 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Parcel #4		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/16/98 **START** 1450 **FINISH** 1630		**LOGGER**	A. Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			100%	20	Fill	FL	Reddish brown clayey sand and gravel, moist, no odor, no stain, moderate plasticity
	2-4			100%	6			SAA
5	4-6			50%	5			SAA
	6-8			50%	110			Black ash and gravel with no odor nor BPLM
	8-10	GP-318-8'-10'	1520	100%	300	▽		Wet black silty sand, gravel and wood chips with black staining and coal ash cinders, burned odor, no BPLM
10	10-12			50%	700	Fill Material		SAA
		GP-318-11'-13'	1530			Clayey sand	SC	Clayey sand, dark gray and olive gray clayey sand
	12-14				500			
15	14-16				110			
	16-18				30			
	18-20				35			Black banding and stain, no sheen, no odor
20	20-22	GP-318-20'-22'	1600		25			
						Silty sand		Silty sand
	22-24				20			
	24-26				NM	Very fine grained sand	SW	Very fine grain sand
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-318 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/16/98 **START** 1450 **FINISH** 1630		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26			100%	NM	Very fine grain sand	SW	
	26-28			100%	12	Clayey sand	SC	Mottled gray and olive gray clayey sand with moderate to high plasticity, wet
	28-30			100%	12			SAA
30	30-32			100%	6	Silty sand		Dark olive gray wet silty sand, soft with slight odor and staining
	32-34			100%	30			SAA, but more stained
	34-35	GP-318-33.5'-34.5'	1620	100%	25	Phylite bedrock or Siltstone	BR	Phylite bedrock or siltstone
35								Boring termination at 35' BGS due to refusal
40								
45								
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(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-319 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Parcel #4		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/17/98 **START** 0745 **FINISH** 0930		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			75%		Fill	FL	Mottled reddish brown moist clayey sand and gravel fill, no odor, no stain
	2-4			5%				SAA
5	4-6			25%				SAA
	6-8			50%		Fill Material		SAA
		GP-319-7'-9'	0815			Coal ash & cinder		Black and dark gray dry coal ash and cinder with no odor, sheen, nor stain. Gravel size particles
	8-10			100%				
10						Clayey sand	SC	Reddish brown and dark gray clayey sand with black ash mixed in, moist, soft
	10-12			100%				Mottled reddish brown and dark gray clayey sand, moist, no odor, some staining
	12-14			100%				SAA
15	14-16			100%				SAA Staining has disappeared below 15'
				100%				SAA
20	20-22	GP-319-20'-22'	0900	75%				
						Silty sand		Reddish orange silty sand with thin 1/4" lenses of clay, no odor, no stain, moist, f-m sand with silt
	22-24					▽		
25	24-26							Dark gray stained silty sand with odor, wet

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-319 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/17/98 **START** 0745 **FINISH** 0930		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26					Silty sand	SC	
	26-28	GP-319-26'-28'	0930	40%				Black and dark gray silty sand with odor and staining, no sheen nor product
	28-30			40%				
30	30-32					bedrock	BR	Phyllite bedrock
	32-34							
	34-36							
35								Boring termination at 36' BGS, but no refusal
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(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-320 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/17/98 **START** 1015 **FINISH** 1150		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			100%		Fill	FL	Asphalt and gravel
								Reddish brown & black clayey sand and gravel fill, moist
	2-4			100%				Clayey sand and gravel with roots, glass, coal, fill, no odor nor BPLM, moist
	4-6			100%				SAA
5		GP-320-5'-7'	1100					
	6-8			100%		Fill Material		
						Clayey sand	SC	Mottled dark gray and dark brown clayey sand, sl. stained, moist, no odor
	8-10			100%				SAA
10								End of staining
	10-12			100%				Mottled reddish orange and tan clayey sand, moist, no odor nor staining, moderate plasticity
	12-14			100%				SAA
	14-16			100%				
15								
	16-18			100%		Silty sand		Very fine grain silty sand with no stain nor odor, reddish brown and orange
	18-20			100%				
20								
	20-22			100%				Silty sand with 1/4 to 1/2" thick lenses of clay, no odor, no stain
	22-24			100%				
	24-26			100%				SAA
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-320 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/17/98 **START** 1015 **FINISH** 1150		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26			100%		Silty sand ▽	SC	Dry, SAA
	26-28	GP-320-26'-28'	1135	100%				Top of gray silty sand, wet
	28-30	GP-320-28'-30'	1145	100%		Gravelly sand		Coarse sand and subrounded gravel, stained, with odor
30	30-32			100%		bedrock	BR	Top of phyllite bedrock, Reddish brown and olive Siltstone
								Boring terminated at 32' BGS
35								
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(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-321 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Street		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/17/98 **START** 1340 **FINISH**		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
0	0-2			75%		Fill	FL	Black and dark gray ash and gravel
	2-4			75%				
5	4-6			75%		Fill Material		
	6-8	GP-321-5.5'-6.5'	1400	10%		Clayey sand	SC	Reddish brown clayey sand with dark gray staining mixed in, looks like coal ash, soft, smears like ash, not BPLM, no odor
	8-10			50%				SAA
10	10-12			100%				Mottled reddish orange and tan clayey sand, with no BPLM
	12-14			0%				
15	14-16			0%				
	16-18	GP-321-16'-18'	1525					Mottled reddish brown and tan clayey sand with moth ball like odor, minor black stains mixed in with sample very spotty
	18-20							odor and staining less
20	20-22					Silty sand		Mottled reddish brown and brown silty sand with no odor nor stain
	22-24							Color change to olive gray, silty sand
25	24-26			100%				

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-321 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Street		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/17/98 **START** 1340 **FINISH**		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26			100%		Silty sand ▽	SC	Olive gray silty sand, soft, moist
	26-28			100%				Dark gray silty sand with BPLM like odor and stain, no sheen, nor residue
	28-30	GP-321-28'-29.5'	1610			Gravelly sand		Black sand and subrounded gravel with BPLM like odor and stain, no sheen nor residue
30	30-32			100%	0	Gravelly chert	GW	30' hit gray chert, hard, with odor (rock like)
	32-34					bedrock	BR	Phyllite with odor
35								Boring terminated at 34' BGS
40								
45								
50								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-322 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Street		**GROUND ELEVATION**	NA	
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**	NA	
DATE	12/18/98 **START** 0800 **FINISH**		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2				7.0	Fill	FL	Asphalt and gravel
	2-4				0			
5	4-6				0			Black and dark gray ash and cinder like material
	6-8				77			Dark gray and black clayey sand and gravel with staining, ash, and cinder like material
		GP-322-7'-9'	1040					
	8-10				0	Fill Material		SAA
10						Clayey sand		Black and dark gray stained clayey sand, no odor
	10-12				86		SC	SAA
	12-14				0			Dark gray and olive clayey sand, dry, with no odor, mild stain (no black specs like in GP-321)
15	14-16				0			SAA
	16-18				0			SAA
	18-20				8			SAA
20	20-22				12	▽		Mottled dark gray and brown clayey sand with staining & odor
		GP-322-21'-23'	1100			Silty sand		Wet olive and reddish brown silty sand, moderate staining
	22-24				0			
25	24-26				0			Reddish brown and olive

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-322 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Street		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/17/98 **START** 0800 **FINISH** 1140		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26						SC	
	26-28			100%	0	Silty sand		Stained dark olive gray fine silty sand, wet, low plasticity, slight odor
	28-30	GP-322-28'-30'	1130	20%	0			Silty sand and gravel with some stain and no odor
30	30-32			10%	5.6			
						Gravel ▽	GW	Wet Gravel
	32-34			75%		Bedrock	BR	Bedrock, phylite, no stain or odor
	34-36			75%				
35								Boring terminated at 36' BGS
40								
45								
50								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-323 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Parcel #2		**GROUND ELEVATION**	NA	
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**	NA	
DATE	12/18/98 **START** 1330 **FINISH**		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			20%	0.0	Fill	FL	Yellowish brown and pink mottled clayey sand and gravel, fill, no odor or stain
	2-4			75%	0			SAA
5	4-6			75%	0			SAA
	6-8			75%	8.8			SAA
	8-10			50%	0			SAA
10	10-12			50%	86			
	12-14			100%	0			Light reddish brown and tan clayey sand and angular gravel with no odor or stain
15	14-16			100%	0			SAA
	16-18				0			SAA
	18-20				1.2			Olive green clayey sand with slight stain from coal and ash below
20								Black coal and ash with no odor, residue, or sheen
	20-22	GP-323-20'-24'	1420		12			SAA
								SAA
	22-24				0			SAA
						Fill Material ▽ Clayey sand	SC	Wet on top of clayey sand, no odor, no sheen nor residue
25	24-26				200			

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-323 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Parcel # 8		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/18/98 **START** 1330 **FINISH**		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26			100%	200	Clayey sand	SC	Dark gray and olive gray mottled clayey sand with moderate plasticity, no odor (dry)
	26-28	GP-323-26'-28'	1445	100%	110			Stained dark olive gray fine silty sand, wet, low plasticity, slight odor
	28-30			100%	1.5			Clayey sand and rounded gravel, mottled gray and tan with subangular gravel (dry)
30	30-32			100%	0			SAA
	32-34				0			SAA
	34-36				0			SAA
35						Sandy clay	CL	Yellow & tan sandy clay with moderate plasticity, moist
	36-37.8				0			DPT refusal at 37.8'
	37-39 HAS							2" spoon sampler fell with weight of rod from 37' to 52' before encountering refusal on slate or limestone bedrock. No stain, odor, or sheen observed in boring.
40								Sample was light brown silt and fine grain gravel with layered siltstone
45								
50								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-324 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Parcel #8		**GROUND ELEVATION**	NA	
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**	NA	
DATE	12/19/98 **START** 0830 **FINISH** 1100		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			100%	0.0	Fill	FL	Reddish brown and gray mottled, dry, silty sand with debris like glass and gravel, no odor or stain
	2-4			100%	0			Soft unconsolidated fine to very fine sand
5	4-6			100%	0			SAA a bit moist, still loose and friable
	6-8			100%	0			SAA glass at 8"
	8-10			80%	0			Coal ash fragment Dry, friable, no stain or odor
10						Fill Material		
	10-12			100%	0	Silty sand	SC	Damp mottled olive gray and brown silty fine to v. fine sand with no stain or odor, firable
	12-14	GP-324-12'-14'	0940	100%	0			SAA damp
15	14-16			100%	0			SAA Silty sand with low plasticity
	16-18	12-20-98		100%	0	Clayey sand		Mottled tan and gray moist clayey sand with moderate plasticity, no odor or stain
	18-20			100%	0			SAA, moist with moderate to high plasticity No odor or stain
20	20-22			100%	0	Silty sand		Soft dark red and brown mottled silty sand, moist No odor or stain
						Clayey sand ▽		Moderate to high plasticity
	22-24	GP-324-22'-24'	1040	100%	0	Silty sand		Wet silty fine sand, dark reddish brown, soft
	24-26			100%	0			SAA
25						Gravel		Gravel

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-325 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Under Restaurant / Parcel #8		**GROUND ELEVATION**	NA	
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**	NA	
DATE	12/19/98 **START** 1300 **FINISH** 1345		**LOGGER**	A. BUSBY	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
0	0-2	GP-325-0'-2'	1300	90%	0.0	Fill	FL	Dark gray and reddish brown mottled, silty sand and gravel, wet from rain, fill, no odor or stain
	2-4			90%	0			Wet
5	4-6			75%	0			Wet silty sand and gravel, fill, with glass
	6-8			50%	0			Dark gray, reddish brown, and olive mottled silty sand and gravel, fill, wet, unconsolidated with no odor, mionr spots of what may be stain
	8-10			100%	0	Fill Material		
10						Silty sand	SC	Dark brown silty sand with roots, fragments, no odor, or stain
	10-12	GP-325-10'-12'	1345	100%	0			SAA
15								EOH
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-326 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Parcel 8, Under restaurant		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/19/98 **START** 1430 **FINISH** 1550		**LOGGER**	Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			100%			FL	Reddish brown and dark brown silty sand and gravel with coal fragments at 2 feet, no odor or stain, dry, fiable
	2-4			100%				S.A.A.
5	4-6			100%				S.A.A. Reddish brown silty sand
	6-8			100%				S.A.A.
	8-10			100%				S.A.A.
10	10-12	GP-326-10'-12'	1515	100%			SC	Moist Reddish brown and tan silty sand
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-327	**PAGE**	1	**OF**	2	**PROJECT NUMBER**	1644-0130

PROJECT ROME FORMER MGP FACILITY

DRILLING CONTRACTOR TEG

BORING LOCATION Under resaurant Parcel #8

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT

TOP OF CASING ELEVATION

DATE 12/20/98 **START** 900 **FINISH** 1100 **LOGGER** Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	GP-327 0-2	930	100%	0			Dark brown and dark grayish black loose sand, gravel and cinder Brick, dry.
	2-4			NS	-			Not Sampled
5	4-6			NS	-			Not Sampled
	6-8	GP-327 6-8	935	100%	0	Fill Material	FL	Moist clayey sand and brick fill Reddish brown clayey sand moist. No odor
	8-10			NS	-			Not Sampled
10	10-12			NS	-			Not Sampled
	12-14	GP-327 12-14					CL	Reddish brown clayey sand with F.G. gravel Gray clay moist Reddish brown, clayey sand with F. G. gravel
15				NS	-			Not Sampled
20	22-24			100%	0	▽	SC	Gray and olive tan mottled clayey sand clayey sand, moist with mod-plasticity
25	24-26			100%	0			Wet S.A.A.

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-327	**PAGE** 2	**OF** 2	**PROJECT NUMBER**	1644-0130

PROJECT ROME FORMER MGP FACILITY

DRILLING CONTRACTOR TEG

BORING LOCATION Under resaurant Parcel #8

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT DPT

TOP OF CASING ELEVATION

DATE 12/20/98 **START** 900 **FINISH** 1100 **LOGGER** Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25								
	26-28	GP-327 26-28	1100	100%	0		SC	S.A.A.
30								
35								
40								
45								
50								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-328 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Under resaurant Parcel #8		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/20/98	**START** 1200 **FINISH** 1230	**LOGGER**	Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	GP-328 0-2		100%	0			Dark grayish brown silty sand and gravel fill with coal and ash cinder, brick, dry. No odor
	2-4			100%	0	Fill Material	FL	
5	4-6			100%	0		SC	Brown silty sand, soft. No odor No Stain
	6-8			100%	0			S.A.A.
	8-10			100%	0			Mattled tan and dark brown silty sand with no odor. No stain
10	10-12	GP-328 12-Oct		100%	0			S.A.A.
								Boring terminated at 12feet
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-329 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	At former MW-14 location		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/20/98 **START** 1400 **FINISH** 1600		**LOGGER**	Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			25%	0		FL	Loose brown silty sand with roots and gravel. No odor or stain
	2-4			75%	0			Loose damp silty sand and gravel Fill Material with no stain or odor
5	4-6			75%	0			Dark brown silty sand and gravel with coal ash, no RPLM material or odor
	6-8			75%	0	Fill Material		S.A.A.
							SC	Mottled, yellow, and tan silty sand, f- med sand, dry, no odor or stain
	8-10			75%	0			S.A.A.
10	10-12	GP-329 10-12	1440	100%	0			Moist reddish orange and gray with brown specs, clayey sand with minor amount of course gravel sand. No odor or staining
	12-14			100%	9.6			Light olive gray clayey sand with gravel sand same organic black specs, No odor or stain
15	14-16			100%	6.8			Moist clayey sand with 1/4" diameter round manganese nodules moderate to high plasticity. 2% angular gravel with silty stone.
	16-18			100%	0			S.A.A.
	18-20			100%	0	▽		Reddish brown Wet clayey sand and gravel No stain
20	20-22	GP-329 20-22	1545	100%	0			Dark gray silty sand and gravel with Organic odor stained at interface, but may be saturated reddish brown, silty sand
	22-23			100%	0			Dark gray sand and gravel with swamp like odor, natural stain
						Refusal at 23 feet		No BPLM seen in this hole
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	GP-331 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Parcel #4 Near GP 119 GW		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12-21-98 **START** 1400 **FINISH**		**LOGGER**	Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
0	0-2			50%			FL	
	2-4			50%				
5	4-6			25%				Reddish brown and dark gray layered clayey sand and gravel fill material with no odor or stain
	6-8			2%				Brick and brass screw rubble No odor, first hole had strong odor with wood
	8-10			50%				Fill material with coal ash cinder like material, no odor
10						Fill Material		
	10-12	GP-331 10-12		75%			SC	Olive brown clayey sand
	12-14			75%				S.A.A.
15	14-16			45%				S.A.A. but has slight moth ball like odor. No stain, no residue
	16-18	GP-331 16-18		100%				Heavily stained clayey sand with strong odor of BPLM, mottled black and olive brown, moist with moderate plasticity.
	18-20			100%				S.A.A. Staining approximately 90%
20	20-22			95%				S.A.A.
	22-24			100%				
						Sandy Clay		S.A.A. but staining is approximately 5%
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER GP-332 **PAGE** 1 **OF** 2 **PROJECT NUMBER** 1644-0130

PROJECT ROME FORMER MGP FACILITY **DRILLING CONTRACTOR** TEG

BORING LOCATION Adj. to GP-123, Parcel 3 **GROUND ELEVATION**

DRILLING METHOD AND EQUIPMENT DPT **TOP OF CASING ELEVATION**

DATE 12/23/98 **START** 0730 **FINISH** 12/28/1998 **LOGGER** A. BUSBY / M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								
5	4-8					Clay	CL	4-8' Reddish brown and gray mottled clay BPLM odor
10								
15								
20	20-22			90%	0	Sand	SC	20-24' Dark yellowish orange fine silty sand, slightly cohesive, dry
	22-24			90%	0			
25	24-26			85%	0.5			24-26' Grayish orange fine silty sand containing rounded stream gravel and mica flakes

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-332 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	Adj. to GP-123, Parcel 3		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/23/98 **START** 0730 **FINISH** 12/28/98		**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26			85%	0.5	Silty sand ▽	SC	24-26' Grayish orange fine silty sand containing rounded stream gravel and mica flakes
	26-28	GP-332-26'-28'	1610	90%	0	Gravelly sand		26-28' Dark yellowish orange gravelly sand, wet
	28-30			85%	0	Saprolite	CL	28-31' Dark yellowish orange friable clayey fine sand, foliated saprolite
30	30-32			85%	0			
						Silty sand, Siltstone	BR	31-32' Medium gray silty sand and siltstone
								Boring termination at 32' BGS
35								
40								
45								
50								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-333 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/28/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								
5								
10								
15								
	16-18			90%	0	Clay	CL	16-17' Dark yellowish orange plastic clay, HCLO
						Silty Sand	SC	17-20.5' Dark yellowish orange fine silty sand, dry, sl. cohesive, HCLO
	18-20			90%	0			
20	20-22			90%	0			20.5-22.5' Dark yellowish orange plastic clay, no HCLO
	22-24			90%	0			22.5-28' Dark yellowish orange fine silty sand, sl. moist, sl. cohesive, no HCLO
25	24-26			90%	0.5			

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-333 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/28/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26			90%	0.5	Silty sand	SC	22.5-28' Dark yellowish orange fine silty sand, sl. moist, sl. cohesive, no HCLO
	26-28	GP-333-26'-28'	1830	90%	2.2	▽		
	28-30			85%	0	Gravelly sand		28-31' Wet gravelly sand, rounded stream gravel, slight HCLO
30	30-32			80%	0			
						Saprolite	CL	31-32' Saprolite
								Boring termination at 32' BGS
35								
40								
45								
50								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-334 **PAGE** 1 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/28/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-4			60%	0		FL	0-0.5' Asphalt and gravel 0.5-4' Brownish black gravelly clayey sand
5	4-6			40%	N/A	Fill Material		4-6' Moderate yellowish brown soft, plastic clay, brick at base
	6-8			85%	0	Clay	CL	6-8' Dark yellowish orange stiff plastic clay
	8-10			90%	0			8-12' Same color, sl. friable stiff silty clay
10	10-12			90%	0			
	12-14			90%	N/A			12-16' Dark yellowish orange stiff plastic clay
15	14-16			90%	0.2			
	16-18			90%	0		ML	16-22' Dark yellowish orange very clayey silt, may be foliated, soft, friable, mica flakes
	18-20			90%	0			
20	20-22			90%	0			
	22-24			90%	0		SC	22-24' Grayish orange fine silty sand with mica flakes
25	24-26			90%	0	Gravelly clay		24-26' SAA, with rounded stream gravel

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	GP-334 **PAGE** 2 **OF** 2		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/28/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
25	24-26			90%	0	Silty sand ▽	SC	24-26' Grayish orange fine silty sand with mica flakes and rounded stream gravel
	26-28	GP-334-26'-28'	1300	80%	0	Gravelly sand	GC	26-28' Dark yellowish orange wet gravelly sand
	28-30			80%	0	Saprolite	BR	28-32' Dark yellowish fine silty sand, moist, foliated, saprolite
30	30-32			80%	0			
								Boring termination at 32' BGS
35								
40								
45								
50								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	HA-300	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR Williams Engineering

BORING LOCATION

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT Hand Auger

SURFACE ELEVATION NA

DATE 12/08/98 **START** **FINISH** **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'	HA-300-0'-2'	1100	100%		Fill	FL	Tan and gray mottled clayey sand, fill dry
	2-4'	HA-300-2'-4'	1115	100%				Tan and gray mottled clayey sand
5	4-8'	HA-300-4'-8'	1215	100%		Fill		Fill
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	HA-301	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR Williams Engineering

BORING LOCATION

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT Hand Auger

SURFACE ELEVATION NA

DATE 12/08/98 **START** **FINISH** **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'	HA-301-0'-2'	1145	100%		Fill	FL	Tan gravel and clayey sand, fill, no stain nor odor
	2-4'	HA-301-2'-4'	1200	100%				Tan gravel, fill, no stain nor odor
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	HA-302	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR Williams Engineering

BORING LOCATION

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT Hand Auger

SURFACE ELEVATION NA

DATE 12/08/98 **START** **FINISH** **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'	HA-302-0'-2'	1415	100%		Duplicate #3 Fill	FL	Tan and gray mottled clayey sand and gravel, loose, with no odor nor stain
	2-4'	HA-302-2'-4'	1420	100%				
5	4-8'	HA-302-4'-6'	1430	100%		Fill		Coarse gravel at 6'
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	HA-303	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR Williams Engineering

BORING LOCATION

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT Hand Auger

SURFACE ELEVATION NA

DATE 12/09/98 **START** **FINISH** **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'	HA-303-0'-2'	0830	100%		Fill	FL	Tan and gray mottled clayey sand and gravel, with no odor nor stain, dry
	2-4'	HA-303-2'-4'	0835	100%				
5	4-8'	HA-303-4'-6'	0905	100%				
		HA-303-6'-8'	0910	100%				
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

BORING LOG

BORING NUMBER	HA-304	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome MGP Site

DRILLING CONTRACTOR Williams Engineering

BORING LOCATION

GROUND ELEVATION NA

DRILLING METHOD AND EQUIPMENT Hand Auger

SURFACE ELEVATION NA

DATE 12/09/98 **START** **FINISH** **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2'	HA-304-0'-2'	1000			Fill	FL	Clayey sand and gravel, with roots & organic material, fill
	2-4'	HA-304-2'-4'	1005					
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	HA-305	**PAGE** 1 **OF** 1	**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Williams	
BORING LOCATION	8 feet uphill from SD-304		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Hand Auger		**TOP OF CASING ELEVATION**		
DATE	1/7/99	**START** 900 **FINISH** 1100	**LOGGER**	A. Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	HA-305 0-2	1100	100%			SC	Moist moffled red and tan clayey sand with roots, no stain or odor
	2-7	HA-305 2-7	1110	100%				
5								
	7-12	HA-305 7-12	1120	100%				Dark olive brown and gray silty and silt sand with discoloration
10								
	12-16	HA-305 16-Dec						12-16 feet soft, wet dark gray silty sand with slightly decaying organic material like odor and possible discoloration.
15								
20								
25								

(Continued on next page if over 25 feet deep)

SOIL BORING LOG

ThermoRetec

PROJECT NO. AGLC1-17859-051	**CLIENT/PROJECT** AGLC-Rome Well Installation	**BORING ID** **MW-401A**
CONTRACTOR ThermoRetec	**DRILLING CONTRACTOR-** **Law Gibb**	**DRILLER-** Reginald Parham
DATE STARTED 5/9/2000	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME 15:55	**5/9/2000**	2"
DRILLING METHOD/DRILLING TYPE Hollow Stem Auger / Split spoon		
LOGGED BY Carolyn Bachl	**E-LOG**	**PROTECTION LEVEL-D**

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
					25%	24' Light brown gravelly, sandy clay; dry with large subrounded quartz gravels					
	26					26' same as above, but moist (not quite saturated)				gw @ 26'	
					75%	27-27.5' Friable siltstone ; gray; dry					
	28					**Boring Terminated @ 28'**					
	30										
	32										
	34										

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-401AR (1)
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED TIME	**DATE ENDED**	**BOREHOLE DIA(S).**
3/22/2001	3/22/2001	6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
				90	23' Orange-brown sandy clay; stiff; moist		3 4 22 28				
25				30	25' Orange-brown sandy clay; stiff; moist with large sub-rounded quartz gravels 26' Orange-brown medium sand with med-large quartz/chert subrounded gravels; wet but not saturated		40 26 36 22				
27					27' Orange-brown medium sand with med-large quartz/chert subrounded gravels; wet but not saturated		12 35 32 43				
29					29' Orange-brown laminated clay (saprolitic siltstone)		27 36 42 48				
31					boring terminated at 31'						
33											
35											
37											
39											
41											
43											

Remarks:

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-401AR (2)
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/20/2001 1145	3/27/2001	8 1/4"/6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/mud rotary/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
				5	20' Orange-brown clay with some sand; dry		15 22 24 29				
22				85	22' Mottled gray and orange-brown fine sandy clay with pods of black organic material throughout; moist; stiff		8 8 9 10				
24				80	24' Same as above but slightly more sand, particularly in the bottom 2" of the sample		5 7 9 10				
26				60	26' Mottled gray and orange-brown fine sandy clay with pods of black organic material throughout; moist; stiff 27' Beige medium-grained quartz sand with clay and subrounded gravels; color change to orangey brown in the bottom 2" of the sample		29 40 15 12				
28				75	28' Orange-brown clay 29' Gray saprolite; dry		40 22 29 28				
30					Boring terminated at 30'						
32											
34											
36											
38											
40											

Remarks:
Second attempt at a location for the replacement well for MW-401A; located approximately 30 feet S-SE of MW-401A.
After a third attempt, the well was installed at this location.

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-401AR (3)
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED / TIME	**DATE ENDED**	**BOREHOLE DIA(S).**
3/27/2001 1240	3/27/2001	6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
				5	23' Orange-brown fine sandy clay; stiff; moist		7 7 8 10				
25				25	25' Mottled gray and orange-brown fine sandy clay with black pods of organic material throughout; moist; stiff		7 7 9 10				
27					27' Same as above		4 8 22				
29					28.5' Saprolitic siltstone with remnant laminations boring terminated at 29'		50				
31											
33											
35											
37											
39											
41											
43											

Remarks: MW-401AR installed in this boring

SOIL BORING LOG

ThermoRetec

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-051	AGLC-Rome	MW-401B
CONTRACTOR	**DRILLING CONTRACTOR-**	**DRILLER**
ThermoRetec	Law Gibb	-Robert Banks
DATE STARTED 5-13-2000	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME 905	5/13/2000	6" outer casing / 2" inner casing
DRILLING METHOD/DRILLING TYPE		
Rotary Mud Drilling/spilt spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
						0-30' see MW-401A					
	33				50%	33' iron-oxidized olive gray sandy, gravelly, clay; dry					
	35					34.5' gray saprolite, sandy, gravelly, clay friable & foliated					
	37										
	39				50%	gray weathered rock w/ remnant layers and white calcite vines; moist; some of sample is still rock (siltstone) with calcite veins					
	41										
	43				40%	same as above; gray weathered siltstone					
	45										
	47										
	49				50%	same as above without white veins					
	51										
	53										

Remarks: Sampled 2' every 5' (33'-35', 38'-40',etc...)

SOIL BORING LOG

ThermoRetec

PROJECT NO. AGLC1-17859-051	**CLIENT/PROJECT** AGLC-Rome	**BORING ID** MW-401B
CONTRACTOR ThermoRetec	**DRILLING CONTRACTOR-** Law Gibb	**DRILLER-** Robert Banks
DATE STARTED 5-13-2000	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME 905	5/13/2000	6" outer casing / 2" inner casing
DRILLING METHOD/DRILLING TYPE Rotary Mud Drilling/spilt spoon		
LOGGED BY Carolyn Bachl	**E-LOG**	**PROTECTION LEVEL**

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
					50%	same as above (gray weathered rock)					
	55					olive brown layer weathered (moist) siltstone					
	57										
	59				50%	same as above but orange (wet)					
						olive brown, layered weathered rock (sandy, gravelly, clay) dry to moist					
	61										
	63										
						63 -63.5' light brown clay; stiff; moist					
						63.5 - 64.5 clayey medium coarse sand, light brown (wet)					
	65					64.5 - 65 light brown - dark brown foliated siltstone; friable; dry					
						Boring Terminated @ 65'					

SOIL BORING LOG

ThermoRetec

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-051	AGLC-Rome	MW-402A
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER-**
ThermoRetec	Law-Gibb	Reginald Parham
DATE STARTED 5/12/2000	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME 9:30	5/12/2000	2"
DRILLING METHOD/DRILLING TYPE		
Hollow Stem Auger / Split spoon		
LOGGED BY	**E-LOG**	
Carolyn Bachl		**PROTECTION LEVEL-D**

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
					100%	25' Light brown sandy, gravelly clay (fill) dry @ 25'					
	27					Moist @ 26' - 26.3' olive gray silty sand; fine grained 80% stained black, and strong HC odor; wet				gw @ 26'	
					75%	28-29' olive gravelly sand with 5mm -3cm rounded quartz/chert gravels;					
	29					black staining on 20-25% of sample at 28-29'					
					75%	29-30' no staining					
	31					30' gray, layered, friable siltstone 30.5' orange brown, stiff clay					
	33										
						Boring Terminated @ 33'					

SOIL BORING LOG

ThermoRetec

PROJECT NO. AGLC1-17859-051	**CLIENT/PROJECT** AGLC-Rome	**BORING ID** **MW-402B**
CONTRACTOR ThermoRetec	**DRILLING CONTRACTOR-** Law Gibb	**DRILLER** Robert Banks/ Reginald Parham
DATE STARTED **5-14-2000** **TIME**	**DATE ENDED** **5/15/2000**	**BOREHOLE DIA(S).** 6" outer casing/ 2" inner casing
DRILLING METHOD/DRILLING TYPE Mud rotary / split spoon		
LOGGED BY Carolyn Bachl	**E-LOG**	**PROTECTION LEVEL-D**

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
						See MW-402A for first 33'					
	34				5%	gray layered siltstone; dry; friable; weathered; orange-brown clay between layers					
	36										
	38										
	40				100%	layered gray and orange brown clay (weathered rock); moist					
	42										
	44					green gray with orange layered weathered siltstone (clay)(moist)					
	46					45.5' friable gray siltstone (wet)					
	48										
	50					49-50' gray foliated weathered rock with remnant rock siltstone fragments 50' friable rock, siltstone					
	52					**Boring Terminated @ 51**					
	54										

Remarks: will set well screen 40-50' to monitor saprolite

SOIL BORING LOG

ThermoRetec

PROJECT NO. AGLC1-17859-051	**CLIENT/PROJECT** AGLC-Rome	**BORING ID** MW-403A
CONTRACTOR ThermoRetec	**DRILLING CONTRACTOR** Law Gibb	**DRILLER** Reginald Parham
DATE STARTED 5-9-2000	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME 1010	5/9/2000	8" outer casing / 2" inner casing
DRILLING METHOD/DRILLING TYPE Hollow Stem Auger / Split spoon		
LOGGED BY Carolyn Bachl	**E-LOG**	**PROTECTION LEVEL- D**

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
					40%	light brown gravelly, sandy clay (fill)					
	22										
					60%	same as above, slightly moist at bottom 6 inches					
	24										
					75%	24' - 25' same as above					
	26					25' mottled gray-green and brown silty, fine, sandy clay (moist) to clayey fine sand				gw @ 25'	
					90%	mottled gray / light brown clayey, silty fine sand, moist					
	28										
					90%	28-29' light brown silty clayey fine sand					
	30					29-30' gray-gray green silty, clayey sand, moist					
						30-31.8' gray silty fine sand, wet					
	32					31.8-32' gray siltstone					
						Boring Terminated @ 32.5'					
	34										

SOIL BORING LOG

ThermoRetec

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-051	AGLC-Rome	**MW-403B**
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
ThermoRetec	**Law Gibb**	**Robert Banks**
DATE STARTED **5-14-2000**	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME 750	**5/14/2000**	6" outer casing/ 2" inner casing
DRILLING METHOD/DRILLING TYPE Mud rotary/split spoon		
LOGGED BY Carolyn Bachl	**E-LOG**	**PROTECTION LEVEL** D

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
						0-35' see MW-403A log					
	38										
					40%	gray weathered rock; layered; moist clay with some remnant rock; dry and hard					
	40										
	42										
						gray layered, weathered siltstone (clay); dry					
	44				50%						
	46										
	48										
						same as above but moist					
					75%						
	50										
	52										
						same gray, layered clay weathered rock with siltstone remnant rock (moist)					
	54				50%						
	56										
	58										
					60%	same gray moist weathered rock; still pretty moist but not saturated					
	60										

SOIL BORING LOG

ThermoRetec

PROJECT NO. AGLC1-17859	**CLIENT/PROJECT** AGLC-Rome	**BORING ID** **MW-403B**
CONTRACTOR ThermoRetec	**DRILLING CONTRACTOR-** Law Gibb	**DRILLER** **Robert Banks**
DATE STARTED **5-14-2000**	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME **7:50**	**5/14/2000**	6" outer casing / 2" inner casing
DRILLING METHOD/DRILLING TYPE Mud rotary/split spoon		
LOGGED BY Carolyn Bachl	**E-LOG**	**PROTECTION LEVEL** D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
	62										
	64				50%	gray weathered siltstone (layered siltstone that is < 50% clay); white calcite veins, iron staining in bottom 3' of sample					
	66										
	68				80%	Fe-stained brown siltstone; very friable; water in fractures					
	70					yellow-brown (with black specks) clay; plastic; moist; contains gravel-sized gray/white rock fragments					
						Boring Terminated @ 70'					

SOIL BORING LOG

ThermoRetec

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-051	AGLC-Rome	**MW-404**
CONTRACTOR	**DRILLING CONTRACTOR-**	**DRILLER-**
ThermoRetec	Law Gibb	Reginald Parham
DATE STARTED **5/10/00**	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME **1055**	**5/10/2000**	10" outer casing/ 2" inner casing
DRILLING METHOD/DRILLING TYPE Hollow Stem Auger / split spoon		
LOGGED BY Carolyn Bachl	**E-LOG**	**PROTECTION LEVEL** D

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
	27				50% 30%	25' light brown gravelly, sandy clay (fill) 26' olive gray fine-medium sand with black staining and strong hydrocarbon odor Auger refusal (hit siltstone) @ 28'				gw @ 25'	
	29					**Boring Terminated @ 28.5'**					
	31										
	33										
	35										

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC Rome MGP	MW-404R
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
The RETEC Group, Inc.	AE Drilling Services	Edwin
DATE STARTED / TIME	**DATE ENDED / TIME**	**BOREHOLE DIA(S).**
10/10/2002 0830	10/11/2002 1130	4.25" ID, 6" OD
DRILLING METHOD/DRILLING TYPE		
Hollow Stem Auger/Split-spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
C. Battenhouse		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
					0-24': Fill; reddish-brown silty SAND; some clay, dry, loose, some rocks and pieces of concrete, cuttings damp at 24'						
24					24-25': same as above; moist		3				
25				100%	25': olive gray fine-grained SAND; some silt, well-sorted, predominately quartz and mica, few gravels of chert; some black staining, moderate hydrocarbon-like odor (HCLO), wet at bottom of spoon		5 13 13				
26					26-27.5': same as above with some gravels of chert and siltstone; very wet, strong HCLO		13				
27				100%			25 14 14				
28					27.5 - 28': SAPROLITE (siltstone); gravely CLAY, some sand; friable, laminations noted, moist, grayish-black staining; moderate-strong HCLO						
					Boring terminated at 28.0' due to auger refusal						

Remarks:
PID Malfunctioning

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-404B
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/20/2001 1145	3/28/2001	8.25"/6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/mud rotary/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
					25' Orange-brown gravelly clay		3				
					25.75' Olive gray silty fine sand laminated with darker layers; saturated;		6				
					hydrocarbon odor		4				
							9				
27					27' Black-stained gravelly sand with sub-rounded quartz gravels; saturated		3				
							3				
							4				
							6				
29					29' Gray clay; saturated		12				
							14				
					30' Dark gray-orange-brown laminated saprolitic siltstone; dry		27				
31							33				
33											
35											
					35' Medium gray, weathered limestone; top foot is practically clay while		37				
				50	the bottom few inches is rock hard; barely damp		38				
							50/5"				
37											
39											
					40' Medium gray saprolitic limestone; clayey; damp		40				
41				<50			50				
							50/3"				
43											
45											

Remarks:

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-404B
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/20/2001 1145	3/28/2001	8.25"/6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/mud rotary/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
45				100	45' Medium gray saprolitic limestone; clayey; wet		35 50/5"				
47											
49							100				
51				100	50' Medium gray saprolitic limestone; partly clay and partly rock with white calcite veins						
53											
55				100	55' Medium gray saprolitic limestone; mostly clay but partly rock with white calcite veins		50/3"				
57					boring terminated at 57'						
59											
61											
63											

Remarks:

SOIL BORING LOG

ThermoRetec

PROJECT NO	CLIENT/PROJECT	BORING ID
. AGLC1-17859-051	AGLC-Rome	MW-405
CONTRACTOR	**DRILLING CONTRACTOR-**	**DRILLER**
ThermoRetec	Law Gibb	Reginald Parham
DATE STARTED 5/16/2000	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME	5/16/2000	10" outer casing / 2" inner casing
DRILLING METHOD/DRILLING TYPE		
Hollow Stem Auger / Split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
	26									gw @ 26'	
					75%	mottled olive-gray and brown-orange silty clayey fine sand; very stiff moist					
	28				90%	mottled gray orange brown silty clayey fine sand; moist					
	30				30%	same as above; slighty wetter					
	32				80%	32.5' dry friable clayey sand to sandy clay saprolite					
	34				90%	silty, clay fine sand; mottled gray orange brown; alternating patches of saturated and dry parts					
	36					gray saprolite (clay)					
						Boring Terminated @ 36'					
	38										

SOIL BORING LOG

ThermoRetec

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-051	AGLC-Rome	MW-406A
CONTRACTOR	**DRILLING CONTRACTOR-**	**DRILLER-**
ThermoRetec	Law Gibb	Reginald Parham
DATE STARTED 5/10/2000	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME 1201	5/10/2000	2"
DRILLING METHOD/DRILLING TYPE		
Hollow Stem Auger/ Split Spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)		Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
	25					25' light brown sandy, gravelly clay (fill)					
						25.5' orange brown clayey silty sand, plastic sand mottled with gray; moist some subrounded gravels					
	27										
	29										
						30' same but increase in clay content					
	31					31' same but almost wet (not saturated yet)					
						31.5' decreases in clay content, seems saturated at 31.5'					
	33										
						34.5' orange-brown medium to coarse gravelly sand subrounded gravels					
	35					poorly sorted					
	37					**Boring Terminated @ 36'**					
	39										

SOIL BORING LOG

ThermoRetec

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-051	AGLC-Rome	MW -406B
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
ThermoRetec	Law Gibb	Reginald Parham
DATE STARTED 5/16/00	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME 1545	5/17/2000	6" outer casing/ 2" inner casing
DRILLING METHOD/DRILLING TYPE		
Mud Rotary / Split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
39				50%	Orange brown layered weathered rock (saprolite); wet; clayey; very friable					
41										
43										
45				10%	laminated orangey brown and yellow, layered weathered rock; clayey weathered siltstone (~25% friable rock left)					
47										
49				75%	red layered weathered rock with remnant dark gray siltstone; moist					
51										
53										
55				100%	light and dark brown laminated clay; wet					
57										
59										

SOIL BORING LOG

ThermoRetec

PROJECT NO. AGLC1-17859-051	**CLIENT/PROJECT** AGLC-Rome	**BORING ID** MW -406B
CONTRACTOR ThermoRetec	**DRILLING CONTRACTOR-** Law Gibb	**DRILLER-** Reginald Parham
DATE STARTED 5/16/00	**DATE ENDED**	**BOREHOLE DIA(S).**
TIME 1545	5/17/2000	6" outer casing/ 2" inner casing
DRILLING METHOD/DRILLING TYPE Mud Rotary / Split spoon		
LOGGED BY Carolyn Bachl	**E-LOG**	**PROTECTION LEVEL** D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	CME Run No.	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6 inches	Graphic Log	Water Depth & Remarks	Elev. (ft.)
	61				30%	gray layered, very friable siltstone; slightly weathered rock; moist					
	63					dark gray siltstone with white (calcite) veins; layered and very friable					
	65					**Boring terminated @ 64.5'**					
	67					b/c blow counts were 50 for 2' into bedrock and not saprolite; likely encountered limestone unit					

Remarks: will set bottom of well @ 60' to stay in saprolite and make sure there is water in well

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-406C
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/19/2001 1405	3/28/2001	8.25"/4"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/HQ Core/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
				50	26' Mottled gray and brown-orange clayey fine sand to sandy clay; stiff; moist		3 3 4 4				
28				100	28' Same as above but less gray mottling		3 5 6 6				
30				100	30' Mottled gray and brown-orange clayey fine sand to sandy clay; stiff; moist		3 4 6 9				
32				100	32' Mottled gray and brown-orange clayey fine sand to sandy clay; stiff; moist		22 30 30		▽		
34				25	33.5' Medium-coarse grained quartz sand with subrounded chert and quartz gravels (2-3 cm); saturated 34' Medium-coarse grained quartz sand with subrounded chert and quartz gravels (2-3 cm); saturated		48 50/5"				
36				25	36' Laminated gray-orange silt to clay		50/5"				
38				0	38' No recovery		13 8 9 12				
40				5	40' Coarse orange sandy gravel (mostly quartz and chert); saturated		50/5"				
42				25	42' Laminated, friable gray-orange silt to clay; dry		33 50/4"				
44				100	44' Red and brown laminated clay (saprolite); moist		28 50/5"				
46											

Remarks:

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-406C
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/19/2001 1405	3/28/2001	8.25"/4"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/HQ Core/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
48							10				
					48' Red-brown clay; moist; stiff		15				
				40			13				
							15				
50					49.5' Olive brown and brown laminated clay						
52											
					53' Dark gray, friable, fissile shale		50/4"				
54											
56											
58					58' Dark gray friable shale; saprolitic; white calcite veins present		50/3"				
60											
62											
				50 over 6.5 feet	63' Limestone with white calcite veins throughout; shale came out of the core barrel indicating that the limestone may be interbedded with shale						
64											
66											

Remarks:
At 63' hit auger refusal; set the outer casing at 63.75' and began HQ Coring a week later.

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-406C
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/19/2001 1405	3/28/2001	8.25"/4"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/HQ Core/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
68											
70					69.5' Gray Limestone with calcite veins that are folded and fractured throughout; very steep joints are present at 70-80 degree angles						
72											
74				75							
76											
78											
80					79' Same as above; joints are also aligned the same (70-80 degrees).						
82				75							
84											
86					Boring terminated at 85'						

Remarks:
At 63' hit auger refusal; set the outer casing at 63.75' and began HQ Coring a week later.

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-501
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED / TIME	**DATE ENDED**	**BOREHOLE DIA(S).**
3/19/2001 1540	3/19/2001	8.25"/4"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
					15' orange-brown gravelly clay (fill)		4				
				100	15.5' orange-brown clayey fine sand; moist		7				
							8				
17							8				
					17' orange-brown find sand; moist; very slightly laminated		4				
				30			8				
							12				
19							12				
					19' Orange-brown fine sand; moist; very slightly laminated		8				
				80			13				
					20' 2" of Gray fine sand then orange-brown, fine-med sand; moist		14				
21							11				
					21' Orange-brown, fine-med sand;wet		8				
				50			9				
							9				
23					22.5' Orange-brown, fine-med sand with subrounded chert gravels; wet		13		▽		
					23' Orange-brown, fine-med sand with subrounded chert gravels;		4				
				60	saturated		4				
							8				
25							9				
					25' Orange-brown, fine-med sand with subrounded chert gravels		24				
				80	25.75' Gray laminated saprolitic siltstone; dry		50/5"				
27											
					Boring terminated at 27'						
29											
31											
33											
35											

Remarks:

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-502
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED / TIME	**DATE ENDED**	**BOREHOLE DIA(S).**
3/23/2001 745	3/23/2001	6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
				25	10' Dark brown, slightly sandy clay with wood fragments throughout; medium stiff; moist (Fill)		6 4 6 7				
12				40	12' Olive gray clay; very stiff; slightly plastic; moist		5 3 4 7				
14				5	14' Olive gray clay with some fine sand; moist		12 14 12 15				
16				40	16' Mottled olive gray and brown clay with some fine sand; very stiff; moist		7 8 9 12				
18				80	18' Mottled orange-brown to gray fine sandy clay; very stiff; moist		19 10 15 19				
20				50	20' Same as above but an increase in sand content		3 4 6 6				
22				60	22' Mottled orange-brown to gray fine sandy clay to clayey fine sand; moist		8 6 6 8				
24				0	24' No recovery		1 5 5 7				
26				0	26' No recovery		1 3 4 5				
28				90	28' Mottled orange-brown and gray clayey fine sand; moist		4 5 6 7				
30											

Remarks:

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-502
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/23/2001 745	3/23/2001	6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
					30' Mottled orange-brown and gray clayey fine sand; wet		6		⊽		
				100			7				
							8				
							13				
32					32' Mottled gray-orange brown fine sand; wet		3				
				40			5				
							8				
							30				
34				0	34' No recovery, but blow counts suggest that this is the siltstone		50/5"				
					Boring terminated at 34.5'						
36											
38											
40											
42											
44											
46											
48											
50											

Remarks:

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-503
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/23/2001 1055	3/23/2001	6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
				80	10' Dark brown-black, fine sandy clay; very stiff; moist		4 4 8				
12					11.5' Olive brown, fine sandy clay; very stiff; moist		12				
				60	12' Mottled orange-brown and gray clayey fine sand; moist		4 8 12				
14							13				
				75	14' Mottled orange-brown and gray clayey fine sand; moist		4 8 10				
16							13				
				75	16' Orange-brown fine sandy clay to clayey fine sand; mottled gray near 16' and decrease in mottling toward 18'		3 4 13				
18							15				
				90	18' Orange-brown clayey fine sand; moist		5 10 10				
20							11				
				80	20' Orange-brown clayey fine sand; moist		3 4 4				
22							6				
				80	22' Orange-brown clayey fine sand; wet		3 4 4				
24							5				
				75	24' Orange-brown clayey/silty fine sand with fewer silts/clays than upper intervals; wet		2 3 4				
26							4				
				90	26' Orange-brown clayey/silty fine sand; wet		3 4 5				
28							7		▽		
				60	28' Orange-brown clayey/silty fine sand; saturated		3 4 5				
30							7				

Remarks:

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-503
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/23/2001 1055	3/23/2001	6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
				90	30' Orange-brown clayey/silty fine sand; saturated		8 10 13 12				
32					32' Orange-brown clayey/silty fine sand; saturated		3 5 6 10				
34					34' Orange-brown clayey/silty fine sand; saturated		5 7 11 11				
36					Boring terminated @ 36'						
38											
40											
42											
44											
46											
48											
50											

Remarks:

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC1-17859-451	AGLC-Rome Well Installation	MW-504
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	Piedmont Environmental Drilling	Dan Young
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
3/27/2001 1445	3/27/2001	6"/2"
DRILLING METHOD/DRILLING TYPE		
Hollow stem auger/split spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
Carolyn Bachl		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
				100	23' Orange-brown gravelly clay; moist (Fill) 24' Olive fine sand; black staining; strong hydrocarbon odor		4 4 5 8				
25				0	25' No recovery as a rock plugged the spoon opening		20 24 20 10				
27				50	27' Olive fine sand with black staining and strong hydrocarbon odor		3 7 6 8				
29				60	29' Olive brown, fine to medium sand with black staining and subrounded river gravels; strong hydrocarbon odor		40 46 10 20				
31				5	31' Olive brown, fine to medium sand with black staining and subrounded river gravels; strong hydrocarbon odor		3 3 4 6				
33				100	33' Olive brown, fine to medium sand with black staining and subrounded river gravels; strong hydrocarbon odor 34' Orange-brown clay; stiff to soft depending on interval		2 3 2 4				
35					35' Orange-brown clay; stiff to soft depending on interval		2 2 2 2				
37					boring terminated at 37'						
39											
41											
43											

Remarks:

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC2-17859-013	AGLC-Rome MGP	MW-505
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC	LAW Gibb Group	James
DATE STARTED / **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
7/9/2001 / 1430	7/9/2001	4.25" ID, 6" OD
DRILLING METHOD/DRILLING TYPE		
Hollow Stem Auger/Split-spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
J. Ducar		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
					0' Asphalt 0.5' Roadbase fill, gray gravel.	FL					
2											
4											
					5' Gray GRAVEL fill material.	FL	14				
				70			4				
6					6.5' Reddish brown, fine-grained SAND, dry, trace black "coal-like" material at 7 ft.	FL	4 13				
8											
					8.5' No Recovery		13				
				50			9				
10							4				
					9.5' Soft, orangish brown SILT, moist at 10 ft., no odors.	ML	4				
					10.5' No Recovery		6				
				30	11.9' Soft, orangish brown SILT, moist, no odors.	ML	1				
12							0				
							0				
					Weight of hammer advanced spoon 2 ft.		0				
14				0			0				
							0				
							0				
16											
18											
					18.5' Soft, orangish brown SILT, moist.	ML					
				75	19.5' Gray and brown mottled silty CLAY, wet at 19.5 ft., stiff, high plasticity, no odors.	CL					

Remarks:
PID Malfunctioning
Hand auger from 0-3 ft/bgs

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC2-17859-013	AGLC-Rome MGP	MW-505
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC/Williams Engineering	LAW Gibb Group	James
DATE STARTED **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
7/9/2001 1430	7/9/2001	4.25" ID, 6" OD
DRILLING METHOD/DRILLING TYPE		
Hollow Stem Auger/Split-spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
J. Ducar		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
22					23.5' Soft, gray and brown mottled CLAY.						
24				70	24.0' Very stiff, brown and orange mottled CLAY with some weathered siltstone fragments.	CL	6 32 50/2"				
					24.5' Light gray to white and dark gray, highly weathered, siltstone and chert fragments with some light brown, fine-grained sand						
26					Split-spoon refusal at 25.5 ft.						
28											
30											
32											
34											
36											
38											

Remarks:

	Environmental Resources Management					**SOIL BORING # SB-505R**
						PROJECT NAME: AGLC Rome
						PROJECT NUMBER: 0087270
						LOCATION: Rome, Georgia
DATE DRILLED:		3/12/2009				**DRILLING COMPANY:** Betts Environmental
START TIME:		11:00				**DRILLERS NAME(S): Jason Allwood**
STOP TIME:		14:00				**DRILL RIG/METHOD: Hollow Stem Auger**
COMPLETION DEPTH:		39 feet				**SAMPLING METHOD:** NA
GROUNDWATER LEVEL:		37.04 feet				**FIELD SCREENING EQUIPMENT:** NA
BORING DIAMETER:		8 1/4"				**LOGGED BY:C. Buzzelli**
OTHER:						**Page 1 of 1**

WELL DETAIL	DEPTH	USCS	BLOW COUNTS	INCHES RECOVERED	XRF (ppm)	DESCRIPTION
NA	0		NA		NA	
	2					
	4					First 4 feet lost to hand auger
				12		Light brown silty CLAY
	6					
	8					
				60		Light brown silty CLAY - some weathered rock
	10					
	12					
	14			60		Moist light brown silty CLAY, plastic
	16					
	18					
				60		Moist light brown silty CLAY, plastic
	20					
	22					
	24			60		Moist light brown silty CLAY to dark brown silty CLAY(23-25 ft)
	26					
	28					
	30			60		Moist dark brown silty CLAY, plastic
				60		Wet dark brown silty CLAY to wet silty CLAY(34.5-35 ft)
				48		Wet silty CLAY.

Key

NA = Not Applicable

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC2-17859-013	AGLC-Rome MGP	MW-506
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC	LAW Gibb Group	James
DATE STARTED / **TIME**	**DATE ENDED**	**BOREHOLE DIA(S).**
7/10/2001 0730	7/10/2001	4.25" ID, 6" OD
DRILLING METHOD/DRILLING TYPE		
Hollow Stem Auger/Split-spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
J. Ducar		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
					0' Asphalt 0.8' Reddish brown, fine-grained SAND with gray gravel road base, dry.	FL					
2											
				90	3.5' Stiff, reddish brown CLAY, high plasticity, dry, no odors.	CL	6 5 5 7				
4											
6											
8											
10				100	10' Reddish brown silty CLAY, medium firmness, medium plasticity, dry, no odors.	CL	3 4				
					10.5' Light orange silty CLAY, very stiff, medium plasticity, dry, no odors.	CL	11 16				
12				90			3 11 16 21				
14				100		SP	4 6 12 12				
					15.2' Orange brown, fine-grained SAND, damp, no odors, medium density.						
16				100			5 5				
					17.5' Orange brown silty SAND, medium density, medium plasticity, damp, no odors.	SM	6 12				
18				85			5 4				
					19.5' Orange brown silty CLAY, medium stiffness, medium plasticity, damp, no odors.	CL	6 9				

Remarks:
PID Malfunctioning
Hand auger from 0-3.5 ft/bgs

SOIL BORING LOG

RETEC

PROJECT NO.	CLIENT/PROJECT	BORING ID
AGLC2-17859-013	AGLC-Rome MGP	MW-506
CONTRACTOR	**DRILLING CONTRACTOR**	**DRILLER**
RETEC	LAW Gibb Group	James
DATE STARTED / TIME	**DATE ENDED**	**BOREHOLE DIA(S).**
7/10/2001 1430	7/10/2001	4.25" ID, 6" OD
DRILLING METHOD/DRILLING TYPE		
Hollow Stem Auger/Split-spoon		
LOGGED BY	**E-LOG**	**PROTECTION LEVEL**
J. Ducar		D

Depth (ft.)	Sample	Lab Analysis	PID, ppm	Recovery (%)	LITHOLOGIC DESCRIPTION	USCS	Blows/6"	Graphic Log	Water Depth	Other	Elev. (ft.)
				100	21.2' Orangish brown, fine-grained SAND with some SILT, medium density, moist, no odors.	SM	12 6 8 4				
22				100	23' Orangish brown, fine-grained SAND, medium density, wet at 23 ft., no odors.	SP	5 5 4 7				
24				95			5 7 7 9				
26				100	27.5' Orangish brown, fine-grained SAND with quartz and chert rock fragments, wet , no odors.	SP	10 29 22 6				
28				95	29' Light gray with trace purple clayey SILT (SAPROLITE), stiff, dry, no odors	ML	8 10 12 12				
30				50	32' Weathered SILTSTONE rock fragments with clayey SILT (SAPROLITE) matrix, no odor.	ML	4 10 9 16				
32				50			8 10 12 11				
34					Stop split-spoons at 34 ft.						
					Over drill to 35 ft.						
36											
38											

Remarks:

Page 2 of 2

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Boring Log

Boring #:SB-400
Sheet 1 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548900.135 Easting: 1992078.413	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.66031	Driller: Joe Policastri
Start Date: 5/8/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/8/2007	Method: Continuous Macrocore	Total Depth (ft): 40.2

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
						5	
				590			
						10	
				585			
						15	
				580			
(20-24)	50		1.2			20	FILL: clayey sand, tan, medium grained, medium dense, moist, trace gravel

Remarks: Boring Terminated (ft): 40.2

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-400
Sheet 2 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548900.135 Easting: 1992078.413	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.66031	Driller: Joe Policastri
Start Date: 5/8/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/8/2007	Method: Continuous Macrocore	Total Depth (ft): 40.2

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				575			
(24-28)	50		1.8			25	SAA
				570			
(28-32)	100		2.4				SAND: olive green, fine - medium grained, subangular, loose, wet, high HCL odor, HCL staining from 27.7 - 28'
						30	Silty CLAY: tan/orange, soft, high plasticity, wet, coarse gravel @ 29.3 - 29.5', moderate HCL odor, HCL staining from 28 - 29.5'
							Silty SAND: olive gray, very fine grained, medium dense, moist, high HCL odor, saprolitic, laminations present
(32-36)	100		2.6	565			Silty CLAY: tan/orange, very soft, wet, slight HCL odor, extremely high weathered BPLM throughout, saprolitic
						35	Clayey SAND: tan/orange, fine - medium grained, loose, wet, slight HCL odor, saprolitic
(36-40.2)	60		0.1				SAND: gray/brown, fine - medium grained, trace coarse grains, subangular, medium dense, moist, moderate HCL odor, saprolitic
				560			
						40	LIMESTONE: weathered

Remarks: Boring Terminated (ft): 40.2

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-438
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548957.302 Easting: 1992005.68	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 596.73518	Driller: Joe Palicastri
Start Date: 6/7/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/7/2007	Method: Continuous Macrocore	Total Depth (ft): 30

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
				590		5	
						10	
(12-16)	40			585			FILL
(16-20)	25					15	
(20-24)	10		0	580			
						20	
				575			Sandy CLAY: olive green, soft, high plasticity, moist, slight odor, slight staining throughout
(24-28)	75		0			25	Clayey SAND: tan, very fine grained, medium dense, moist, slight odor
				570			Gravelly SAND: gray, fine - coarse grained, subangular, medium dense, wet, chert nodules, trace clay, staining throughout
(28-30)	100						SAPROLITE: tan, stiff, nonplastic, dry, friable
						30	

Remarks: **Boring Terminated (ft): 30**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-437
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548922.654 Easting: 1992032.464	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.12123	Driller: Joe Palicastri
Start Date: 6/7/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/7/2007	Method: Continuous Macrocore	Total Depth (ft): 30.5

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
				590		5	
				585		10	
				580		15	
(20-24)	50		0			20	FILL
				575			
(24-28)	75		78.9			25	Gravelly SAND: dark gray, fine - coarse grained, medium dense, wet, high odor, staining throughout, emulsion residual from 25.1 - 25.8 (NAPL)
				570			
(28-30.5)	100		0				SAPROLITE: olive green, stiff, nonplastic, dry
						30	LIMESTONE: weathered, whitish gray, friable

Remarks: **Boring Terminated (ft): 30.5**

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Groundwater

Date	Time	Depth (ft)

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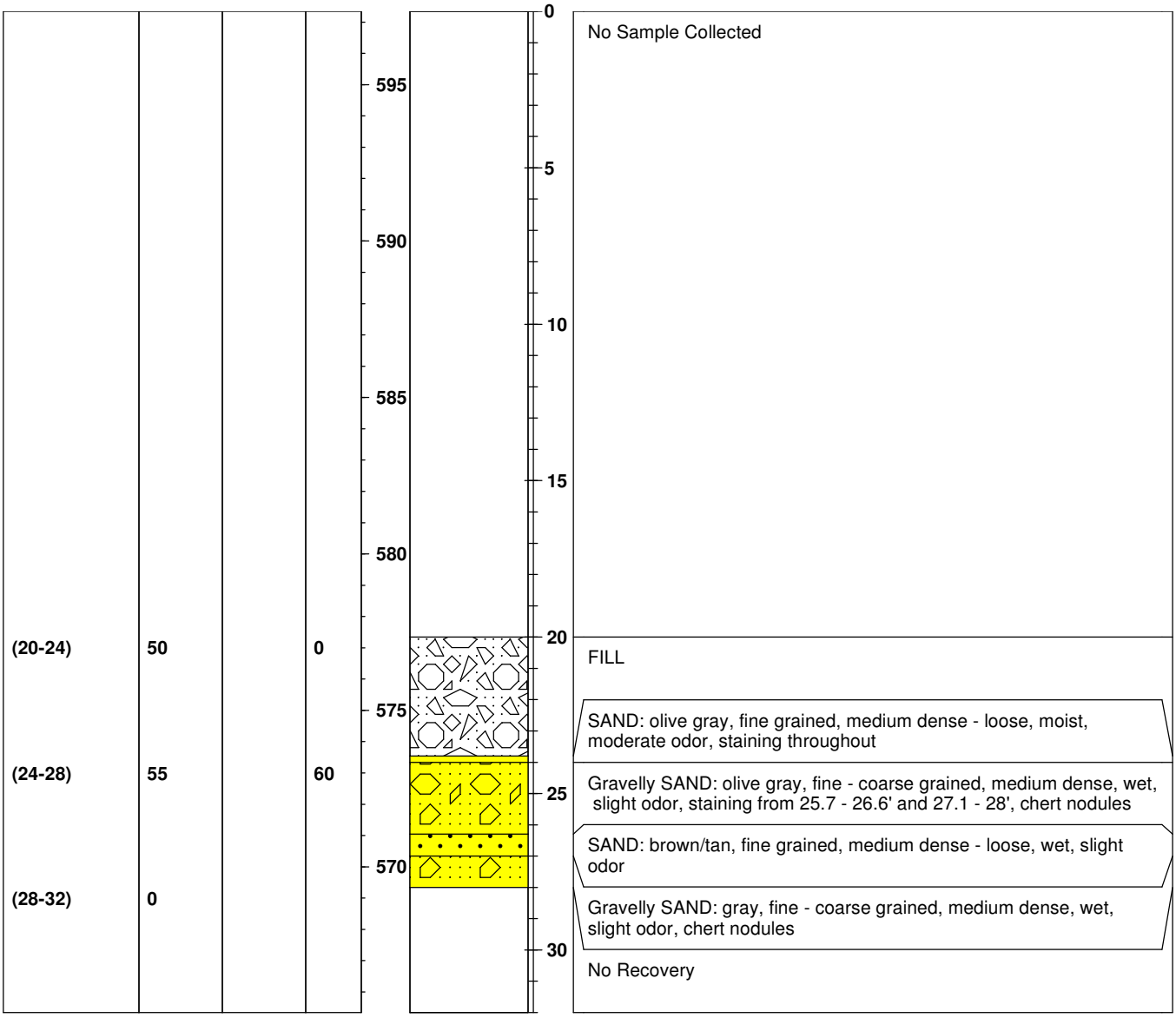
Boring Log

Boring #:SB-436
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548926.38 Easting: 1992072.099	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.34207	Driller: Joe Palicastri
Start Date: 6/7/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/7/2007	Method: Continuous Macrocore	Total Depth (ft): 32



Remarks: **Boring Terminated (ft): 32**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-435
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548892.471 Easting: 1992051.164	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.55518	Driller: Joe Palicastri
Start Date: 6/7/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/7/2007	Method: Continuous Macrocore	Total Depth (ft): 42

Sample					Graphic	Depth (ft)	Soil and Rock Description
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			Classification Scheme: USCS
				595		0	No Sample Collected
				590		5	
				585		10	
				580		15	
						20	
(20-24)	30		13.7	575			FILL
(24-28)	60		1700			25	SAND: olive gray, fine grained, loose, moist, staining from 23.9 - 24', high odor
(28-32)	100		231	570			SAA: black, trace gravel, medium dense, subangular - subrounded, fine - coarse grained, trace chert nodules throughout, high odor, staining throughout, residual throughout
(32-36)	100		55.1	565		30	Gravelly SAND: black, fine - coarse grained, subangular - subrounded, medium dense, wet, staining throughout, residual throughout
							Silty CLAY: tan/orange, medium stiff - soft, high plasticity, saprolitic, moist, moderate odor
(36-40)	100		493	560		35	SAPROLITE: tan/orange, medium stiff - stiff, high odor, moist, moderate odor
							SAA: olive green, stiff, high plasticity, moist, high odor, staining at 36 - 37.1' and 38.7 - 39.9', residual @ 36.8 - 37.3'
(40-42)	100		9.1			40	LIMESTONE: weathered, friable, white

Remarks: **Boring Terminated (ft): 42**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-434
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548868.487 Easting: 1992051.447	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.20118	Driller: Joe Palicastri
Start Date: 6/7/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/7/2007	Method: Continuous Macrocore	Total Depth (ft): 44

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	50					5	FILL: tan, white clay nodules, sandy CLAY
(8-12)	50			590		10	
(12-16)	40			585		15	
(16-20)	50			580		20	
(20-24)	60			575		25	
(24-28)	50						
(28-30)	100		21.8	570		30	SAND: gray, fine grained, loose, wet, high odor, staining throughout, brown emulsion in water (LNAPL)
				565		35	Gravelly SAND: gray, fine - very coarse grained, subangular - subrounded, loose, high odor
				560		40	
				555			

Remarks: Boring Terminated (ft): 44

Groundwater		
Date	Time	Depth (ft)

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Boring Log

Boring #:SB-433
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548881.12 Easting: 1992067.29	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.79513	Driller: Joe Palicastri
Start Date: 6/6/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/6/2007	Method: Continuous Macrocore	Total Depth (ft): 30

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	
						5	
				590			
						10	
				585			
						15	
				580			
(20-24)	50					20	FILL
				575			
(24-28)	25					25	Silty SAND: olive gray, fine grained, loose, moist, slight odor, staining throughout
				570			
(28-32)	75		1381			30	Gravelly SAND: fine - very coarse grained, subrounded, medium dense, wet, chert nodules, moderate odor, staining from 28 - 30.8', residual @ 30.6 - 30.8'

Remarks: **Boring Terminated (ft): 30**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-432
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548852.275 Easting: 1992052.978	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.32183	Driller: Joe Palicastri
Start Date: 6/6/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/6/2007	Method: Continuous Macrocore	Total Depth (ft): 38

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	0					5	No Recovery
(8-12)	0			590		10	
(12-16)	0			585		15	
(16-20)	0						
(20-24)	0			580		20	
(24-28)	5			575		25	FILL
(28-32)	75		0	570		30	Gravelly SAND: gray, fine - very coarse grained, subangular - subrounded, medium dense, wet, chert nodules, staining @ 29.4 - 30.1'
(32-36)	100		0	565		35	Silty CLAY: tan, very stiff, nonplastic, wet, trace chert nodules, relic laminations, saprolitic SAPROLITE: tan/orange, medium stiff, high plasticity, moist, slight odor, parent rock siltstone
(36-40)	100		0				SAA: grayish green, stiff, nonplastic, moist, parent rock shale

Remarks: **Boring Terminated (ft): 38**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-431
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548909.874 Easting: 1992105.334	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.02615	Driller: Joe Palicastri
Start Date: 6/6/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/6/2007	Method: Continuous Macrocore	Total Depth (ft): 28

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
(0-4)	40			595		0	FILL
(4-8)	40					5	
(8-12)	10			590		10	
(12-16)	50			585		15	
(16-20)	40			580		20	
(20-24)	50			575		25	SAND: brown, fine grained, medium dense, moist - wet @ 27.3'
(24-28)	50						SAA: light gray, fine grained, medium dense, wet

Remarks: **Boring Terminated (ft): 28**

Groundwater		
Date	Time	Depth (ft)

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Boring Log

Boring #:SB-430
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548899.425 Easting: 1992094.753	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.93291	Driller: Joe Palicastri
Start Date: 6/6/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/6/2007	Method: Continuous Macrocore	Total Depth (ft): 28

Sample					Graphic	Depth (ft)	Soil and Rock Description
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			Classification Scheme: USCS
				595		0	
						5	
				590			
						10	
				585			
						15	
				580			
(20-24)	60		0			20	FILL
				575			
(24-28)	60		0			25	
				570			SAND: dark gray, fine grained, medium dense - loose, wet, staining throughout

Remarks: **Boring Terminated (ft): 28**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-429
Sheet 1 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548913.412 Easting: 1992090.332	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.67711	Driller: Joe Palicastri
Start Date: 6/6/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/6/2007	Method: Continuous Macrocore	Total Depth (ft): 33.5

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
						5	
				590			
						10	
				585			
						15	
				580			

Remarks: Boring Terminated (ft): 33.5

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-429
Sheet 2 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548913.412 Easting: 1992090.332	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.67711	Driller: Joe Palicastri
Start Date: 6/6/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/6/2007	Method: Continuous Macrocore	Total Depth (ft): 33.5

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
						20	
(20-24)	80						FILL
							Silty SAND: brown, very fine grained, medium dense, moist, micaceous, staining @ 22.3'
				575			SAND: brownish green, fine grained, medium dense, moist, trace silt, moist - wet @ 23.2', slight odor
(24-28)	50						SAA: dark gray, wet, staining @ 24 - 27.1'
						25	
							Sandy GRAVEL: gray, fine - very coarse grained, subangular, medium dense, wet, slight odor, chert nodules
				570			SAPROLITE: greenish brown, hard, nonplastic, moist, parent rock shale/slate
(28-32)	0						No Recovery
						30	
(32-33.5)	100						SAPROLITE
				565			LIMESTONE: weathered, friable

Remarks: **Boring Terminated (ft): 33.5**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-428
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548938.658 Easting: 1992098.154	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.61442	Driller: Joe Palicastri
Start Date: 6/6/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/6/2007	Method: Continuous Macrocore	Total Depth (ft): 30

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
						5	
				590			No Recovery
						10	
(12-16)	75		0	585			FILL
						15	Clayey SAND: brown, fine grained, medium dense, moist, high odor, slight staining throughout
(16-20)	75		0				Silty SAND: brown, very fine grained, medium dense, moist, moderate odor, micaceous
				580			
							SAND: brown, very fine - fine, medium dense, moist, micaceous
(20-24)	75		0			20	SAA: tan/yellow, fine grained
				575			
(24-28)	50		0			25	SAA: brown, trace coarse grains, wet
				570			
(28-30)	60		0				Gravelly SAND: gray, very fine - fine grained, subangular, medium dense, wet, slight odor, slight staining throughout, chert nodules
						30	SAPROLITE: tan/orange, hard, nonplastic, dry, trace chert nodules

Remarks: Boring Terminated (ft): 30

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-427
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548923.167 Easting: 1992101.669	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.83396	Driller: Joe Palicastri
Start Date: 6/5/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 3
Finish Date: 6/5/2007	Method: Continuous Macrocore	Total Depth (ft): 32

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	
						5	
(8-12)	0			590			FILL
						10	
(12-16)	100		21.7	585			Silty CLAY: brown, very fine grained, soft, low plasticity, moist, high odor, blebs throughout, very minor blebs from 12.7 - 15.4
						15	Clayey SAND: brown, very fine - fine grained, dense, moist, high odor
(16-20)	90		52.1	580			Silty SAND: brown, very fine grained, medium dense - loose, moist
						20	
(20-24)	75		52.1	575			SAND: yellow/tan, fine grained, medium dense, moist, trace clay @ 23.7 - 24'
(24-28)	80		9.7			25	SAA: fine - medium grained, wet, heavy staining @ 27.7' slight odor @ 27.7'
(28-32)	80		53.8	570			SAA: gray, staining throughout
						30	Gravelly SAND: gray, fine - very coarse, subangular, medium dense, wet, staining throughout
							SAPROLITE: orange/tan, very dense, dry

Remarks: **Boring Terminated (ft): 32**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-426
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548895.831 Easting: 1992111.297	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.17057	Driller: Joe Palicastri
Start Date: 6/5/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 3
Finish Date: 6/5/2007	Method: Continuous Macrocore	Total Depth (ft): 40

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
						5	
(8-12)	50			590		10	
(12-16)	20		0	585		15	FILL
(16-20)	25		0				
(20-24)	50		0	580		20	
(24-28)	80		0	575		25	SAND: brown, fine - medium grained, subangular, medium dense, wet, slight odor
(28-32)	100		0	570			SAA: grayish green, moderate odor
						30	SAA: gray, staining throughout
(32-36)	100		0	565			Gravelly SAND: gray, fine - coarse grained, subangular, medium dense, wet, chert nodules
						35	SAPROLITE: orange/tan, very soft, high plasticity, moist, parent rock siltstone
				560			SAA: very stiff, nonplastic, few chert nodules
						40	

Remarks: **Boring Terminated (ft): 40**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-425
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548932.187 Easting: 1992113.673	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.86866	Driller: Joe Palicastri
Start Date: 6/5/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/5/2007	Method: Continuous Macrocore	Total Depth (ft): 36

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	50		0			5	FILL: Sandy CLAY, pink/tan, medium stiff, moist
(8-12)	30		0	590		10	
(12-16)	100		0	585			Silty CLAY: brown, stiff, low plasticity, moist, high odor
						15	Silty SAND: brown, very fine grained, dense, moist, trace clay, micaceous
(16-20)	75		0	580			SAA: very dense
(20-24)	100		0			20	
				575			SAND: tan, fine - medium grained, subangular, medium dense, moist - wet @ 24', micaceous
(24-28)	75		0			25	SAA: grayish green, fine - medium grained, wet
(28-32)	75		0	570			SAA: dark gray, fine - coarse grained, slight odor, staining throughout
						30	Sandy GRAVEL: dark gray, fine - very coarse, subangular, medium dense, wet
(32-36)	75			565			Gravelly SAND: brown, fine - very coarse, subangular, very dense, dry, trace silt, chert nodules throughout
						35	SAPROLITE: brown, dense, dry
							LIMESTONE: weathered, friable

Remarks: **Boring Terminated (ft): 36**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-424
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548934.798 Easting: 1992139.931	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.08399	Driller: Joe Palicastri
Start Date: 6/5/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/5/2007	Method: Continuous Macrocore	Total Depth (ft): 29

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	
(4-8)	100		0.04			5	FILL
							Sandy CLAY: red/brown, stiff, low plasticity, moist, graded into -
(8-12)	100		0	590		10	
(12-16)	100		0	585		15	Silty CLAY: red/brown, stiff, nonplastic, moist, graded into -
(16-20)	75		0	580			Silty SAND: red/brown, very fine grained, dense, moist
(20-24)	100		0			20	SAND: brown, very fine - fine grained, medium dense - loose, moist, micaceous, trace clay from 21.1 - 21.7', 22.1 - 22.5', and 22.8' - 23'
(24-28)	75			575		25	
(28-29)	100		0	570			Gravelly SAND: whitish gray, fine - very coarse grained, subangular, dense, wet

Remarks: **Boring Terminated (ft): 29**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-423
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548927.358 Easting: 1992127.155	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.09471	Driller: Joe Palicastri
Start Date: 6/5/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/5/2007	Method: Continuous Macrocore	Total Depth (ft): 24

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(8-12)	75		0	590		5	FILL: pink/tan
(12-16)	100			585		10	Sandy CLAY: brown, very fine grained, very dense - dense, moist, high odor, weathered blebs throughout
(16-20)	75		0	580		15	Silty SAND: brown, very fine grained, dense, moist, micaceous SAND: brown, very fine - fine grained, medium dense, moist, trace silt
(20-24)	75			575		20	SAA: brown/tan, fine - medium grained, subangular, medium dense, moist

Remarks: **Boring Terminated (ft): 24**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-422
Sheet 1 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548917.965 Easting: 1992116.442	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.04351	Driller: Joe Palicastri
Start Date: 6/5/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/5/2007	Method: Continuous Macrocore	Total Depth (ft): 31

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(8-12)	0			590		5	No Recovery
(12-16)	100		104	585		10	FILL Sandy CLAY: brown, medium stiff - stiff, low plasticity, moist, high odor, slight weathered residual @ 13.3 - 13.7'
(16-20)	100		0			15	Silty SAND: brown, very fine grained, dense, moist, micaceous, high odor SAND: brown, fine grained, medium dense - loose, moist, trace silt, micaceous

Remarks: Boring Terminated (ft): 31

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-422
Sheet 2 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548917.965 Easting: 1992116.442	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.04351	Driller: Joe Palicastri
Start Date: 6/5/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/5/2007	Method: Continuous Macrocore	Total Depth (ft): 31

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				580			
(20-24)	75		0			20	
				575			SAA: trace clay
(24-28)	75		0				SAA: fine - medium grained, subangular, clay lenses from 23.8 - 23.9'
						25	SAA: yellow/tan, clay lenses @ 24'
							Sandy CLAY: white/light gray, fine grained, stiff, high plasticity, moist
							SAND: brown, fine - medium grained, subangular, medium dense, wet, slight odor, micaceous
							SAA: fine - coarse grained
(28-31)	100		0	570			SAA: grayish green
							Gravelly SAND: dark gray, fine - very coarse, subangular, wet, slight odor
						30	SAPROLITE: orange/brown, moist

Remarks: **Boring Terminated (ft): 31**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-421
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548886.283 Easting: 1992097.178	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.14899	Driller: Travis Piarrot
Start Date: 5/30/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/30/2007	Method: Continuous Macrocore	Total Depth (ft): 36

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
				590		5	
				585		10	
				580		15	
				575		20	FILL: tan/pink, fine - very coarse grained, angular - subrounded, medium dense, moist
				570		25	Silty SAND: olive brown, very fine grained, loose, wet, high odor
							SAND: olive brown, fine - medium grained, loose, wet, high odor, staining throughout
				565		30	Sandy GRAVEL: gray, fine - very coarse, subangular, medium dense, wet, high odor, very heavy staining throughout
							SAPROLITE: green/gray, medium stiff, relic laminations present, parent rock shale
						35	SAA: orange, soft, high plasticity, parent rock siltstone

Remarks: **Boring Terminated (ft): 36**

Groundwater		
Date	Time	Depth (ft)

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Boring Log

Boring #:SB-420
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548881.949 Easting: 1992115.705	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.36334	Driller: Travis Piarrot
Start Date: 5/30/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/30/2007	Method: Continuous Macrocore	Total Depth (ft): 40

Sample: Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)	Graphic	Depth (ft)	Soil and Rock Description (Classification Scheme: USCS)
				595		0	FILL
						5	
				590			Sandy CLAY: red/tan, fine grained, stiff, low plasticity, high odor, moist, staining @ 8 - 9.4', blebs (2 mm - 10 mm) @ 9.4 - 12', large blebs (1 cm - 4 cm) @ 12 - 13.7'
						10	
				585			
						15	Clayey SAND: tan/brown, fine grained, dense, moist, high odor
				580			Silty SAND: brown/olive green, fine grained, dense, moist, high odor, staining from 17.4 - 18.3'
						20	
				575			
						25	SAA: brown/light gray, medium dense, wet, clay lenses @ 25.2 - 26.7' (1/2 cm - 3 cm thick), moderate odor
				570			SAND: brown/olive green, fine - medium grained, dense, wet, moderate odor, 27.8 - 28'
						30	Sandy GRAVEL: dark gray, coarse grained, dense, wet, slight - moderate odor
				565			SAPROLITE: red/tan, soft, high plasticity, wet, parent rock siltstone
						35	
				560			SAA: medium stiff
						40	

Remarks: Boring Terminated (ft): 40

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-419
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548891.596 Easting: 1992128.195	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.36696	Driller: Travis Piarrot
Start Date: 5/30/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/30/2007	Method: Continuous Macrocore	Total Depth (ft): 35

Sample: Depth Interval (ft)	Sample: % Rec	Sample: Blows per 6"	Sample: PID (ppm)	Elevation (ft)	Graphic	Depth (ft)	Soil and Rock Description (Classification Scheme: USCS)
				595		0	FILL: Gravelly SAND: tan/pink, angular, loose, fine - coarse grained, dry
						5	Sandy CLAY: brown, trace coarse grains, subrounded, stiff - very stiff, nonplastic, moist
				590			SAA: low plasticity, stringer @ 7.2' and 7.5', high odor, blebs throughout
						10	
				585			Clayey SAND: brown, very fine grained, medium dense, moist, trace silt, high odor, very small blebs @ 14.1', 13.3 - 13.4'
						15	Sandy CLAY: brown, very stiff, moist, high odor, blebs from 14.4 - 14.6'.
				580			Silty SAND: olive brown, very fine grained, loose - medium dense, moist, high odor
						20	SAND: brown, fine grained, loose - medium dense, moist, high odor
				575			Silty SAND: olive brown, fine grained, medium dense, moist - wet @ 25.6', high odor
						25	SAND: brown, fine grained, medium grained @ 27.3', medium dense, wet, moderate odor
				570			Gravelly SAND: medium - very coarse grained, tan, angular, medium dense, wet
						30	SAPROLITE: tan/orange, soft, high plasticity, wet, slight odor, parent rock siltstone
				565			SAA: brownish green, moist, parent rock shale
						35	

Remarks: **Boring Terminated (ft): 35**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-418
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548906.286 Easting: 1992124.53	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.74003	Driller: Travis Piarrot
Start Date: 5/30/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/30/2007	Method: Continuous Macrocore	Total Depth (ft): 24

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	FILL: tan, dry
						5	
				590		10	
				585		15	Clayey SAND: tan/brown, very fine grained, dense, moist, high odor
							Silty SAND: brown, fine grained, dense, moist, moderate odor, staining @ 17.6 - 18.1'
				580		20	SAA: slight odor
				575			

Remarks: Boring Terminated (ft): 24

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-417
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548919.517 Easting: 1992147.654	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.35872	Driller: Travis Piarrot
Start Date: 5/30/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/30/2007	Method: Continuous Macrocore	Total Depth (ft): 24

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
						5	FILL: Gravelly SAND: tan, fine - coarse grained, angular, loose, dry
				590		10	Sandy CLAY: tan/red, trace coarse grains, stiff, low plasticity, moist, very slight staining @ 7.5 - 8' and 11.4'
				585		15	SAA: white/tan/red, stiff - very stiff, low plasticity, moist
							Clayey SAND: tan, very fine grained, dense, moist
				580		20	Silty SAND: tan/brown, very fine grained, loose, moist
				575			SAND: tan/brown, fine grained, loose - medium dense, moist

Remarks: **Boring Terminated (ft): 24**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-416
Sheet 1 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Nic Very/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548826.954 Easting: 1992059.92	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.47259	Driller: Joe Policastri
Start Date: 5/11/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/11/2007	Method: Continuous Macrocore	Total Depth (ft): 44

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
						0	No sample collected
(4-8)	20		12.7	595		5	FILL: sandy gravel, dark gray, subangular - subrounded, medium dense, slightly moist
(8-12)	90		43.2	590		10	Sandy CLAY: brown, medium stiff - stiff, moist, slight HCL odor, HCL staining @ 8 - 11'
(12-16)	100		31	585		15	SAA: tan/red mottled, very stiff, medium plasticity, moist
(16-20)	100		31				SAA: tan/light brown, stiff - very stiff, nonplastic, HCL staining @ 16 - 18.2'
				580			Silty SAND: light brown, very fine grained, medium dense, moist
(20-24)	100		26.8			20	SAND: yellowish brown, fine grained, loose - medium dense, moist, trace silt

Remarks: **Boring Terminated (ft): 44**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-416
Sheet 2 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Nic Very/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548826.954 Easting: 1992059.92	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.47259	Driller: Joe Policastri
Start Date: 5/11/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/11/2007	Method: Continuous Macrocore	Total Depth (ft): 44

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				575			
(24-28)	95		19.2			25	SAA: fine grained, wet, clay lenses @ 25.9' (1 in thick), slight HCL odor, HCL staining @ 24.7 - 28'
(28-32)	100		14.6	570		30	SAA: olive green, fine grained, wet, slight HCL odor, HCL staining @ 28 - 32' Sandy GRAVEL: olive green, subangular - subrounded, medium dense, wet, slight HCL odor Silty CLAY: tan/brown, soft, high plasticity, wet, slight HCL odor
(32-36)	100		12.2	565		35	CLAY: gravel size siltstone Silty CLAY: orange/brown, soft, high plasticity, wet, trace gravel @ 40', slight HCL odor
(36-40)	100		5.8	560		40	
(40-44)	100		8	555			

Remarks: **Boring Terminated (ft): 44**

Groundwater		
Date	Time	Depth (ft)

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Boring Log

Boring #:SB-415
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Nic Very/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548838.357 Easting: 1992074.119	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.46272	Driller: Joe Policastri
Start Date: 5/11/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/11/2007	Method: Continuous Macrocore	Total Depth (ft): 48

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
(4-8)	0			595		0	No Sample Collected
(8-12)	0			590		5	
(12-16)	100		57.9	585		10	
(16-20)	100		28.4	580		15	Sandy CLAY: tan/red mottled, very stiff, medium plasticity, moist, moderate - high HCL odor, HCL staining @ 12 - 13', 14 - 19', blebs @ 13 - 16.2', large bleb @ 15.5'
(20-24)	100		3.7	575		20	Sandy SILT: greenish brown, stiff, low plasticity, moist, slight HCL odor, HCL staining @ 19 - 20' SAND: yellowish brown, fine grained, medium dense, moist, trace silt, slight HCL odor
(24-28)	100		2.7	570		25	SAA: tan, fine graded to medium grained @ 27, subrounded, loose - medium dense, wet, trace silt, HCL staining @ 27 - 28'
(28-32)	100		6	565		30	SAA: gray, medium grained, subrounded, loose, wet, trace silt, HCL staining @ 28 - 30.7', heavy HCL staining @ 30.7 - 30.9'
(32-36)	100		19.5	560		35	Gravelly SAND: gray, medium - coarse grained, subrounded, loose, wet, slight HCL odor Silty CLAY: white, very soft - soft, medium plasticity, wet
(36-40)	90		23.2	555		40	Clayey SAND: white, fine - medium grained, subrounded, medium dense, wet, moderate sweet odor Gravelly SAND: gray, fine - medium grained, subrounded, loose, wet, trace clay, moderate HCL odor
(40-44)	100		24.2			45	SAPROLITE: slight odor, wet
(44-48)	95		5.1				

Remarks: Boring Terminated (ft): 48

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-414
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Nic Very/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548812.712 Easting: 1992068.221	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.75227	Driller: Joe Policastri
Start Date: 5/11/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/11/2007	Method: Continuous Macrocore	Total Depth (ft): 28

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	10		0.5			5	
							Sandy CLAY: red/brown, soft, medium plasticity, wet
(8-12)	100		0	590		10	SAA: stiff, moist
(12-16)	100		0	585		15	SAA: very stiff, HCL staining @ 15 - 16'
(16-20)	90		0				SAA: stiff, HCL staining @ 16 - 17.9'
				580			Silty SAND: yellow brown, fine grained, dense, moist, HCL staining @ 17.9 - 19'
(20-24)	90		0.1			20	SAND: yellowish brown, fine grained, medium dense, moist, trace silt
				575			
(24-28)	90		0.6			25	SAA: fine graded to medium @ 27.5', wet

Remarks: **Boring Terminated (ft): 28**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-413
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Nic Very/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548871.7 Easting: 1992143.989	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.91924	Driller: Joe Policastri
Start Date: 5/11/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/11/2007	Method: Continuous Macrocore	Total Depth (ft): 40

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	96		9			5	Sandy CLAY: brown, stiff, medium plasticity, moist
(8-12)	98		9.7	590		10	SAA: tan/red mottled, very stiff, medium plasticity, moist
(12-16)	100		4.5	585		15	
(16-20)	100		5.7	580			Silty SAND: light brown, fine grained, medium dense, moist, HCL staining @ 16 - 18.5'
(20-24)	75		15.1			20	SAND: yellowish brown, fine grained, subrounded, medium dense, moist, trace silt
				575			SAA: fine graded to medium @ 23.5', subrounded, loose - medium dense, moist
(24-28)	70		14.1			25	SAA: yellow, fine - medium grained, subrounded, loose, wet.
(28-32)	100		9.7	570			Sandy GRAVEL: tan, medium - coarse grained, subangular - subrounded, loose, wet, slight HCL odor, HCL staining @ 27.6 - 28'
						30	Silty CLAY: yellow, soft, high plasticity, wet
(32-36)	100		11.8	565		35	SAPROLITE: tan/brown, wet
(36-40)	50		11.1	560		40	SAA: whitish gray, very stiff, dry

Remarks: Boring Terminated (ft): 40

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-412
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Nic Very/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548856.447 Easting: 1992124.254	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.19906	Driller: Joe Policastri
Start Date: 5/10/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/10/2007	Method: Continuous Macrocore	Total Depth (ft): 44

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	94		1.4			5	Sandy CLAY: brown, stiff, low plasticity, moist, HCL staining from 4 - 8'
(8-12)	96		0	590		10	SAA: red/brown mottled, stiff - very stiff, HCL staining @ 8 - 10.7', weathered bleb (1 mm thick) @ 11.3'
(12-16)	90		18.3	585		15	SAA: tan/brown mottled, moderate HCL odor, HCL staining @ 14.8 - 15', blebs @ 14', 15.1 - 16'
(16-20)	94		12.2	580		20	Silty SAND: brown, fine grained, medium dense, moist, moderate graded to slight HCL odor, HCL staining @ 16 - 16.2'
(20-24)	92		0				SAND: brown, fine grained, subrounded, medium dense, moist, some silt, moist, slight HCL odor
				575			Sandy CLAY: soft, high plasticity, moist, slight HCL odor
(24-28)	100		0			25	Silty SAND: orange/brown, fine grained, subrounded, medium dense, moist
(28-32)	100		0	570			SAND: tan, fine - medium grained, subrounded, loose, wet @ 25.4', some silt, slight HCL odor, HCL staining @ 27.4 - 28'
(32-36)	100		0			30	SAND: tan, medium grained, subrounded, loose, wet, some silt, trace gravel, slight HCL odor, staining @ 28 - 30.3'
				565			Silty CLAY: purple/orange, soft - medium stiff, high plasticity, wet.
(36-40)	100		0			35	
				560			
(40-44)	60		0			40	SAPROLITE: olive brown, wet
				555			

Remarks: Boring Terminated (ft): 44

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-411
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548906.064 Easting: 1992161.84	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.2639	Driller: Joe Policastri
Start Date: 5/10/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/10/2007	Method: Continuous Macrocore	Total Depth (ft): 36

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	0					5	
				590			
(8-12)	100		0			10	Sandy CLAY: tan/gray/orange, stiff, low - medium plasticity, moist, slight HCL staining @ 12 - 14.5, moderate HCL staining @ 14.5 - 16', graded into -
(12-16)	100		0	585		15	
(16-20)	100		0.2				Silty SAND: tan/orange, very fine - fine grained, medium dense, moist, slight staining @ 16 - 17.2',19.5 - 20', 21.2 - 21.3', 22.2 - 22.4'
				580		20	
(20-24)	90		0				
				575			SAND: tan/orange, fine grained, subrounded/subangular, medium dense, moist, some silt
(24-28)	80		0			25	SAA: wet @ 25', fine grained
				570			SANDY GRAVEL: tan/orange, fine grained, subrounded - subangular, medium dense
(28-32)	45		0				SAND: tan/orange, medium grained, subrounded, medium dense, wet
						30	Sandy CLAY: tan, soft, medium - high plasticity, wet
(32-36)	85		0	565			SAPROLITE: olive green, weathered shale, friable
						35	SAA: gray/white, weathered limestone

Remarks: Boring Terminated (ft): 36

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-410
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548901.638 Easting: 1992140.11	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.71823	Driller: Joe Policastri
Start Date: 5/10/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/10/2007	Method: Continuous Macrocore	Total Depth (ft): 32

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	90		94.7			5	Sandy CLAY: tan/orange, medium stiff, medium plasticity, moist, high HCL odor @ 6.8', heavy HCL staining @ 6.8 - 8'
(8-12)	100		410	590		10	SAA: stiff, blebs (1 - 8 mm thick) throughout
(12-16)	100		312	585		15	SAA: blebs (1 - 2 mm thick) 12 - 13.4', highly weathered blebs from 13.4 - 14.8', graded into-
(16-20)	100		58.5	580		20	Silty SAND: tan/orange, fine grained, medium dense, moist, moderate HCL odor
(20-24)	75		65.6	575		25	SAND: tan/brown, fine, medium dense, moist
(24-28)	75		58.2				SAA: fine - medium grained, wet @ 25.2', slight HCL odor
(28-32)	40		40.7	570		30	Gravelly SAND: olive green, fine - very coarse grained, subangular, loose, wet SAPROLITE: olive brown, very fine grained, dense, moist relic laminations (parent rock shale) SAPROLITE: dry, friable LIMESTONE: highly weathered, friable, white, dry

Remarks: Boring Terminated (ft): 32

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-409
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548881.333 Easting: 1992130.638	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.9956	Driller: Joe Policastri
Start Date: 5/10/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/10/2007	Method: Continuous Macrocore	Total Depth (ft): 36

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	60		17.3			5	Sandy CLAY: tan/orange, very fine sand grains, medium stiff, medium plasticity, moist, moderate HCL odor @ 9.4', blebs from 9.4 - 12'
(8-12)	100		44.9	590		10	
(12-16)	100		51.4	585		15	SAA: high HCL odor, slight HCL staining @ 15.5 - 15.5', very small blebs (1 - 3mm thick) from 12 - 13.2'
(16-20)	100		27.1	580		20	Silty SAND: olive brown, very fine grained, medium dense, moist, slight HCL odor
(20-24)	90		29.8	575		25	SAND: tan/brown, fine - medium grained, subangular, loose - medium dense, moist, micaceous
(24-28)	100		21	570		30	Gravelly SAND: tan/brown, very fine - very coarse grained, subangular, loose, wet, pebble size gravel
(28-32)			36				Clayey SILT: tan/orange, soft, high plasticity, moist, saprolitic (parent rock siltstone)
(32-36)	100		25.9	565		35	SAPROLITE: grayish tan, very fine grained, medium stiff, high plasticity, relic laminations (parent rock shale)
							SILTSTONE: highly weathered, friable, dry
							LIMESTONE: highly weathered, friable, white, dry

Remarks: **Boring Terminated (ft): 36**

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Groundwater

Date	Time	Depth (ft)

ENSR | AECOM

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Boring Log

Boring #:SB-408
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548869.787 Easting: 1992115.06	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.16034	Driller: Joe Policastri
Start Date: 5/9/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/9/2007	Method: Continuous Macrocore	Total Depth (ft): 44

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected: drillers reported fill sand from 18 - 36
(4-8)	90		33.7			5	Sandy CLAY: tan/orange, medium stiff, low plasticity, moist, slight HCL odor
(8-12)	90		98.3	590		10	SAA: stiff, high HCL odor, blebs throughout, 1 inch bleb @ 8.9', 1/2 inch bleb @ 12'
(12-16)	100		89.7	585		15	SAA: medium stiff, medium plasticity, 1 inch bleb @ 12.1', stringers @ 12 - 13'
(16-20)	100		14.1				Silty SAND: orange, very fine grained, dense, moist, some clay, high HCL odor
(20-24)	100		4.8	580		20	SAA: olive brown, fine grained, medium dense - dense, micaceous, moderate HCL odor, slight HCL staining @ 18.8'
(24-28)	100		7.4	575		25	Sandy CLAY: dark green, fine grained, medium stiff, high plasticity, moist Silty SAND: orange/olive green, fine grained, loose - medium dense, very wet, very slight HCL odor, HCL staining from 28 - 32'
(28-32)	100		0.6	570		30	SAND: olive green, fine - medium grained, subangular, loose, very wet, trace silt, moderate HCL odor
(32-36)	100		1.4	565			Gravelly SAND: olive gray, medium - coarse grained, angular - subrounded
(36-40)	100		0.6	560		35	Silty CLAY: orange/tan, medium stiff, high plasticity, wet, slight odor SAPROLITE: orange/tan, medium stiff, high plasticity, moist, slight HCL odor, weathered siltstone
(40-44)	65		1.1	555		40	

Remarks: Boring Terminated (ft): 44

Groundwater		
Date	Time	Depth (ft)

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Boring Log

Boring #:SB-407
Sheet 1 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548871.652 Easting: 1992102.972	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.56053	Driller: Joe Policastri
Start Date: 5/9/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/9/2007	Method: Continuous Macrocore	Total Depth (ft): 44

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	20		18.9			5	FILL
(8-12)	50		153	590		10	
(12-16)	100		292	585		15	Sandy CLAY: tan/orange, very fine sand grains, hard, nonplastic, dry, high HCL odor, blebs throughout, large bleb from 15.2 - 15.3'
(16-20)	100		1492	580		20	Silty SAND: tan/brown, very fine grained, very dense, moist, trace clay, high HCL odor, slight staining from 18.8 - 19.1', BPLM @ 16 - 18.8'
(20-24)	100		261				SAA: olive gray, medium dense
							CLAY: brown, soft, high plasticity, moist, moderate HCL odor
							Silty SAND: olive gray, very fine grained, medium dense - loose, wet,

Remarks: Boring Terminated (ft): 44

Groundwater		
Date	Time	Depth (ft)

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Boring Log

Boring #:SB-407
Sheet 2 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548871.652 Easting: 1992102.972	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.56053	Driller: Joe Policastri
Start Date: 5/9/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/9/2007	Method: Continuous Macrocore	Total Depth (ft): 44

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				575		25	moderate HCL odor
(24-28)	100		14.9				CLAY: gray
(28-32)	50		9.7	570		30	Silty SAND: olive gray, very fine grained, medium dense - loose, wet, high HCL odor, HCL staining @ 27.8 - 28' Gravelly SAND: gray, very coarse grained, subrounded, loose, wet, pebble size gravel, moderate HCL odor
							CLAY: tan/orange, very fine grained, soft, high plasticity, some sand, saprolitic, relic laminations
(32-36)	50		3.8	565		35	SAPROLITE: soft, moist, slight HCL odor, slight HCL staining @ 35.5 - 36'
(36-40)			3.4	560		40	
(40-44)				555			

Remarks: Boring Terminated (ft): 44

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-406
Sheet 1 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548848.657 Easting: 1992088.315	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.28073	Driller: Joe Policastri
Start Date: 5/9/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/9/2007	Method: Continuous Macrocore	Total Depth (ft): 48

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	75		10.7			5	Gravelly SAND: olive brown, fine - coarse grained, subangular, medium dense, moist
							Sandy CLAY: tan, very fine grained, medium stiff, medium plasticity, moist, slight HCL odor, HCL staining from 7.4 - 8'
(8-12)	80		242	590		10	SAA: orange/tan, stiff, high HCL odor, blebs and stringers throughout
							SAA: black, stiff, medium plasticity, moist, high HCL odor, HCL staining from 9.8 - 12', residual @ 9.8 - 10.1'.
(12-16)	100		378	585		15	SAA: orange/tan, very fine grained, stiff, medium plasticity, moist, high HCL odor, blebs and stringers throughout
(16-20)	80		98.3	580			Silty SAND: orange/tan, very fine - fine grained, dense, trace clay, moist, high gasoline like odor, HCL staining from 19 - 20', blebs from 16 - 17'
(20-24)	70					20	SAA: olive brown, very fine - fine grained, dense, high gasoline like odor, slight HCL staining @ 21.4 - 21.8'
(24-28)	100		17.5	575			

Remarks: Boring Terminated (ft): 48

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-406
Sheet 2 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548848.657 Easting: 1992088.315	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.28073	Driller: Joe Policastri
Start Date: 5/9/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/9/2007	Method: Continuous Macrocore	Total Depth (ft): 48

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
						25	SAA: fine grained, wet, slight HCL staining @ 25 - 25.5'
							CLAY: grayish green, stiff, medium plasticity, wet, some sand, high HCL odor
							SAND: olive brown, fine grained, medium dense, wet, high HCL odor
(28-32)	100		2.9	570			SAA: slight staining throughout
						30	CLAY: olive brown, soft, high plasticity, wet, trace sand, moderate HCL odor, slight staining throughout
							SAND: brown/olive brown, fine - medium grained, medium dense, wet, high HCL odor, slight HCL staining throughout
(32-36)	20		9.3				Gravelly SAND: olive green, medium - coarse grained, dense, medium stiff, wet, high HCL odor, slight HCL staining throughout
				565			Silty CLAY: orange, medium stiff, high plasticity, wet, moderate HCL odor
						35	
(36-40)	90		13.9				Silty CLAY: orange/tan, medium stiff, high plasticity, moist, high gasoline like odor, saprolitic
				560			
						40	
(40-44)			2.9				SAA: clay nodules throughout, sweet odor
				555			
(44-48)	100						SAPROLITE: orange, medium stiff, medium plasticity, wet, slight odor
						45	
							SAA: olive green, stiff, parent rock shale

Remarks: **Boring Terminated (ft): 48**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-405
Sheet 1 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548857.791 Easting: 1992099.776	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.26831	Driller: Joe Policastri
Start Date: 5/9/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/9/2007	Method: Continuous Macrocore	Total Depth (ft): 48

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(4-8)	60		13.6			5	Sandy CLAY: tan, very fine grained, medium stiff, high plasticity, moist, high HCL odor, staining from 7.5 - 8', BPLM @ 7.5 - 8'
(8-12)	100		668	590		10	SAA: black, HCL staining from 8 - 12', stringers and blebs throughout, residual from 10.1 - 11', coarse sand grains starting at 10.1'
							SAA: tan/orange, very fine grained, stiff, low plasticity, moist, high HCL odor, blebs throughout
(12-16)	100		59.7	585		15	SAA: hard, blebs throughout
(16-20)	100		1412				Clayey SAND: tan/orange, very fine grained, very dense, moist, high HCL odor, blebs throughout
				580			CLAY: tan, medium stiff, high plasticity, moist, trace sand, high HCL odor
(20-24)	100		54.2			20	Silty SAND: tan/orange, very fine grained, very dense, dry, high gasoline like odor, trace clay
							CLAY: tan, soft, high plasticity, moist, high HCL odor
				575			SAND: olive gray, fine grained, medium dense - loose, wet, some clay, HCL staining @ 22.8'
(24-28)	100		46.9				

Remarks: Boring Terminated (ft): 48

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-405
Sheet 2 of 2

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548857.791 Easting: 1992099.776	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.26831	Driller: Joe Policastri
Start Date: 5/9/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/9/2007	Method: Continuous Macrocore	Total Depth (ft): 48

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
						25	SAA: moderate odor
							SAA: tan
							CLAY: light gray, soft, high plasticity, moist
(28-32)	100		22.1	570			SAND: white/brown, fine grained, medium dense - loose, moist, some clay
						30	Clayey SAND: tan/white, fine grained, soft, high plasticity, wet, high gasoline like odor, graded into -
							SAND: tan, fine - medium grained, loose, high gasoline like odor
(32-36)	100		340				SAA: medium grained
				565			Sandy CLAY: very soft, high plasticity, wet, high HCL odor, residual from 32.8 - 35.5', clay nodules from 34 - 36'.
						35	
(36-40)	0						No Sample Collected
				560			
(40-44)	0					40	No Sample Collected
				555			
(44-48)	20		1146			45	Silty CLAY
							SAPROLITE

Remarks: Boring Terminated (ft): 48

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-404
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548864.319 Easting: 1992068.793	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.21666	Driller: Joe Palicastri
Start Date: 6/6/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/6/2007	Method: Continuous Macrocore	Total Depth (ft): 45.5

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	FILL: tan/pink, clayey SAND with gravel, moist
						5	
				590			No Recovery
						10	
				585			
						15	
				580			
						20	
				575			
						25	FILL
(28-32)	40		14.6	570			SAND: tan, dark gray, fine - medium grained, wet, high odor, staining throughout, residual @ 31.8'
						30	
(32-36)	10		324	565			Gravelly SAND: black, coarse grained, loose, wet, high odor, staining throughout, oily sheen in water, emulsion throughout
						35	
(36-40)	30		23	560			Silty CLAY: orange, very soft, high plasticity, wet, high odor, BPLM throughout, stained liner
						40	
(40-44)	100		55.1				SAPROLITE: orange/tan, very soft, high plasticity, wet, high odor, very small clay nodules throughout
				555			
(44-45.5)	100		17.7			45	PWR: slatey gravel, coarse - very coarse, angular, very dense, wet

Remarks: **Boring Terminated (ft): 45.5**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-403
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548863.332 Easting: 1992090.07	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.60167	Driller: Joe Policastri
Start Date: 5/8/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/8/2007	Method: Continuous Macrocore	Total Depth (ft): 48

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
						5	
(8-12)	30		127	590		10	FILL: clayey sand, medium dense, moist, clay nodules
(12-16)	100		1118	585		15	Silty CLAY: tan, very stiff, nonplastic, moist, high odor, trace sand, blebs throughout
(16-20)	100		969				
(20-24)	70		102	580		20	Silty SAND: tan/brown, very fine grained, very dense, trace clay, high HCL odor, blebs throughout
(24-28)	100		28.9	575		25	Silty SAND: olive brown, very fine grained, loose, moist, high gasoline like odor, HCL staining from 21.5 - 22.5'
							SAND: brown, very fine grained, loose, moist, some clay, high HCL odor
(28-32)	100		21.3	570		30	Clayey Silty SAND: brown/red, very fine grained, loose, wet, high odor
(32-36)	30		12.7	565			SAND: brown, very fine grained, loose, wet, trace clay, high HCL odor
						35	SAA: dense, moist, staining from 31.9 - 32'
(36-40)	0			560			SAND: greenish gray, fine - medium grained, subrounded, loose, wet, mica grains, high HCL odor
(40-44)	100		53.4			40	No Sample Collected
							SAPROLITE: parent rock siltstone, high HCL odor
(44-48)	100		37.1	555		45	

Remarks: Boring Terminated (ft): 48

Groundwater		
Date	Time	Depth (ft)

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Boring Log

Boring #:SB-402
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548878.888 Easting: 1992084.614	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 598.06142	Driller: Joe Policastri
Start Date: 5/8/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/8/2007	Method: Continuous Macrocore	Total Depth (ft): 48

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
				590		5	
				585		10	
				580		15	
(20-24)	60		3.2			20	FILL: clayey sand, tan, fine - medium grained, medium dense, moist
(24-28)	70		11.6	575		25	
(28-32)	100		8.3	570		30	SAND: dark green, fine - medium grained, subangular, loose, wet, high HCL odor, HCL staining from 27.7 - 34.6'
(32-36)	50		218	565		35	Gravelly SAND: olive green, chert gravel, BPLM @ 31.7 - 34.6' Silty CLAY: tan/orange, soft, medium plasticity, wet, high HCL odor
(36-40)	100		80.6	560		40	SAPROLITE: olive green/orange, fine - medium grained, soft, medium plasticity, high HCL odor, interbedded saprolite from parent rock shale and siltstone
(40-44)	80		19.1	555		45	SAA: soft - medium stiff
(44-48)			7.4				SAA: orange, soft - medium stiff, low plasticity, moist, moderate HCL odor

Remarks: **Boring Terminated (ft): 48**

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-401
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair/Hallie Garrett
Project: Focused Feasibility Study Investigation	Northing: 1548888.677 Easting: 1992081.301	Drilling Co.: Technical Drilling Services
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.84729	Driller: Joe Policastri
Start Date: 5/8/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 5/8/2007	Method: Continuous Macrocore	Total Depth (ft): 48

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
				590		5	
				585		10	
				580		15	
(20-24)	60		11.6			20	FILL: clayey sand, tan, medium grained, medium dense, moist.
(24-28)	80		2.6	575		25	
(28-32)	90			570		30	SAND: olive green, fine - medium grained, loose, wet, high HCL odor, HCL staining from 27.6 - 30.3', gravel from 29.8 - 30.3'
							Silty CLAY: tan/orange, soft, high plasticity, moist, high HCL odor
(32-36)	95		2.9	565		35	Silty SAND: tan/orange, medium dense - dense, moist, cohesive, moderate HCL odor, some clay, saprolitic, laminations present
(36-40)	100		3.5				SAA: trace clay
				560		40	SAPROLITE: some clay, moist, medium dense - dense, moderate odor
(40-44)	100		1				
				555		45	SAA: tan/orange, medium dense - dense, moist, cohesive, moderate HCL odor, some clay, saprolitic, laminations present
(44-48)	60		1.1				LIMESTONE: weathered, gray, hard
				550			

Remarks: Boring Terminated (ft): 48

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Groundwater

Date	Time	Depth (ft)

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Boring Log

Boring #:SB-439
Sheet 1 of 1

Client: Atlanta Gas Light Company	Location: Atlanta, Georgia	Logged By: Karen LaFlair
Project: Focused Feasibility Study Investigation	Northing: 1548888.55 Easting: 1991991.541	Drilling Co.: Zebra Environmental Drilling
Project #: AGLC2-57859-012	Ground Elevation (msl): 597.84345	Driller: Joe Palicastri
Start Date: 6/7/2007	Drill Rig Type: Trackmounted Geoprobe	Boring ID (in): 2
Finish Date: 6/7/2007	Method: Continuous Macrocore	Total Depth (ft): 37

Sample					Graphic	Depth (ft)	Soil and Rock Description Classification Scheme: USCS
Depth Interval (ft)	% Rec	Blows per 6"	PID (ppm)	Elevation (ft)			
				595		0	No Sample Collected
(8-12)	50			590		5	
(12-16)	50			585		10	FILL: tan/pink, clayey SAND with gravel, moist
(16-20)	5			580		15	
(20-24)	0			575		20	No Recovery
(24-28)	50		2.6			25	Gravelly SAND: gray, fine - coarse grained, medium dense, wet, slight odor, chert nodules, staining throughout
(28-32)	100		0.5	570		30	Silty CLAY: orange/tan, very soft, high plasticity, moist - wet, relic laminations, saprolitic
(32-36)	100		0	565		35	LIMESTONE: weathered, whitish gray, friable
(36-37)	100		0				SAPROLITE: olive green, stiff, nonplastic, moist, friable

Remarks: Boring Terminated (ft): 37

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Groundwater

Date	Time	Depth (ft)

Sediment Boring Logs

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	SD-300 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/31/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-300-0'-2'	1315	100%		Sandy clay	CL	0-2' Moderate yellowish brown sl. gravelly fine sandy clay, glass
	2-6	SD-304-2'-6'	1320	100%		Clay Sandy clay		2-2.5' Olive gray clay, soft, plastic, contains wood part. 2.5-6' Moderate yellowish brown fine sandy clay, with some gravel and iron oxide staining
5								
								Boring terminated at 6' BGS
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-301	**PAGE** 1 **OF** 1	**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/31/98	**START** 1205 **FINISH**		**LOGGER**	M. DENT

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2			80%		Sandy clay	CL	Silty sandy clay with some fine Angular gravels; Yellowish brown, wet, some Fe staining, leaves and roots through out
								Boring terminated at 2' BGS due to refusal
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-302 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/31/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-302-0'-2'	1055	100%		Sandy gravel	GC	0-6' sandy gravel (mostly SLM) , some shell frags. SLM like staining, no HCLO
	2-8	SD-302-2'-8'	1100	100%				
5						Clay	CL	6-8' Olive gray clay, soft, plastic
								Boring terminated at 8' BGS
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-302A	**PAGE**	1	**OF**	1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 11/30/00 **START** 1000 **FINISH** 1030 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								
	0.5-2		1020	80%	NA	Sediment	SP	Gravelly clayey fine sand - some SLM, grayish brown
								BT=2' bss
						WD=8' @ 1010		
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-303 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/31/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-303-0'-2'	940	100%		Sandy clay		0-2' moderate yellowish brown fine sandy clay, rooted
								Boring terminated at 2' BGS due to refusal (8 locations attempted)
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-304 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/31/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-304-0'-2'	0905	100%		Sandy clay	CL	0-0.5' Moderate yellowish brown gravelly fine sandy clay very soft, sticky, rooted
						Sandy gravel	GC	0.5-2' Olive gray clayey, sandy gravel (glass & SLM), very wet
	2-4	SD-304-2'-4'	0915	100%		Gravelly clay	CL	2-3.5' Olive gray gravelly clay, soft, sticky, gravel is black glass and SLM @ 3'; staining, HCLO, some wood
						Clay		3.5-4' Olive gray plastic soft clay, some poss. Staining @ 4', contains some leaves
5								Boring terminated at 4' BGS
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
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BORING LOG

BORING NUMBER	SD-304A	PAGE	1	OF	1	PROJECT NUMBER	1644-0130

PROJECT Rome GA MGP

DRILLING CONTRACTOR NORMANDO

BORING LOCATION Next to SD-304

GROUND ELEVATION

DRILLING METHOD AND EQUIPMENT Vibro Core

SURFACE ELEVATION

DATE 1/5/1999 **START** **FINISH** **LOGGER** Art Busby

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS (NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL)
0		NS		100%			SM	0-1' Wet, soft dark gray to olive gray silty sand with roots and organic material and no odor.
								1-1.4' Soft layer of silty sand with approximately 10% coarse grained coal ash and clinker like material.
				100%	160			1.4-3.0 Wet soft dark gray and olive silty sand and silt with no odor, or BPLM
							GW	3-3.6' Loose gray coarse grained gravel size coal ash and cinder.
								3.6-4.0 Soft wet silty sand ans silt with very fine ash like material
							SM	with no odor.
5								4-4.5' Loose coarse grained gravel like coal ash and clinker. like material, no odor
								Drove tube 7' into sediment, but a piece of slag prevented bottom 2.5' of sample from entering tube.
								EOH
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-305 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/31/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-305-0'-2'	0755	100%		Sandy clay Gravelly clay	CL	0-0.5' Moderate yellowish brown fine sandy clay, very soft, sticky 0.5-2' Olive gray gravelly clay, soft, plastic, sl. Rooted, SLM at top
	2-3	SD-305-2'-3'	0800	90%		Clay		2-3' Olive gray clay, v. soft, sticky, contains few small sticks Boring terminated at 3' BGS
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-306 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/30/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-306-0'-2'	0940	100%		Sandy clay	CL	0-2' Moderate yellowish brown fine sandy clay, sticky, soft, soft, rooted
	2-8	SD-306-2'-8'	1715	100%		Clay		2-2.5' SAA, with iron staining 2.5-10' Olive gray clay, plastic, soft
5								5' Thin layer ~ 1/2" of possible SLM containing thin clayey fine sand layers
	8-10			100%				
10								Boring terminated at 10' BGS
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-307 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/30/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-307-0'-2'	1610	100%		Duplicate 110 Sandy clay	CL	0-2' Moderate yellowish brown fine sandy clay, sticky, soft, soft, rooted
	2-8	SD-307-2'-8'	1620	100%				2-3' SAA, with iron staining 3-8' Olive gray silty clay, plastic, soft contains thin clayey fine sand layers with some gravel
5								
10								Boring terminated at 8' BGS
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-308 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/30/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-308-0'-2'	1455	100%		Sandy clay	CL	0-2' Moderate yellowish brown fine sandy gravelly clay, rounded stream gravel
	2-8	SD-308-2'-8'	1505	100%				2-2.5' SAA, with iron staining, less gravel, rooted 2.5-8' Olive gray soft sticky plastic clay contains thin sand layers towards base
5								
	8-9			100%				8-8.5' SAA, no sand
						Clayey sand	SC	8.5-9' Fine clayey sand Boring terminated at 9' BGS
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-308A	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 11/30/00 **START** 0830 **FINISH** 0900 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								
	0.5-2		0900	90%	NA	Sediment	CL	Gravelly fine sandy clay - grayish brown
								BT=2' bss
						WD=8' @ 0900		
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-308B	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/6/00 **START** 0830 **FINISH** 0930 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								
	0.5-1		0850	70%	NA	Sediment	CL	Clay - grayish brown, plastic, sandy in parts
	1-2		0900	70%	NA			
						Bedrock	BR	Siltstone at 2' bss; 2" of saprolite on top
								BT=2' bss at bedrock
						WD=8' @ 0830		
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-309 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION			**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	12/28/98 **START**	**FINISH**	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-309-0'-2'	1315	100%		Sandy clay	GC	0-2' Olive gray silty sandy rounded stream gravel, glass, sl. cohesive, v. gravelly at base
	2-5	SD-309-2'-5'	1320	100%		Silty sandy clay	CL	2-5' Silty v. fine sandy clay ,soft, sticky
5								Boring terminated at 5' BGS
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-310 **PAGE** 1 **OF** 1	**PROJECT NUMBER**	1644-0130
PROJECT	ROME FORMER MGP FACILITY	**DRILLING CONTRACTOR**	Normando
BORING LOCATION	In river	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	Vibracore	**TOP OF CASING ELEVATION**	
DATE	1-6-99 **START** **FINISH**	**LOGGER**	A. BUSBY

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-310-0'-2'	0930	100%		Sandy clay	SM	0-1.7' Soft, dark, grayish brown silty sand with roots, organic organic material and approximately 5% coal ash
	2-7	SD-310-2'-7'	0940	100%		Silty sandy clay		1.7-2.8' Loose coarse grained coal ash & cinder like material with no odor or stain 2.8-3.5' Soft dark grayish brown silty sand and coarse gr. sand with fine coal ash like stain, no odor 3.5-4.5' Loose coarse gravel size coal ash and cinder like material with no odor or stain
5								Drove sampler 7' into sediment but only recovered 4.5' of sample. Depth of water was 3 feet during sampling, so total
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-311 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION	In river		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE		**START**	**FINISH**	**LOGGER**	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-311-0'-2'	1115	100%		Silty sand	SM	0-7' Soft dark olive gray silty sand with roots, leaves, and other organic material. No coal, ash, cinder, or odor
	2-7	SD-311-2'-7'	1120	30%				
5								
								Boring terminated at 7'
								Sample refusal was approximately 11' below water surface
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-312 **PAGE** 1 **OF** 1	**PROJECT NUMBER**	1644-0130
PROJECT	ROME FORMER MGP FACILITY	**DRILLING CONTRACTOR**	Normando
BORING LOCATION	45 deg downstream from SD-304	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	Vibracore	**TOP OF CASING ELEVATION**	
DATE		**START** 1230 **FINISH** 1330	**LOGGER**

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-1.5	SD-312-0'-1.5'	1330			Silt	SM	0-0.8' Dark olive brown silt and silty sand with no odor 0.8'-1.5' Dark gray silt and organic material with leaves. no odor Depth to sampler refusal was approximately 10-11' below water surface
5								
10								Boring terminated at 7' Sample refusal was approximately 11' below water surface
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-313 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION	16' offshore from SD-304		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibracore		**TOP OF CASING ELEVATION**		
DATE	1-6-99 **START** 1330 **FINISH** 1430		**LOGGER**	A. Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2	SD-312-0-2	1430	100%	110	Silt	SM	0-0.8' Dark olive gray silt and silty sand with approx. 5% coarse gravel like coal ash and cinder 1-2' Soft wet dark gray and black silt with roots and decaying organic matter, possible BPLM like odor & sheen Depth of water was approximately 10-11' during sampling
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-313A	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 11/30/00 **START** 0915 **FINISH** 0945 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0						Sediment	GM	Gravelly clayey fine sand- grayish brown, mod HCLO
	0.5-2		0930	80%	NA	Saprolite	CL	Saprolite-sandy clay, greenish gray, relic foliation
								BT=2' bss
						WD=8.5' @ 0920		
5								
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-314 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	TEG	
BORING LOCATION	45 degrees upstream of Sp-309, 16' from shore		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	12/16/98 **START** 1530 **FINISH** 1630		**LOGGER**	Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0	SD-314 0-1.5	1630	100%				0-1.5 feet Entire interval is loose dark gray coal ash and cinder like material with no odor or sheen. There was a small percentage of decaying organic material such as leaves and sticks mixed in.
	2-4							
5	4-6							Depth of water was aprox. 8.5 feet during sampling and refusal was approximately 10-11 feet from surface of water.
	6-8							
	8-10							Refusal at 10-11 bgs
10	10-12							
	12-14							
15	14-16							
	16-18							
	18-20							
20	20-22							
	22-24							
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENGINEERING, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-315 **PAGE** 1 **OF** 1		**PROJECT NUMBER**	1644-0130	
PROJECT	ROME FORMER MGP FACILITY		**DRILLING CONTRACTOR**	Normando	
BORING LOCATION	16 feet offshore from SD 313		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	Vibro core		**TOP OF CASING ELEVATION**		
DATE	1/5/99 **START** 1630 **FINISH** 1730		**LOGGER**	Busby	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-1	SD-315 0-1	1715				GW	0-1 foot. Entire sample was rounded and subrounded gravel and course grain sand and silt, 80 % gravel, 15 % sand, 5% silt with no odor
								Depth of water was approximately 11'9" deep during sampling and refusal was at approximately 13 feet.
5								
								Refusal at 11 bgs
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
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BORING LOG

BORING NUMBER	SD-316	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 11/29/00	**START** 0900 **FINISH** 1100	**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		0950	100%	2.6	Sediment	CL	Fine sandy clay - grayish brown, very soft and mushy
	0.5-2		1025	60%	3.3			Gravelly fine sandy clay - soft clay, sticky, grayish brown, moderate HCLO
	2-4		1035	60%	NA			
5	4-6		1045	90%	2.3	Saprolite	SC	Saprolite - clayey fine sandy silt - greenish gray dry, crumbly, foliated, slight HCLO at 4' bss no odor below 4' bss, cohesive
						Bedrock WD=8.5' @ 0945 Top of Barge to water =1.5'	BR	BT=6' bss at bedrock
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
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BORING LOG

BORING NUMBER	SD-317	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 11/29/00	**START** 1300 **FINISH** 1500	**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1350	100%	NA	Sediment/DUP112900A	CL	Fine sandy clay - grayish brown, leaves, soft and mushy
	0.5-2		1430	90%	2.8			SAA; no leaves, gravelly, slight HCLO
						Saprolite	CL	Saprolite - clay - dk yellowish orange, relic foliation
	2-4		1440	90%	1.4			soft
							SC	Saprolite - clayey fine sandy silt - dk yellowish brown relic foliation, crumbly
						Bedrock	BR	
5								BT=4' bss @ bedrock
						WD=8.5' @ 1345		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
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BORING LOG

BORING NUMBER	SD-318	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131
PROJECT	ROME MGP			**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER			**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT			**TOP OF CASING ELEVATION**	
DATE	11/29/00	**START** 1500	**FINISH** 1600	**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1520	100%	2.9	Sediment	CL	Fine sandy clay - grayish brown, plastic, 1 mm thick layer of staining 3" bss, moderate HCLO from 0-0.5' bss 0-0.5' bss, slight HCLO from 0.5'-2' bss, 2" of saprolite on top of becrock at 2' bss
	0.5-2		1555	90%	NA			
						Bedrock	BR	BT=2' bss at bedrock
5								
						WD=8.5' @ 1505		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
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BORING LOG

BORING NUMBER	SD-319	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE	11/30/00	**START** 1030 **FINISH** 1200	**LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1100	100%	NA	Sediment	GM	Gravelly clayey fine sand - grayish brown
	0.5-2		1140	80%	NA	Saprolite	SC	Saprolite - clayey fine sand - greenish gray, foliated some quartz veins, appears to have been schist or slate
						Bedrock	BR	BT=2' bss at bedrock
5								
						WD=10.5' @ 1130		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
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BORING LOG

BORING NUMBER	SD-320	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 11/30/00 **START** 1330 **FINISH** 1500 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5					No recovery		Appers to be gravel
	0.5-2		1415	90%	NA	Sediment	SW	Medium to coarse sand - mod yellowish brown, rounded grains, minor gravel
						Bedrock	BR	Bedrock inside of shoe, appears to be shale or siltstone drak gray
								BT=2' bss at bedrock
5								
						WD=9.5' @ 1405		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
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BORING LOG

BORING NUMBER	SD-321	**PAGE** 1 **OF** 1	**PROJECT NUMBER**	1644-0131	
PROJECT	ROME MGP		**DRILLING CONTRACTOR**	ESN	
BORING LOCATION	OOSTANAULA RIVER		**GROUND ELEVATION**		
DRILLING METHOD AND EQUIPMENT	DPT		**TOP OF CASING ELEVATION**		
DATE	11/30/00	**START** 1500 **FINISH** 1630	**LOGGER**	M. DILLON	

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1500	100%	NA	Sediment	GW	Gravel SLM and rock, some medium to coarse sand
	0.5-1		1600	90%	NA	Saprolite	SC	Saprolite - clayey fine sand, greenish gray, dry, crumbly
						Bedrock	BR	
								BT= 1'bss at bedrock
5								
						WD=9.5' @ 1500		
10						RB113000A 1640 on sample liner		
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-322	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/1/00	**START** 0830 **FINISH** 0945	**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		0840	100%	NA	Sediment	GW	Fine sandy gravel - grayish brown, SLM and rock gravel
	0.5-2		0920	70%	NA			SAA; grayish black, slight HCLO
	2-4		0930	95%	NA			SAA; moderate HCLO
						Saprolite	CL	Saprolite - clay - dk yellowish orange, relic foliation plastic
5								BT=4' bss at refusal
						WD=7.5' @ 0834		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-323	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/1/00 **START** 1000 **FINISH** 1030 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1010	100%	NA	Sediment/DUP120100A	SW	Medium to coarse sand - mod yell br, some fine sand
	0.5-2		1020	70%	NA			SAA; minor amount of gravel
						Bedrock	BR	Bedrock
								BT= 2' bss at bedrock
5								
						WD=9' @ 1030		
						FB120100A		
						1035		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-324	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/6/00 **START** 1400 **FINISH** 1500 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1435	100%	NA	Sediment	CL	Fine sandy silty clay - grayish brown, very soft and mushy
	0.5-2		1445	95%	NA			SAA; wood on top of saprolite at 1' bss
						Saprolite	SC	Saprolite - fine sandy clayey silt - grayish green dry, crumbly
						Bedrock	BR	
								BT= 2' bss at bedrock
5								
						WD=8.2' @ 1430		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-325	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/6/00 **START** 1500 **FINISH** 1600 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1510	100%	NA	Sediment	SW	Gravelly medium to coarse sand - mod yell br, rounded
	0.5-2		1530	80%	NA	Saprolite	CL	Saprolite - fine sandy clay - dk yellowish orange to mod brown, appears foliated, cohesive, crumbly in part
	2-4		1540	70%	NA			
5	4-6		1550	80%	NA			SAA
						Bedrock	BR	
						WD=10' @ 1505		BT= 6' bss at bedrock
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-326	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/7/00 **START** 0900 **FINISH** 0940 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		0900	80%	NA	Sediment	GM	Sandy silty gravel - brownish black, brick and SLM
	0.5-2		0920	70%	NA		SW	Gravelly medium to coarse sand - brownish black some SLM
	2-3		0930	80%	NA	Saprolite	CL	Saprolite - clay - dk gray, soft, plastic mixed with pieces of bedrock (siltstone - dk gray), moderate HCLO
						Bedrock		Bedrock
5								BT= 3' bss at bedrock
						WD=5.5' @ 0845		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-327	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/7/00	**START** 1315 **FINISH** 1400	**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1325	-	NA	Sediment	SW	Gravelly coarse sand - mod yellowish brown, rounded
	0.5-2		1335	-	NA		GM	Sandy silty gravel - brownish black, some SLM, some rounded gravel
	2-4		1345	-	NA			
						Saprolite	CL	Saprolite - sandy clay - mod yellowish brown to grayish brown, moderate HCLO to bedrock, plastic very soft
5						Bedrock	BR	
								BT= 4' at bedrock
						WD=9.2' @ 1317		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-328	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/7/00	**START** 1200 **FINISH** 1300	**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1200	100%	NA	Sediment	CL	Fine sandy clay - mod yellowish brown, very soft, mushy
	0.5-2		1220	90%	NA		GM	Sandy silty gravel - brownish black, SLM gravel, no odor
	2-4		1230	80%	NA			
5	4-6		1240	80%	NA	Saprolite	CL	Saprolite - fine sandy clay - dk yellowish orange, gravel quartz veins, soft, plastic clay
	6-8		1300	70%	NA			
						Bedrock	BR	Appears to be shale or slate
10						WD=8.2' @ 1150		BT= 8' bss at bedrock
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-329	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/7/00 **START** 0950 **FINISH** 1030 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1000	80%	NA	Sediment	GM	Sandy silty gravel - brownish black, SLM, mod HCLO
	0.5-2		1020	70%	NA			
	2-4		1030	80%	NA	Saprolite	CL	Saprolite - sandy silty clay - mod yellowish brown relic foliation, no odor
5						Bedrock	BR	BT = 4' bss at bedrock
						WD=5.8' @ 0950		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-330	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/7/00 **START** 1415 **FINISH** 1500 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1430	80%	NA	Sediment	SW	Gravelly medium to coarse sand - mod yel brown rounded
	0.5-2		1440	90%	NA			
	2-4		1450	70%	NA			SAA
								Gravel brick and a piece of wire
5								BT = 4' bss at refusal; appears to be a piece of granite, 4-5 attempts
						WD=9' @ 1421		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-331	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/7/00 **START** 1100 **FINISH** 1130 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1115	100%	NA	Sediment/DUP120700A	CL	Fine sandy clay - dk yellowish brown, very soft, mushy
	0.5-2		1125	90%	NA		GM	Sandy silty gravel to gravelly sand - brownish black SLM gravel
	2-3		1130	90%	NA			
						Bedrock		BT = 3' bss at bedrock
5								
						WD=7' @ 1031		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-332	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/7/00	**START** 1600 **FINISH** 1630	**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1600	100%	NA	Sediment	SW	Medium to coarse sand - mod yellowish brown rounded
	0.5-2		1615	80%	NA			
						Saprolite	SC	Saprolite - sandy clayey silt - greenish gray, dry crumbly, maybe slight HCLO at 3.5' bss
	2-4		1625	80%	NA			
5						Bedrock	BR	BT = 4' bss at bedrock
						WD=8' @ 1605		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-333	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/7/00 **START** 1515 **FINISH** 1545 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1520	100%	NA	Sediment/DUP120700B	CL	Fine sandy clay - grayish brown, soft, mushy
	0.5-2		1530	90%	NA		SW	Medium to coarse sand - mod yellowish brown rounded
	2-4		1540	90%	NA			
5						Bedrock	BR	Siltstone
								BT = 4' bss at bedrock
						WD=8' @ 1516		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-334	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/20/00	**START** 1400	**FINISH** 1440	**LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1415	100%	NA	Sediment	SW	Medium to coarse gravelly sand - mod yel brown, rounded
	0.5-2		1420	60%	NA		SP	Clayey, silty, medium to coarse gravelly sand - grayish brown, angular gravel, glass
	2-3.5		1430	60%	NA			
						Saprolite	SC	Saprolite - clayey silty fine sand, dry, crumbly, dk yellowish orange to greenish gray
						Bedrock	BR	
5								BT = 3.5' bss at bedrock
						WD=8' @ 1406		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-335	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/20/00	**START** 1500	**FINISH** 1540	**LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1515	90%	NA	Sediment	SW	0-0.5' Fine to coarse sand - grayish brown, containing abundant wood and wood fibers, rounded sand
	0.5-2		1525	80%	NA		SP	0.5' Clayey gravelly fine to coarse sand - rounded sand and gravel
	2-4		1535	80%	NA			
						Saprolite	SC	Saprolite - clayey, fine sandy silt - greenish gray, dry crumbly
5						Bedrock	BR	BT = 4' bss at bedrock
						WD=8' @ 1459		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-336	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/20/00 **START** 1540 **FINISH** 1600 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1540	90%	NA	Sediment	SW	Gravelly medium to coarse sand - mod yel brown, rounded
	0.5-2		1545	80%	NA		SP	Gravelly fine to coarse clayey sand - grayish brown
	2-3		1550	80%	NA			Gravelly fine to coarse clayey sand - grayish brown; moderate HCLO at 3' bss
						Bedrock	BR	
5								BT = 3' bss - refusal after 3 attempts
						WD=12' @ 1540		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-337	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/20/00	**START** 1600 **FINISH** 1700	**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		1620	80%	NA	Sediment	SW	Gravelly fine to coarse sand - mod yel brown, rounded
	0.5-2		1625	90%	NA		SP	Gravelly clayey fine to coarse sand - grayish brown rounded
	2-4		1640	80%	NA		SW	Medium to coarse sand - grayish brown, rounded
5	4-6		1645	80%	NA			Medium to coarse sand - grayish brown, rounded
	6-7		1650	90%	NA	Saprolite	SC	Saprolite - fine silty clayey sand - cohesive, greenish gray dry, crumbly
						Bedrock	BR	
								BT= 7' bss at bedrock
10						WD=9' @ 1612		
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-338	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/20/00 **START** 1710 **FINISH** 1730 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-2		1720	90%	NA	Sediment	SW	Medium to coarse sand - yellowish brown, rounded
						Saprolite	SC	Saprolite - fine sandy clayey silt - dark yellowish orange
						Bedrock	BR	BT = 2' bss at bedrock
5								
						WD=13' @ 1716		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-339	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/21/00	**START** 0830	**FINISH** 0920	**LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0	0-0.5		0830	90%	NA	Sediment	SW	Gravelly medium to coarse sand - mod yell brown, rounded
	0.5-2		0840	80%	NA			
	2-4		0850	80%	NA			Gravelly medium to coarse sand - moderate yellowish brown, rounded
5	4-6		0900	80%	NA			Medium to coarse sand - moderate yellowish brown rounded
	6-7		0910	80%	NA			Medium to coarse sand - moderate yellowish brown rounded - 2" of saprolite on top of bedrock
						Bedrock	BR	
								BT= 7' bss at bedrock
10						WD=8' @ 0830		
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-401	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/6/00	**START** 1340	**FINISH** 1430	**LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								
	0.5-1		1342	80%	NA	Sediment	GM	Silty sandy gravel - grayish brown, rounded gravel
	1-2		1400	80%	NA			Gravelly fine to medium silty sand - grayish brown
	2-3		1415	80%	NA			moderate HCLO just above saprolite
	3-4		1425	90%	NA		SC	Saprolite - sandy clayey silt - grayish green, dry crumbly
5								BT = 4' bss
						WD=8' @ 1340		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-402	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT ROME MGP
DRILLING CONTRACTOR ESN
BORING LOCATION OOSTANAULA RIVER
GROUND ELEVATION
DRILLING METHOD AND EQUIPMENT DPT
TOP OF CASING ELEVATION
DATE 12/6/00 **START** 1050 **FINISH** 1140 **LOGGER** M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								
	0.5-1		1100	-	NA	Sediment	CL	Gravelly fine sandy clay - grayish brown, soft and mushy 3 to 4 TLM globules at 2' bss on top of saprolite in gravel maximum 1mm thick, mod HCLO
	1-2		1115	-	NA			
	2-4		1130	-	NA	Saprolite	SC	Saprolite - fine clayey sandy silt - grayish green, dry crumbly HCLO to 3" into saprolite
5								BT = 4' bss at refusal
						WD=8' @ 1135		
10								
15								
20								
25								

(Continued on next page if over 25 feet deep)

WILLIAMS ENVIRONMENTAL SERVICES, INC.
A Williams Group International Company

BORING LOG

BORING NUMBER	SD-403	**PAGE** 1	**OF** 1	**PROJECT NUMBER**	1644-0131

PROJECT	ROME MGP	**DRILLING CONTRACTOR**	ESN
BORING LOCATION	OOSTANAULA RIVER	**GROUND ELEVATION**	
DRILLING METHOD AND EQUIPMENT	DPT	**TOP OF CASING ELEVATION**	
DATE 12/6/00	**START** 1145 **FINISH** 1220	**LOGGER**	M. DILLON

DEPTH BELOW GROUND SURFACE (feet)	SAMPLE INTERVAL	TYPE AND NUMBER	TIME	REC. %	OVM PEAK/ AVG. (ppm)	REMARKS	SYMBOLIC LOG	SOIL DESCRIPTION/COMMENTS: NAME, GRADATION OR PLASTICITY, PARTICLE SIZE, DISTRIBUTION, COLOR, MOISTURE CONTENT, RELATIVE DENSITY OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY, USCS GROUP SYMBOL
0								
	0.5-1		1200	-	NA	Sediment	CL	Gravelly fine sandy clay - grayish brown, soft and mushy
	1-2		1210	-	NA			
						Saprolite	SC	Saprolite - fine clayey sandy silt - grayish green, dry crumbly
5								BT = 2' bss
						WD=7.8' @ 1155		
10								
15								
20								
25								

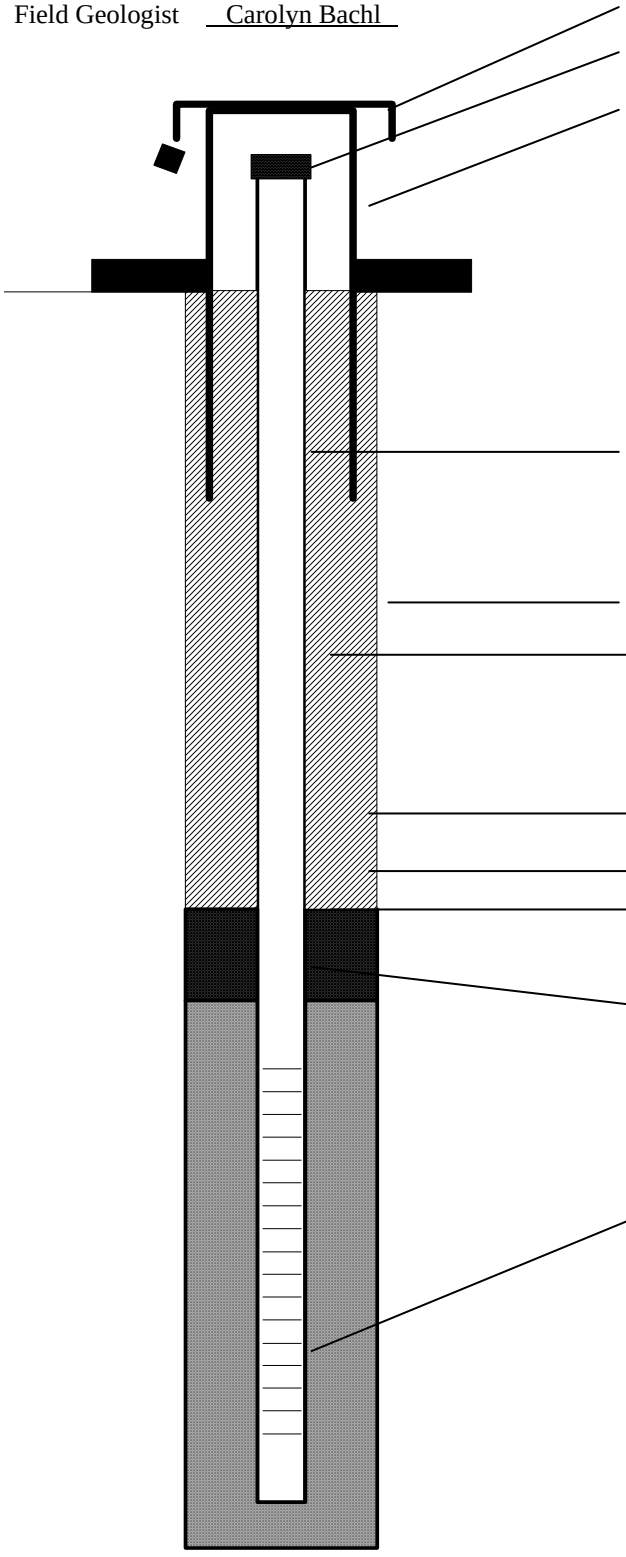
(Continued on next page if over 25 feet deep)

Monitoring Well Construction Logs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 5/10/2000
Drilling Company Law Gibb
Field Geologist Carolyn Bachl

Well No. MW-401A



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 598.74, ft above MSL

I.D of Protective Casing 4”

Type of Protective Ballards Stainless Steel

Ground Surface Elevation N/A

I.D. of Riser Pipe 2”

Type of Riser Pipe PVC

Diameter of Borehole 8”

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 13’

Type of Seal Bentonite

Depth to Top of Sandpack 15’

Type of Sandpack Medium grain silica sand

Depth to Top of Screen 17.5’

I.D. of Well Screen 2”

Type of Well Screen PVC

Depth to Bottom of Screen 27.5’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 27. 5’

Groundwater Levels

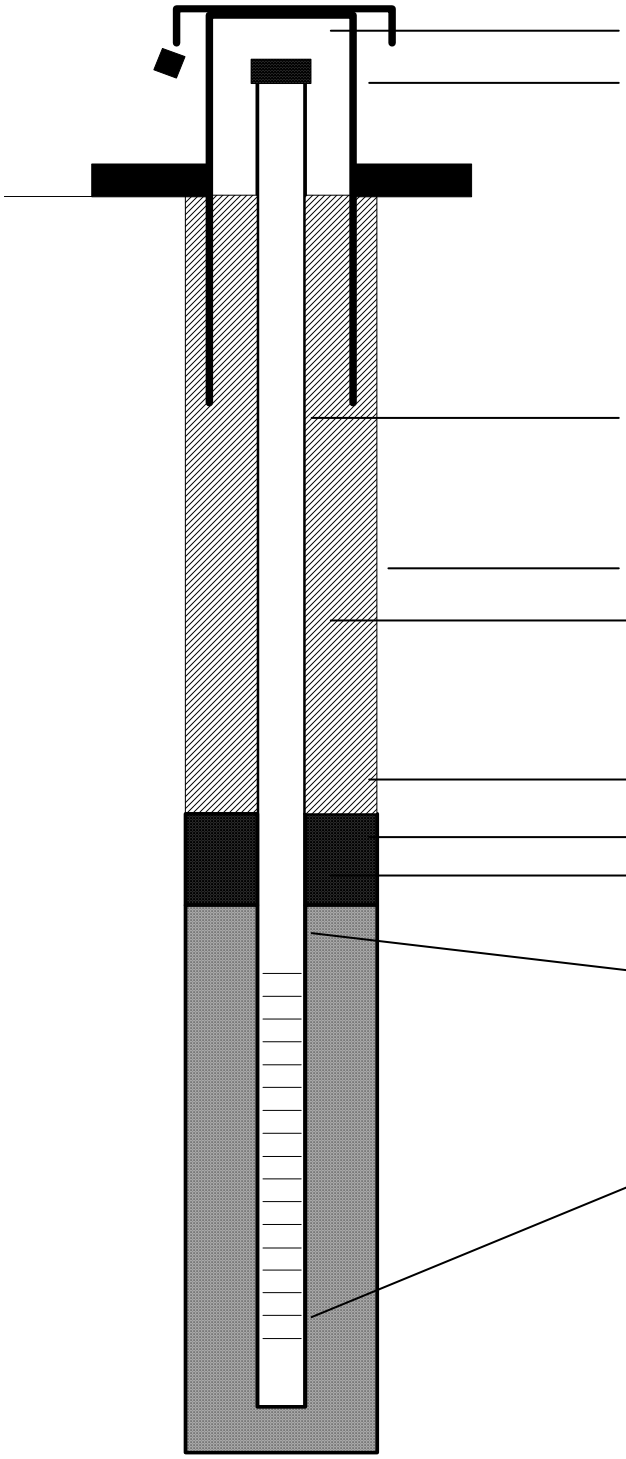
Initial During Drilling dry

Upon Completion of Work dry

MONITORING WELL CONSTRUCTION LOG

Date of Installation 3/27/01
Drilling Company Piedmont Environmental
Field Geologist Carolyn Bachl

Well No. MW-401AR



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe

I.D of Protective Casing N/A

Type of Protective Ballard Stainless steel

Ground Surface Elevation

I.D. of Riser Pipe 2”

Type of Riser Pipe PVC

Diameter of Borehole 6”

Type of Backfill Cement/Bentonite

Grout Ratio 5:1

Depth to Top of Seal 16’

Type of Seal Bentonite

Depth to Top of Sandpack 18’

Type of Sandpack Fine-grained silica sand

Depth to Top of Screen 20’

I.D. of Well Screen 2”

Type of Well Screen 0.010” PVC

Depth to Bottom of Screen 30’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 30’

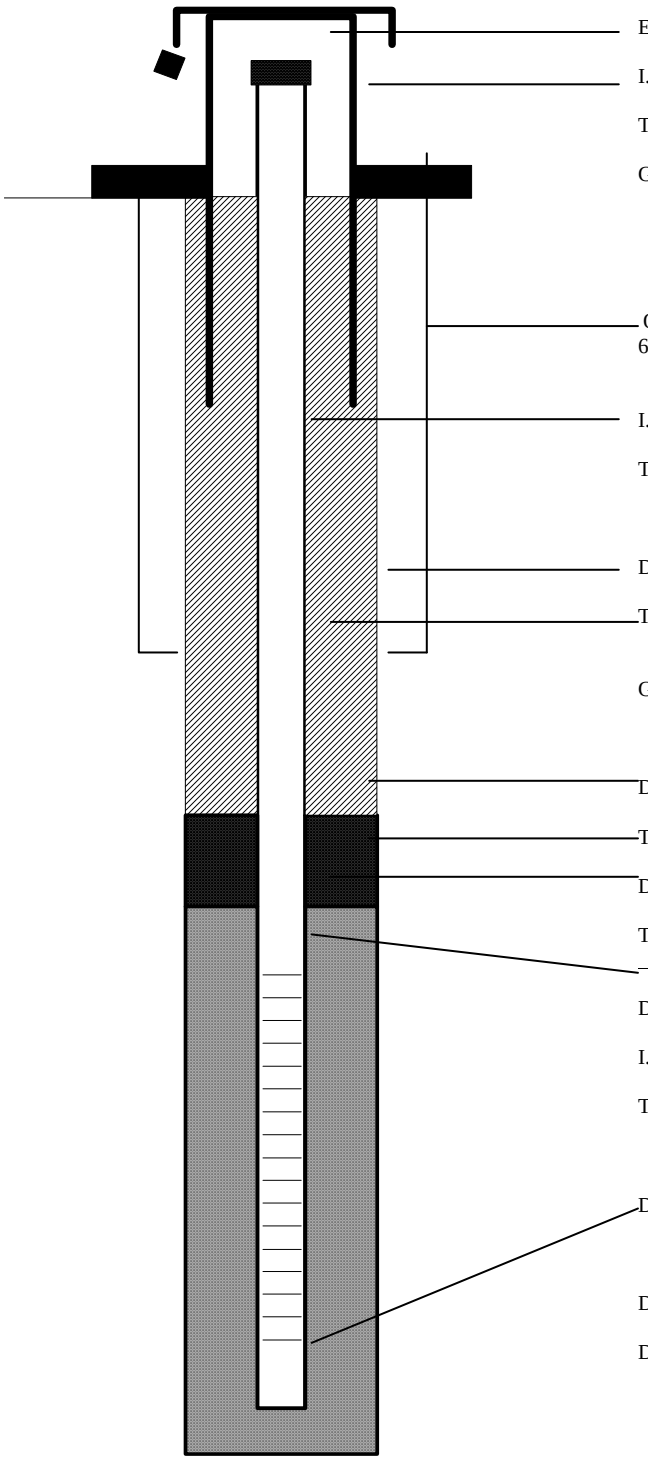
Groundwater Levels
Initial During Drilling 26‘ bgs

Upon Completion of Work 19.85 below TOC

MONITORING WELL CONSTRUCTION LOG

Well No. MW-401B

Date of Installation 5/11/2000 & 5/13/2000
Drilling Company Law Gibb
Field Geologist Carolyn Bachl



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 599.02 ft above MSL

I.D of Protective Casing N/A

Type of Protective Ballard Stainless Steel

Ground Surface Elevation N/A

Outer Casing Grouted to 30' bgs on 5/11/2000
6" PVC in 8" borehole

I.D. of Riser Pipe 2"

Type of Riser Pipe PVC

Diameter of Borehole 6" (PVC Casting) then 5"

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 50.9'

Type of Seal Bentonite

Depth to Top of Sandpack 53'

Type of Sandpack medium-grained silica sand

Depth to Top of Screen 55'

I.D. of Well Screen 2"

Type of Well Screen PVC

Depth to Bottom of Screen 65'

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 65'

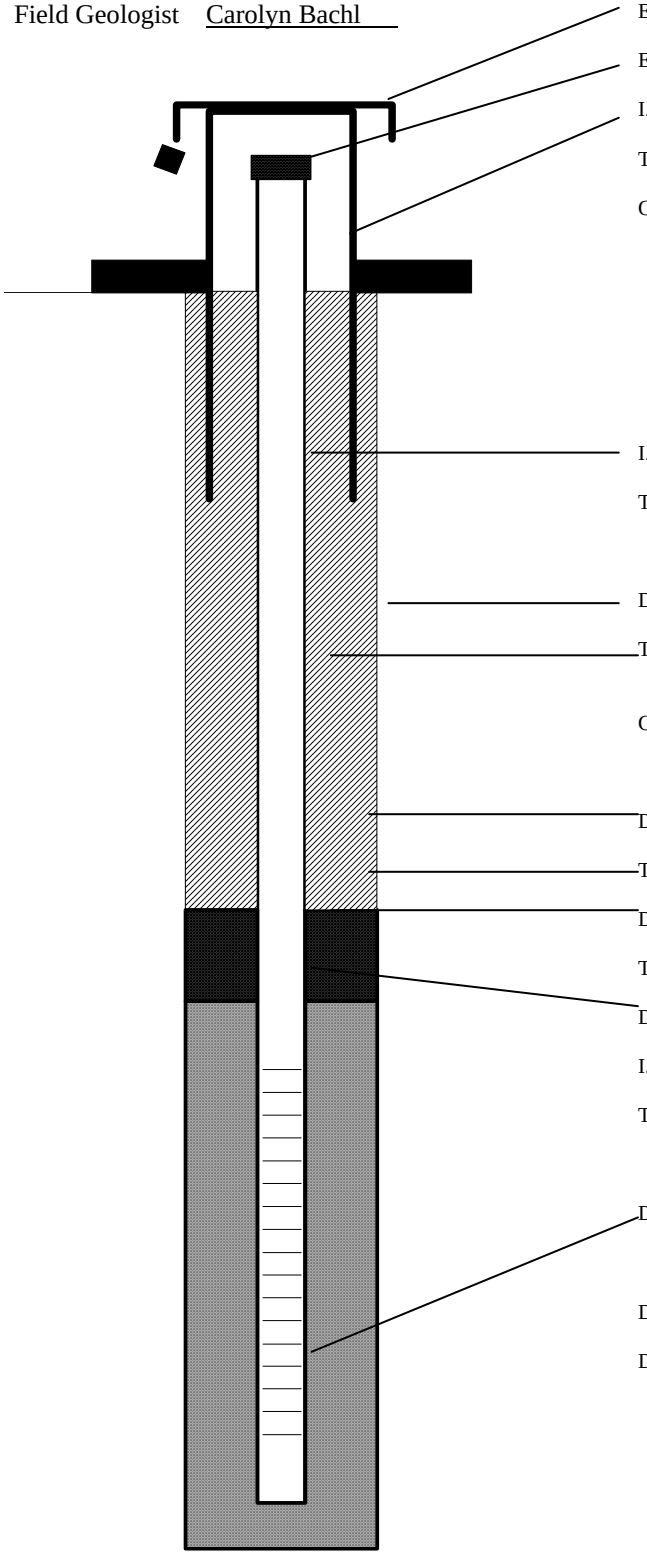
Groundwater Levels
Initial During Drilling 26' bgs

Upon Completion of Work 29.55' bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 5/12/2000
Drilling Company Law Gibb
Field Geologist Carolyn Bachl

Well No. MW-402A



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 599.94 ft above MSL

I.D of Protective Casing 4”

Type of Protective Casing Stainless Steel

Ground Surface Elevation N/A

I.D. of Riser Pipe 2”

Type of Riser Pipe Stainless Steel

Diameter of Borehole 8”

Type of Backfill Cement/Bentonite

Grout Ratio 5:1

Depth to Top of Seal 16’

Type of Seal Bentonite

Depth to Top of Sandpack 18’

Type of Sandpack medium grained silica sand

Depth to Top of Screen 20.5’

I.D. of Well Screen 2”

Type of Well Screen Stainless Steel

Depth to Bottom of Screen 30.5’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 30.5’

Groundwater Levels

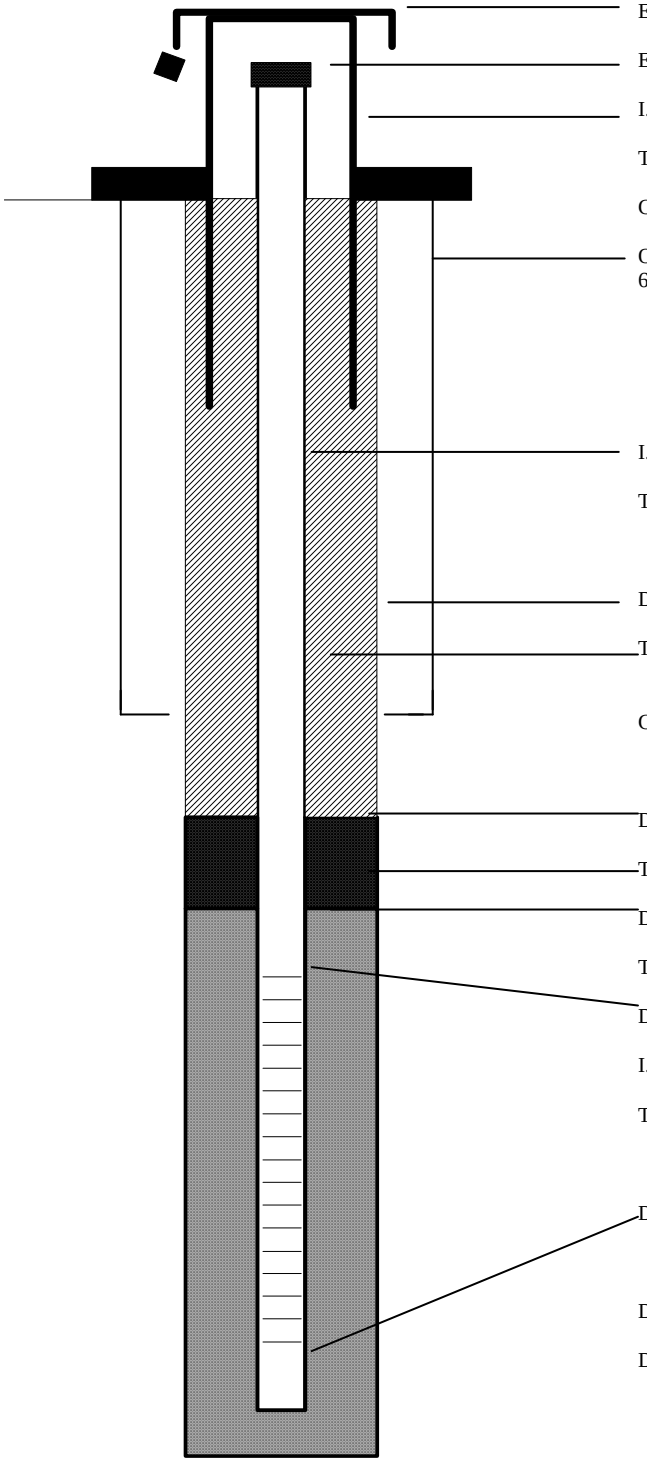
Initial During Drilling 26 ‘ bgs

Upon Completion of Work 23.12’ bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 5/15/2000
Drilling Company Law Gibb
Field Geologist Carolyn Bachl

Well No. MW-402B



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 599.77 ft above MSL

I.D of Protective Casing 4”

Type of Protective Casing Stainless Steel

Ground Surface Elevation N/A

Outer Casing installed to 33’
6” PVC Casing grouted in 8” borehole

I.D. of Riser Pipe 2”

Type of Riser Pipe PVC

Diameter of Borehole 6”

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 35.5’

Type of Seal Bentonite

Depth to Top of Sandpack 37.7’

Type of Sandpack Medium-grained silica sand

Depth to Top of Screen 40’

I.D. of Well Screen 2”

Type of Well Screen PVC

Depth to Bottom of Screen 50’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 50’

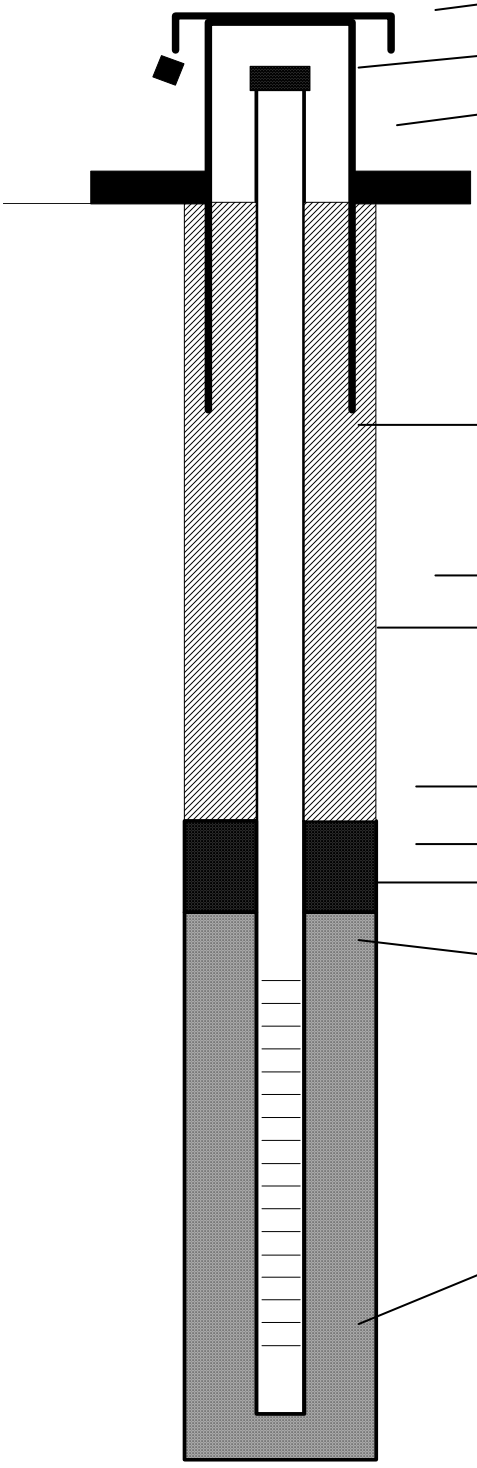
Groundwater Levels
Initial During Drilling 26’ bgs

Upon Completion of Work 25.17’ bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 5/9/2000
Drilling Company Law Gibbs
Field Geologist Carolyn Bachl

Well No. MW-403A



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 599.33 ft above MSL

I.D of Protective Casing 4”

Type of Protective Casing Stainless Steel

Ground Surface Elevation (TOC = app. 2’ ags)

I.D. of Riser Pipe 2”

Type of Riser Pipe Stainless Steel

Diameter of Borehole 8”

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 18’

Type of Seal Bentonite

Depth to Top of Sandpack 20.7’

Type of Sandpack Medium-grained silica sand

Depth to Top of Screen 22.5’

I.D. of Well Screen 2”

Type of Well Screen Stainless Steel

Depth to Bottom of Screen 32.5’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 32.5’

Groundwater Levels

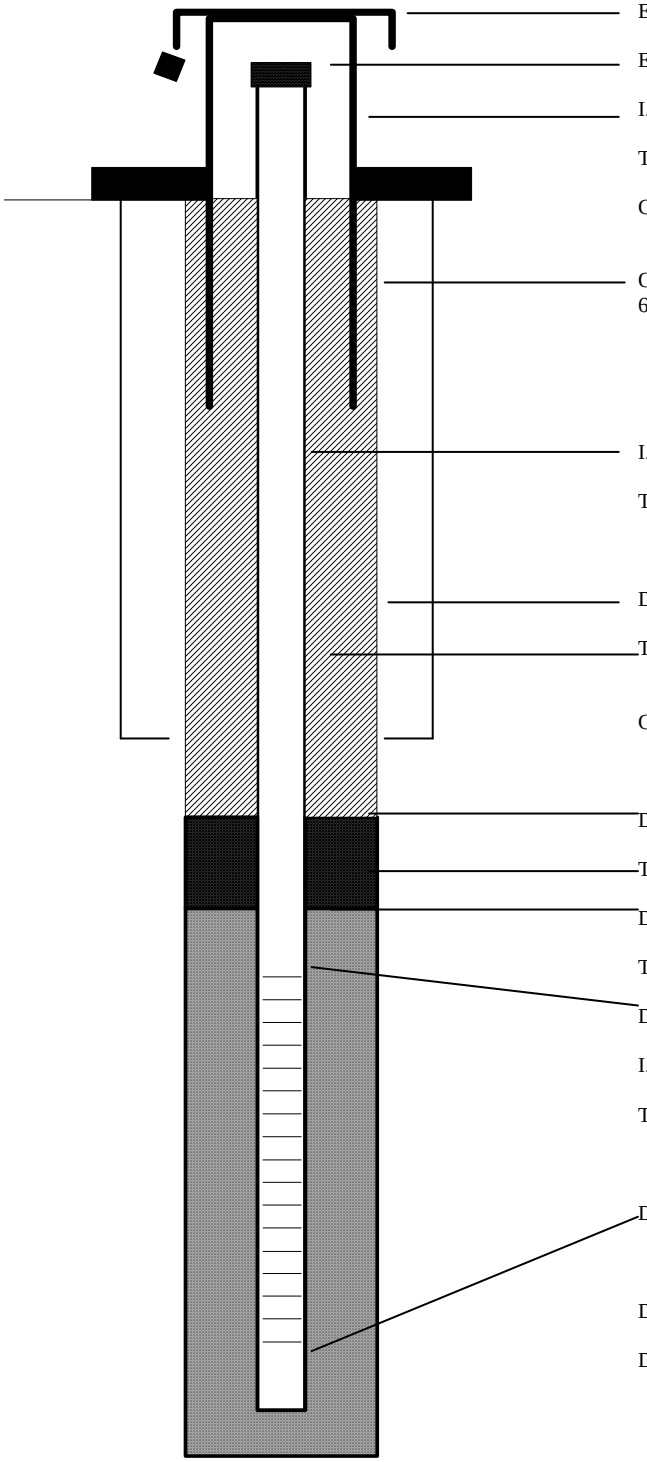
Initial During Drilling 25’ bgs

Upon Completion of Work 29.92 bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 5/14/2000
Drilling Company Law Gibb
Field Geologist Carolyn Bachl

Well No. MW-403B



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 599.91 ft above MSL

I.D of Protective Casing 4”

Type of Protective Casing Stainless Steel

Ground Surface Elevation N/A

Outer Casing to 35’
6” PVC grouted into 8” hole

I.D. of Riser Pipe 2”

Type of Riser Pipe PVC

Diameter of Borehole 6”

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 53.5’

Type of Seal Bentonite

Depth to Top of Sandpack 56.1’

Type of Sandpack Medium-grained silica sand

Depth to Top of Screen 60.5’

I.D. of Well Screen 2”

Type of Well Screen PVC

Depth to Bottom of Screen 70.5’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 70.5’

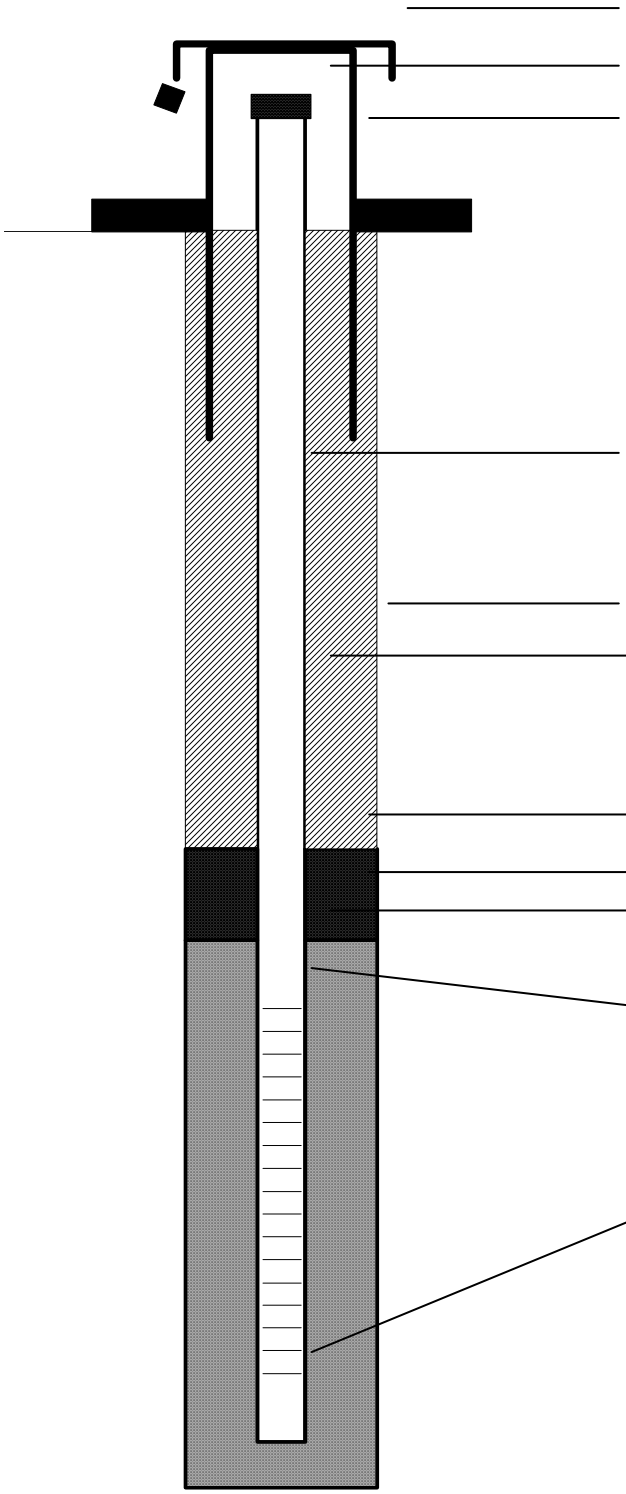
Groundwater Levels
Initial During Drilling 25’ bgs

Upon Completion of Work 30.36’ bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 5/10/2000
Drilling Company Law Gibb
Field Geologist Carolyn Bachl

Well No. MW –404



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 600.08 ft above MSL

Type of Protective Ballard Stainless Steel

Type of Protective Casing N/A

Ground Surface Elevation (TOC = app. 2.4' ags)

I.D. of Riser Pipe 4"

Type of Riser Pipe Stainless Steel

Diameter of Borehole 10"

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 13.3'

Type of Seal Bentonite

Depth to Top of Sandpack 15.5'

Type of Sandpack Medium-grained silica sand

Depth to Top of Screen 18'

I.D. of Well Screen 4"

Type of Well Screen Stainless Steel

Depth to Bottom of Screen 28'

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 28'

Groundwater Levels

Initial During Drilling 25' bgs

Upon Completion of Work 25.9 bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 10/10/2002
Drilling Company AE Drilling
Field Geologist Christie Battenhouse

Well No. MW –404R

Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 599.67 ft AMSL

Type of Protective Ballard Steel filled with concrete

Type of Protective Casing steel

Ground Surface Elevation 597.00 ft AMSL

I.D. of Riser Pipe 4”

Type of Riser Pipe Stainless Steel

Diameter of Borehole 10”

Type of Backfill Cement / Bentonite slurry

Grout Ratio 5:1

Depth to Top of Seal 13.0’

Type of Seal Bentonite chips

Depth to Top of Sandpack 15.2’

Type of Sandpack Fine-grained silica sand

Depth to Top of Screen 17.5’

I.D. of Well Screen 0.005

Type of Well Screen 4” Stainless Steel

Depth to Bottom of Screen 27.5’

Depth to Bottom of Sediment Trap 28’

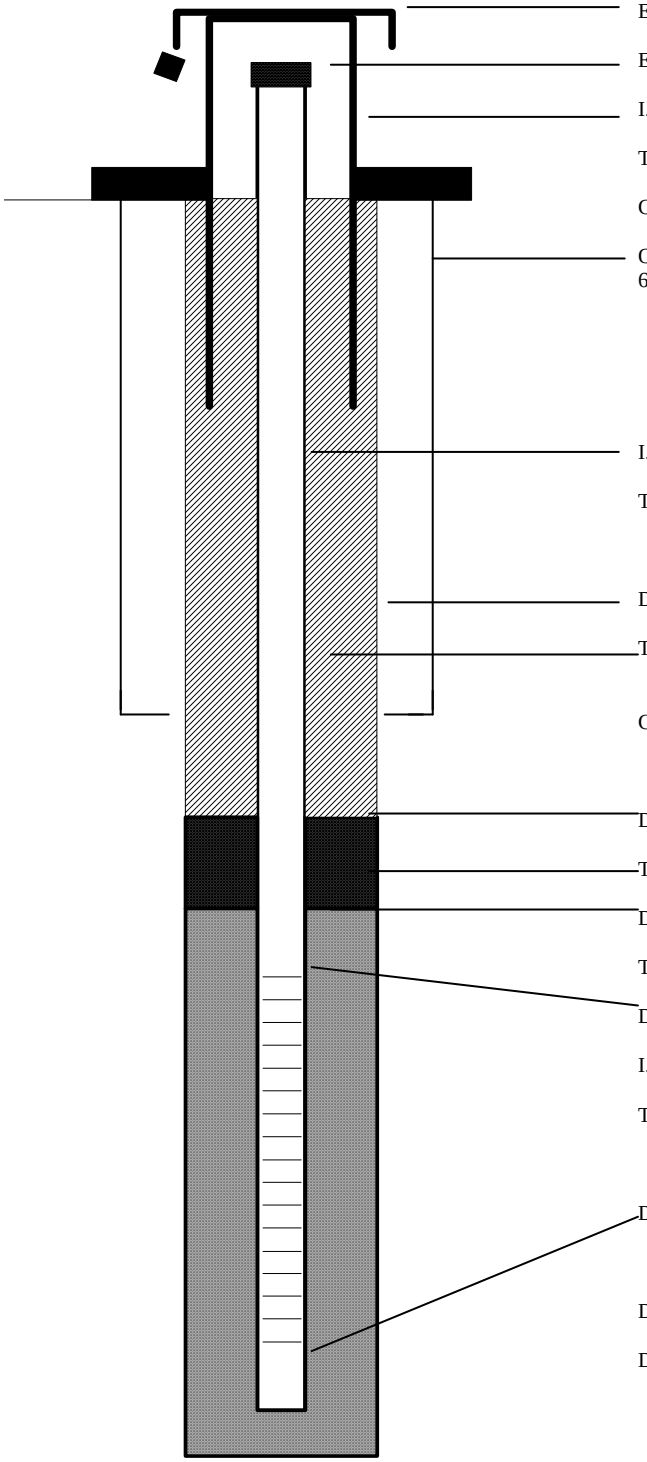
Depth to Bottom of Borehole 28’

Groundwater Levels
Initial During Drilling 24-25’ bgs
Upon Completion of Work app. 27.5’ bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 3/20/2001
Drilling Company Piedmont Environmental
Field Geologist Carolyn Bachl

Well No. MW-404B



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe

I.D of Protective Casing NA

Type of Protective Ballard Stainless steel

Ground Surface Elevation N/A

Outer Casing installed to 33'
6" PVC Casing grouted in 8" borehole

I.D. of Riser Pipe 2"

Type of Riser Pipe PVC

Diameter of Borehole 6"

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 33'

Type of Seal Bentonite

Depth to Top of Sandpack 35'

Type of Sandpack Fine-grained silica sand

Depth to Top of Screen 37'

I.D. of Well Screen 2"

Type of Well Screen 0.006" PVC

Depth to Bottom of Screen 57'

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 57'

Groundwater Levels
Initial During Drilling 25' bgs

Upon Completion of Work 26.85' below TOC

MONITORING WELL CONSTRUCTION LOG

Date of Installation 5/16/00
Drilling Company Law Gibb
Field Geologist Carolyn Bachl

Well No. MW-405

Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 600.12 ft above MSL

Type of Protective Ballards Stainless Steel

Type of Protective Casing N/A

Ground Surface Elevation N/A

I.D. of Riser Pipe 4”

Type of Riser Pipe PVC

Diameter of Borehole 10”

Type of Backfill Cement/ Bentonite

Grout Ratio 5:1

Depth to Top of Seal 21.5’

Type of Seal Bentonite

Depth to Top of Sandpack 23.7’

Type of Sandpack Medium-grained silica sand

Depth to Top of Screen 26’

I.D. of Well Screen 4”

Type of Well Screen PVC

Depth to Bottom of Screen 36’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 36’

Groundwater Level

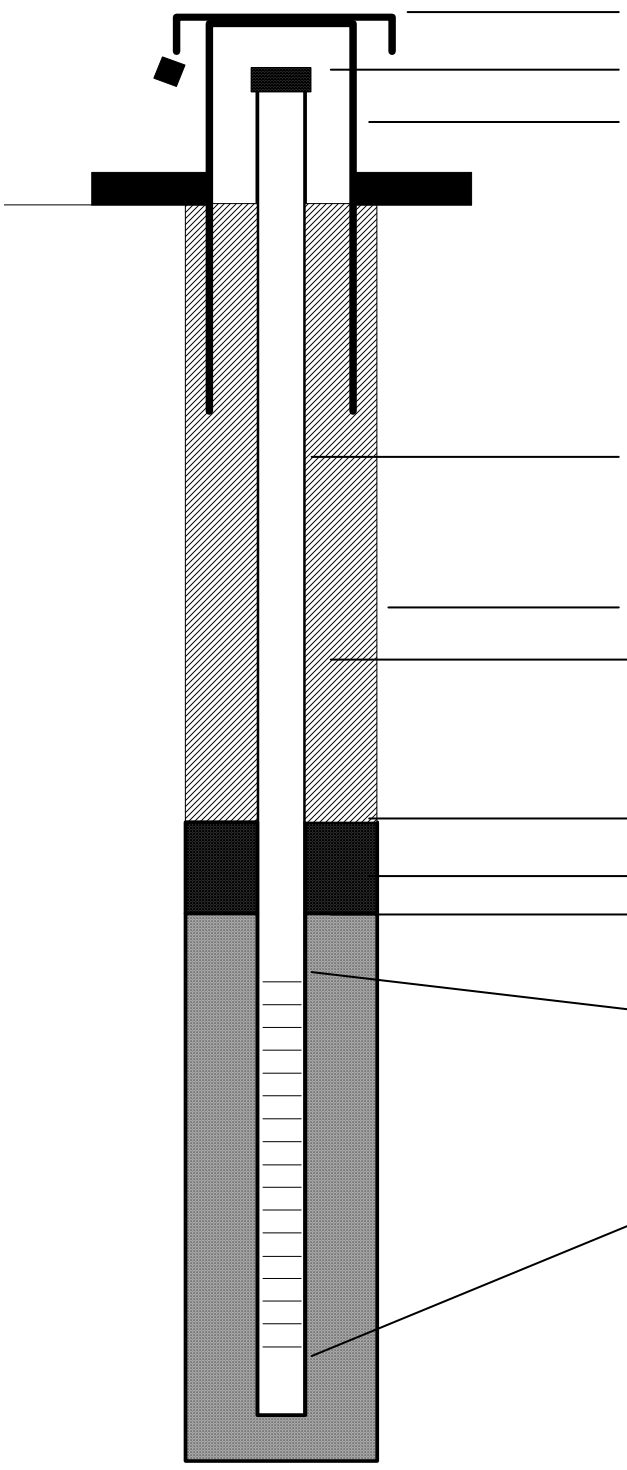
Initial During Drilling 26’ bgs

Upon Completion of Work 29.69’ below TOC

MONITORING WELL CONSTRUCTION LOG

Date of Installation 5/10/2000
Drilling Company Law Gibb
Field Geologist Carolyn Bachl

Well No. MW-406 A



Elevation of Top of Protective Casing N/A
Elevation of Top of Riser Pipe 599.62 ft above MSL
I.D of Protective Casing 4”
Type of Protective Casing Stainless Steel
Ground Surface Elevation (TOC = app. 2.4’ ags)

I.D. of Riser Pipe 2”
Type of Riser Pipe PVC

Diameter of Borehole 8”
Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 21’
Type of Seal Bentonite
Depth to Top of Sandpack 23’
Type of Sandpack Medium-grained silica sand
Depth to Top of Screen 25’
I.D. of Well Screen 2”
Type of Well Screen PVC

Depth to Bottom of Screen 35’

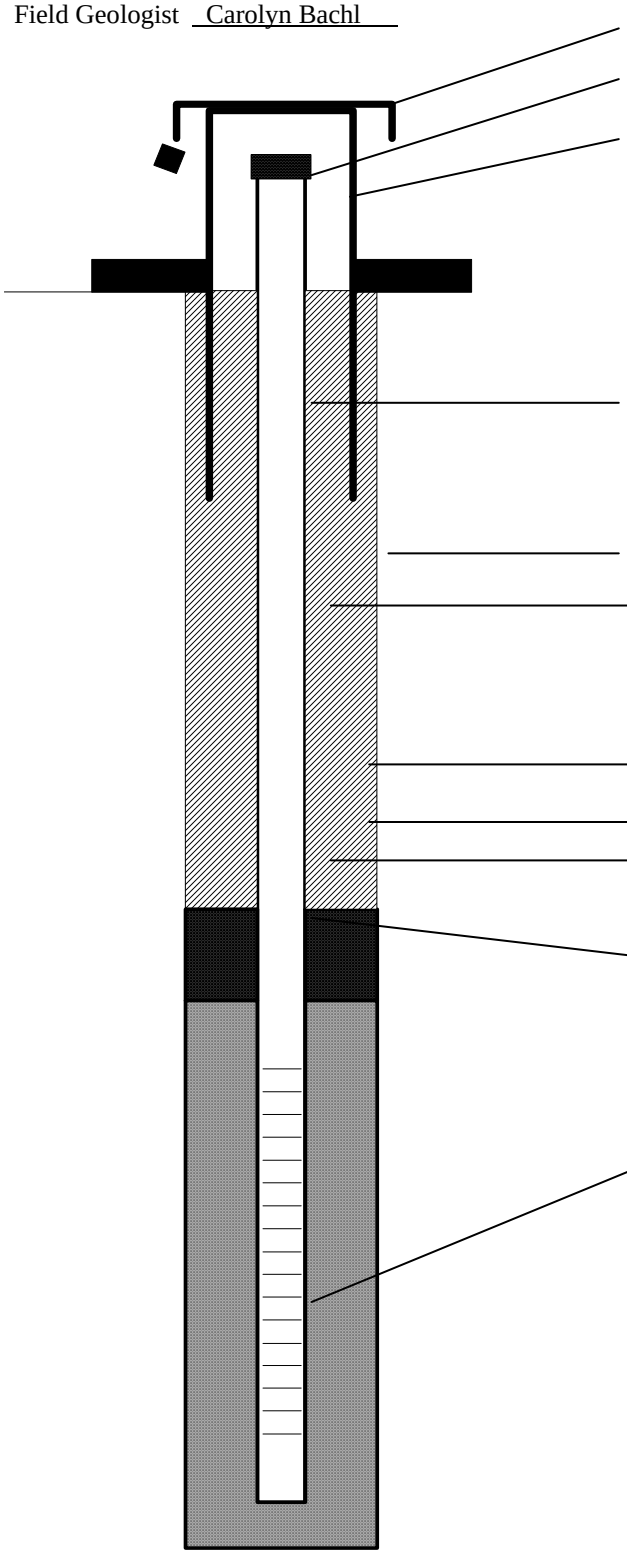
Depth to Bottom of Sediment Trap 31‘ bgs
Depth to Bottom of Borehole 35’

Groundwater Levels
Initial During Drilling
Upon Completion of Work 27.5’ bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 5/17/2000
Drilling Company Law Gibb
Field Geologist Carolyn Bachl

Well No. MW-406B



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe 599.93 ft above MSL

I.D of Protective Casing 4”

Type of Protective Casing Stainless Steel

Ground Surface Elevation N/A

I.D. of Riser Pipe 2”

Type of Riser Pipe PVC

Diameter of Borehole 6”

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 46’

Type of Seal Bentonite

Depth to Top of Sandpack 48’

Type of Sandpack Medium-grained silica sand

Depth to Top of Screen 50’

I.D. of Well Screen 2 ”

Type of Well Screen PVC

Depth to Bottom of Screen 60’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 60’

Groundwater Levels

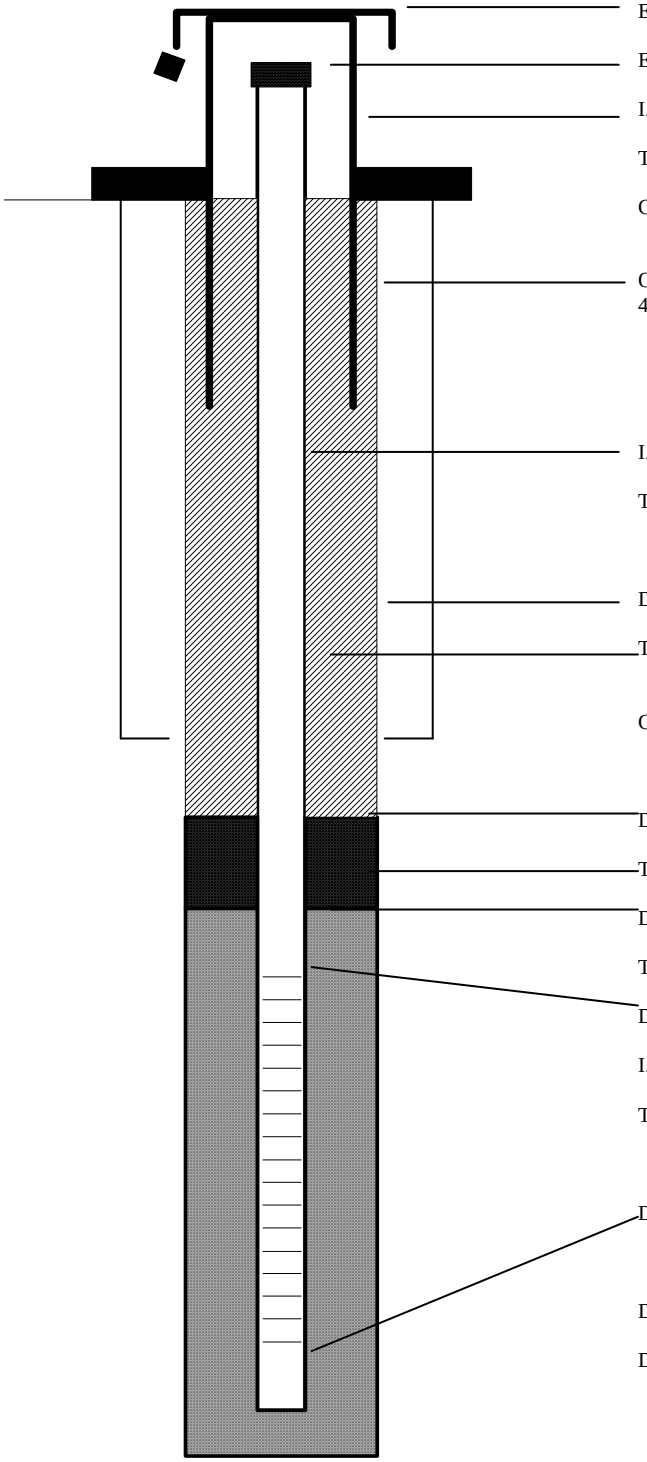
Initial During Drilling 31’ bgs

Upon Completion of Work 30.6’ bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 3/28/01
Drilling Company Piedmont Environmental
Field Geologist Carolyn Bachl

Well No. MW-406C



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe

I.D of Protective Casing NA

Type of Protective Casing Steel flush-mounted well cover

Ground Surface Elevation N/A

Outer Casing to 65'
4" PVC grouted into 6" hole

I.D. of Riser Pipe 2"

Type of Riser Pipe PVC

Diameter of Borehole 4"

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 61'

Type of Seal Bentonite

Depth to Top of Sandpack 63'

Type of Sandpack Fine-grained silica sand

Depth to Top of Screen 65'

I.D. of Well Screen 2"

Type of Well Screen PVC

Depth to Bottom of Screen 85'

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 85'

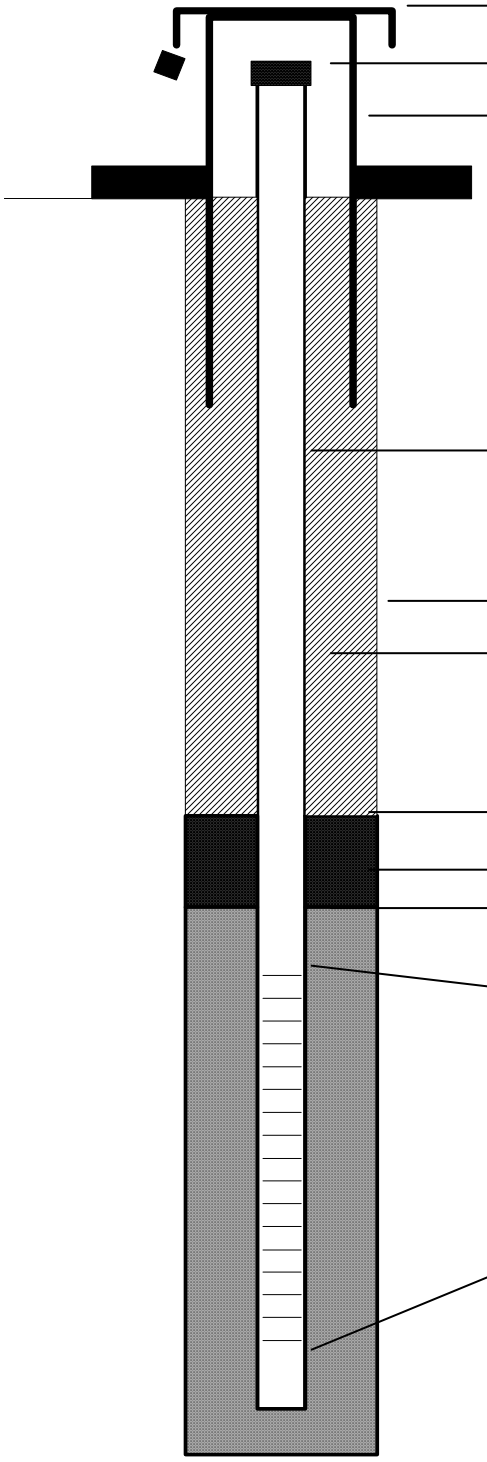
Groundwater Levels
Initial During Drilling 33' bgs

Upon Completion of Work 29.86' below TOC

MONITORING WELL CONSTRUCTION LOG

Date of Installation 3/19/2001
Drilling Company Piedmont Environmental
Field Geologist Carolyn Bachl

Well No. MW-501



Elevation of Top of Protective Casing N/A
Elevation of Top of Riser Pipe
I.D of Protective Casing NA
Type of Protective Casing Steel ballards
Ground Surface Elevation N/A

I.D. of Riser Pipe 2”
Type of Riser Pipe PVC

Diameter of Borehole 6”
Type of Backfill Cement / Bentonite
Grout Ratio 5:1

Depth to Top of Seal 12’
Type of Seal Bentonite
Depth to Top of Sandpack 14’
Type of Sandpack Fine-grained silica sand
Depth to Top of Screen 16.75’
I.D. of Well Screen 2”
Type of Well Screen 0.010” PVC

Depth to Bottom of Screen 26.75’

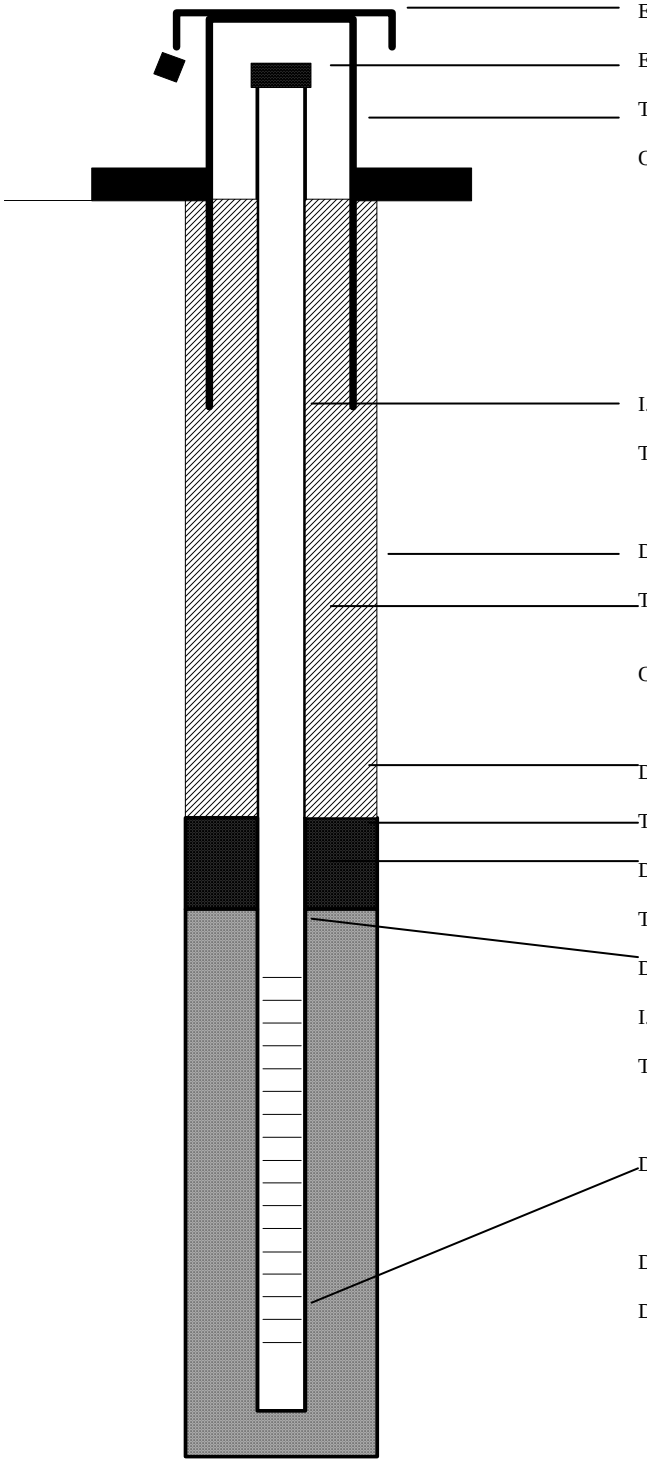
Depth to Bottom of Sediment Trap NA
Depth to Bottom of Borehole 26.75’

Groundwater Levels
Initial During Drilling 24’ bgs
Upon Completion of Work 22.35’ below TOC

MONITORING WELL CONSTRUCTION LOG

Date of Installation 3/23/01
Drilling Company Peidmont Environmental
Field Geologist Carolyn Bachl

Well No. MW – 502



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe NA

Type of Protective Casing Steel well cover

Ground Surface Elevation N/A

I.D. of Riser Pipe 2”

Type of Riser Pipe PVC

Diameter of Borehole 6”

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 20’

Type of Seal Bentonite

Depth to Top of Sandpack 22’

Type of Sandpack Fine-grained silica sand

Depth to Top of Screen 24.5’

I.D. of Well Screen 2”

Type of Well Screen 0.010” PVC

Depth to Bottom of Screen 34.5’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 28’

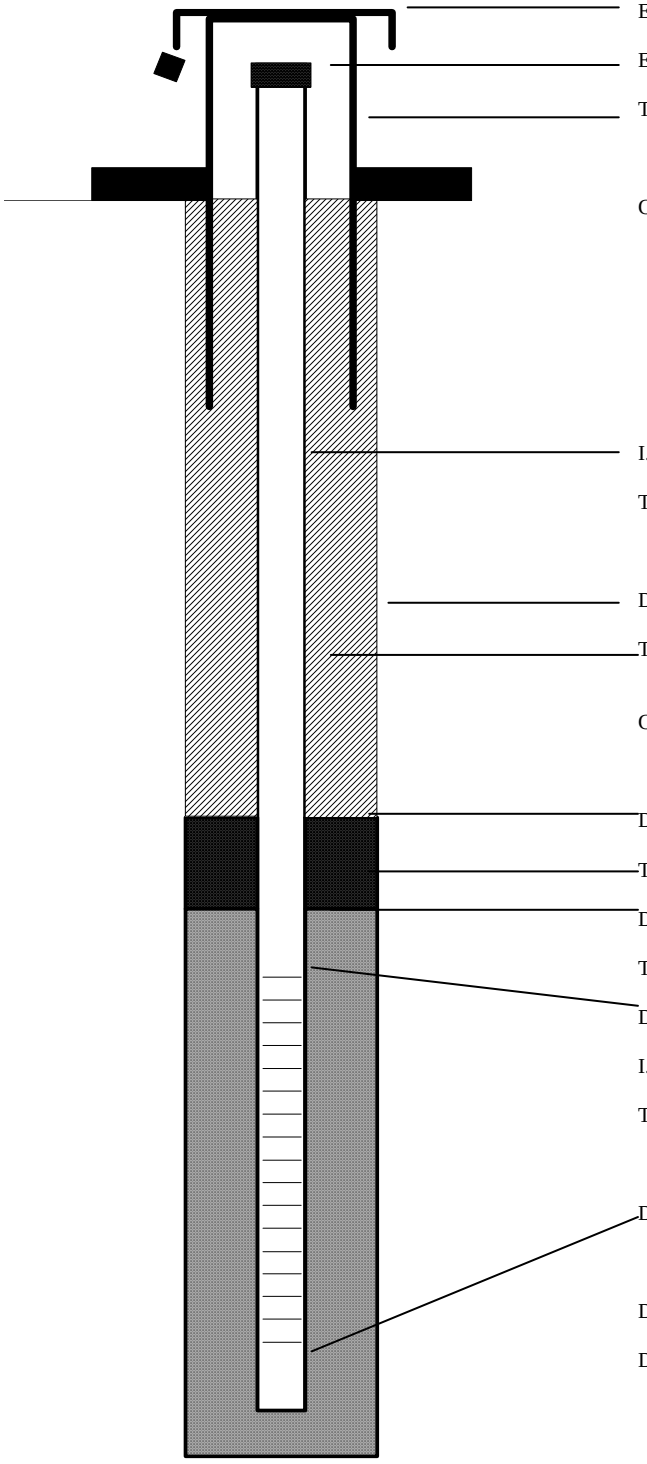
Groundwater Levels
Initial During Drilling 30’ bgs
Upon Completion of Work 32.5’ below TOC

MONITORING WELL CONSTRUCTION LOG

Date of Installation 3/23/01 Well No. MW-503

Drilling Company Piedmont Environmental

Field Geologist Carolyn Bachl



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe

Type of Protective Casing Steel well cover

Ground Surface Elevation N/A

I.D. of Riser Pipe 2”

Type of Riser Pipe PVC

Diameter of Borehole 6”

Type of Backfill Cement/ Bentonite

Grout Ratio 5:1

Depth to Top of Seal 17’

Type of Seal Bentonite

Depth to Top of Sandpack 19’

Type of Sandpack Fine-grained silica sand

Depth to Top of Screen 21’

I.D. of Well Screen 2”

Type of Well Screen 0.010” PVC

Depth to Bottom of Screen 36’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 36’

Groundwater Level

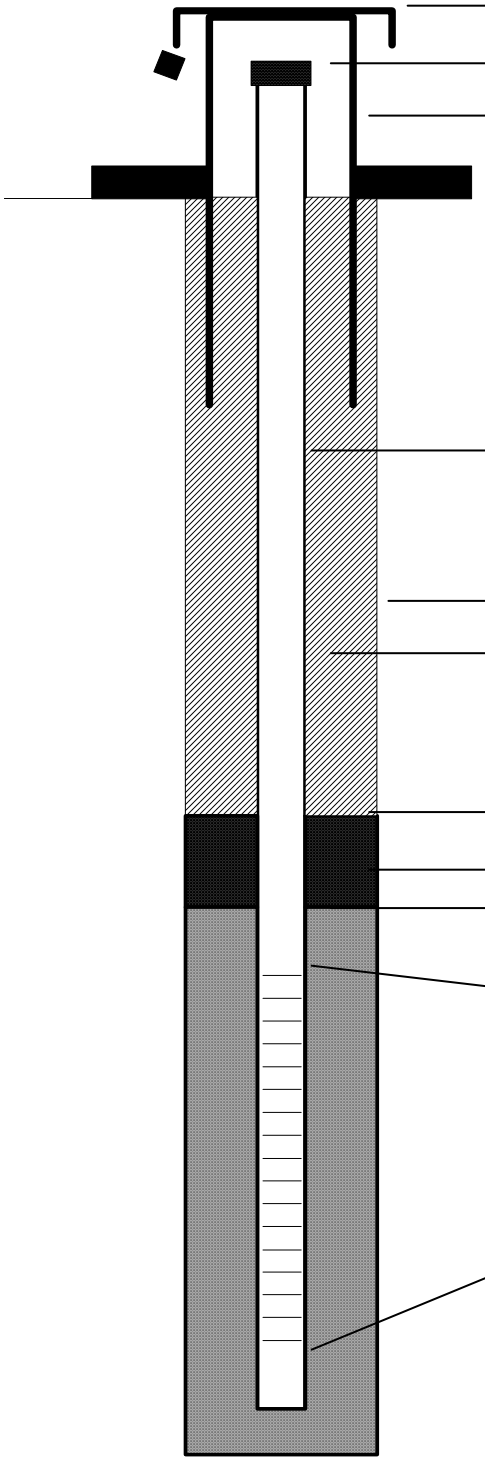
Initial During Drilling 22’ bgs

Upon Completion of Work 23.3’ bgs

MONITORING WELL CONSTRUCTION LOG

Date of Installation 3/27/01
Drilling Company Piedmont Environmental
Field Geologist Carolyn Bachl

Well No. MW-504



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe

I.D of Protective Casing 4”

Type of Protective Casing Stainless Steel

Ground Surface Elevation N/A

I.D. of Riser Pipe 2”

Type of Riser Pipe PVC

Diameter of Borehole 6”

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 20’

Type of Seal Bentonite

Depth to Top of Sandpack 22’

Type of Sandpack Fine-grained silica sand

Depth to Top of Screen 24’

I.D. of Well Screen 2”

Type of Well Screen 0.010” PVC

Depth to Bottom of Screen 34’

Depth to Bottom of Sediment Trap NA

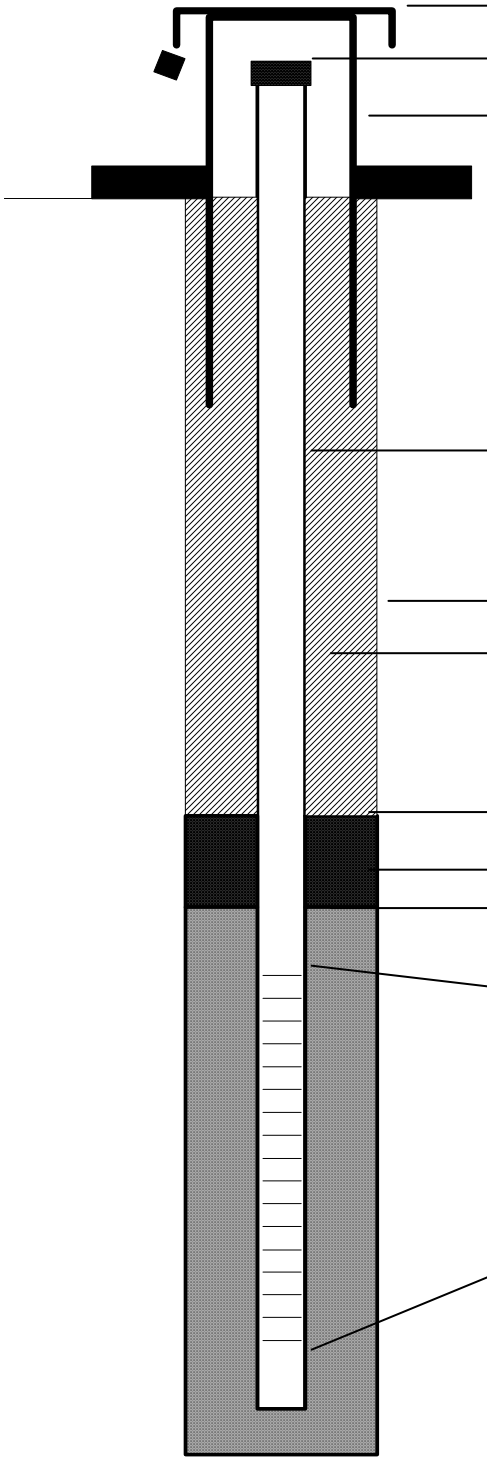
Depth to Bottom of Borehole 35’

Groundwater Levels
Initial During Drilling
Upon Completion of Work

MONITORING WELL CONSTRUCTION LOG

Date of Installation 7/09/01
Drilling Company LawGibb Group
Field Geologist John A. Ducar, P.G.

Well No. MW-505



Elevation of Top of Protective Casing N/A
Elevation of Top of Riser Pipe
I.D of Protective Casing 4”
Type of Protective Casing Steel
Ground Surface Elevation N/A

I.D. of Riser Pipe 2”
Type of Riser Pipe PVC

Diameter of Borehole 6”
Type of Backfill Cement / Bentonite

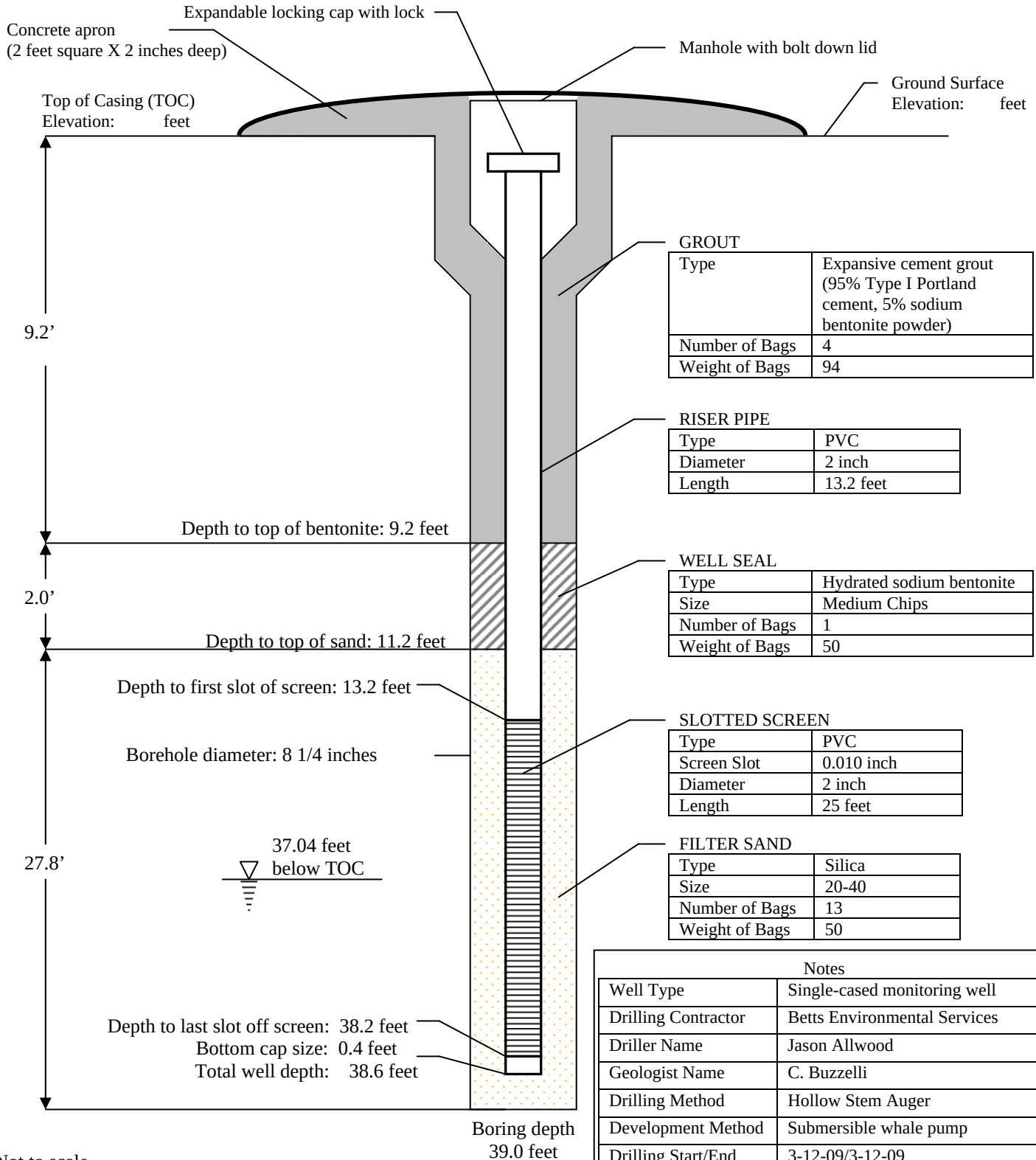
Grout Ratio 5:1

Depth to Top of Seal 12’
Type of Seal Bentonite
Depth to Top of Sandpack 14’
Type of Sandpack Fine-grained silica sand
Depth to Top of Screen 16’
I.D. of Well Screen 2”
Type of Well Screen 0.010” PVC

Depth to Bottom of Screen 26’

Depth to Bottom of Sediment Trap NA
Depth to Bottom of Borehole 26’

Groundwater Levels
Initial During Drilling 19.5’ bgs
Upon Completion of Work



GROUT

Type	Expansive cement grout (95% Type I Portland cement, 5% sodium bentonite powder)
Number of Bags	4
Weight of Bags	94

RISER PIPE

Type	PVC
Diameter	2 inch
Length	13.2 feet

WELL SEAL

Type	Hydrated sodium bentonite
Size	Medium Chips
Number of Bags	1
Weight of Bags	50

SLOTTED SCREEN

Type	PVC
Screen Slot	0.010 inch
Diameter	2 inch
Length	25 feet

FILTER SAND

Type	Silica
Size	20-40
Number of Bags	13
Weight of Bags	50

Notes

Well Type	Single-cased monitoring well
Drilling Contractor	Betts Environmental Services
Driller Name	Jason Allwood
Geologist Name	C. Buzzelli
Drilling Method	Hollow Stem Auger
Development Method	Submersible whale pump
Drilling Start/End Date	3-12-09/3-12-09
Well Construction Start/End Date	3-12-09/3-12-9

See soil boring log for lithology – SB-505R

*Not to scale
Well construction measurements are rounded to nearest 0.1 foot
All measurements are from below land surface (BLS)
Elevations are from a surveyed datum (NAVD 88)
Groundwater gauging date: 3-12-09

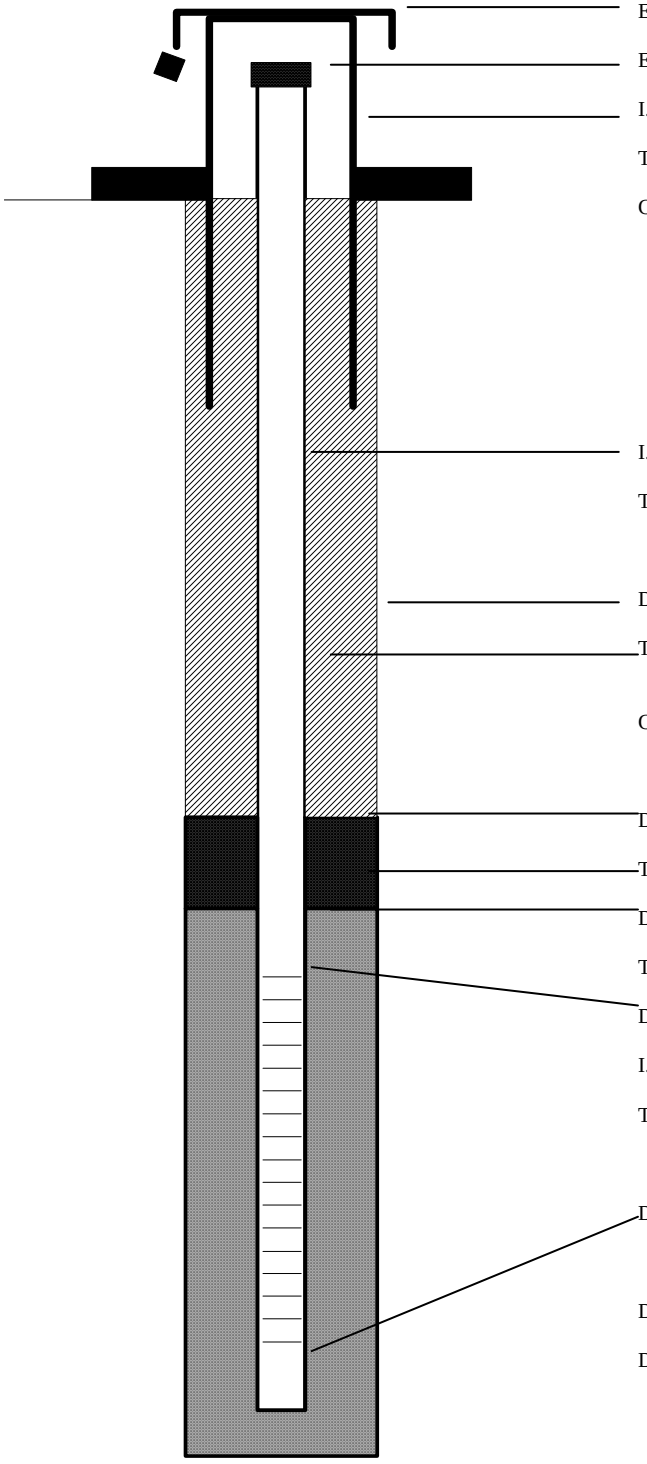
Dwn: CAB	***Appr:***	***ERM PROJECT # 0087270***	***FIGURE 1***	***ERM***
Dwg Date: 3-13-09	***Revision 0***	**Former Manufactured Gas Plant**	***Monitoring Well Construction Detail***	**300 Chastain Center Blvd., Ste. 375**
MW-505R		**Atlanta Gas Light Company**		**Kennesaw, Georgia 30144**
		Rome, Floyd County, Georgia		**PH: (770) 590-8383**
				FAX: (770) 590-9164

MONITORING WELL CONSTRUCTION LOG

Date of Installation 7/10/01 Well No. MW-506

Drilling Company LawGibb Group

Field Geologist John A. Ducar, P.G.



Elevation of Top of Protective Casing N/A

Elevation of Top of Riser Pipe

I.D of Protective Casing 4”

Type of Protective Casing Steel

Ground Surface Elevation N/A

I.D. of Riser Pipe 2”

Type of Riser Pipe PVC

Diameter of Borehole 6”

Type of Backfill Cement / Bentonite

Grout Ratio 5:1

Depth to Top of Seal 15.5’

Type of Seal Bentonite

Depth to Top of Sandpack 17.5’

Type of Sandpack Fine-grained silica sand

Depth to Top of Screen 20’

I.D. of Well Screen 2”

Type of Well Screen 0.010” PVC

Depth to Bottom of Screen 35’

Depth to Bottom of Sediment Trap NA

Depth to Bottom of Borehole 35’

Groundwater Levels

Initial During Drilling 23’ bgs

Upon Completion of Work

APPENDIX C

Summary of Historical Post-Remediation Groundwater Monitoring Data

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-09A																															
				Oct-12	Apr-12	Nov-11	Apr-11	Oct-10	Apr-10	Oct-09	Jul-09	Apr-09	Jan-09	Oct-08	Jul-08	Apr-08	Oct-07	Apr-07	Oct-06	Apr-06	Oct-05	Apr-05	Oct-04	Apr-04	Oct-03	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01	Jan-01	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	570.70	572.08	571.36	577.36	574.93	578.21	580.29	575.83	575.84	574.06	572.83	572.9	573.11	572.27	573.29	573.30	574.19	575.69	578.33	575.58	573.79	576.46	577.59	575.11	576.31	574.70	576.69	579.00	570.48	573.97	573.94	575.01
Field Groundwater Quality Parameters																																			
Conductivity	mS/cm	--	--	0.558	0.501	0.534	0.420	0.454	0.514	0.498	0.498	0.552	0.562	0.523	0.360	0.434	0.439	0.454	0.410	0.446	0.468	0.381	0.455	0.391	0.425	0.398	0.489	0.359	0.330	0.450	0.494	0.460	0.420	0.456	0.407
Dissolved Oxygen	mg/L	--	--	0.64	0.25	2.48	1.28	3.17	0.12	4.38	0.56	0.25	0.25	0.61	0.35	0.36	0.17	4.32	0.17	0.14	0.36	0.35	0.10	1.37	0.13	0.29	0.11	4.84	1.82	NM	NM	1.08	0.30	0.00	0.75
Oxidation Reduction Potential	mV	--	--	-8.4	118.4	46.8	55.4	194.4	49.5	4.9	15.5	9.8	30.8	138.2	30.7	37.0	-75.2	-8.2	-36.40	242.5	-3.2	30.9	36.2	-43.6	-36.8	-37.6	-6.00	-130	-35	-81	-58	-78	-93	-101	-62.90
pH	SU	--	--	6.78	6.46	6.37	6.48	7.00	6.57	6.53	6.61	6.40	6.48	6.34	6.29	6.33	6.38	6.48	6.55	6.21	6.45	6.56	6.40	6.56	6.52	6.58	6.38	7.57	7.15	7.01	6.56	6.45	6.60	6.71	6.67
Temperature	ºC	--	--	19.04	20.85	19.81	17.13	20.65	22.36	20.12	25.28	18.73	16.84	19.9	21.27	20.13	21.72	19.87	20.59	20.17	20.89	18.91	19.89	18.99	19.75	18.75	19.44	18.93	15.47	19.60	19.60	17.82	18.00	19.70	19.49
Turbidity	NTU	--	--	9.7	26.3	9.12	9.8	>1000	9.91	9.97	9.7	9.3	9.0	2.21	105.9	28.1	2.91	5.19	1.53	1.11	4.90	9.87	3.38	4.23	8.00	3.60	1.56	8.70	4.80	8.32	3.90	4.00	8.26	5.00	4.70
Laboratory Results - Natural Attenuation Parameters																																			
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	2.80	2.20
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05	< 0.10	< 0.05
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	53	41.4	32	50	37
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.55	1.41	0.78	0.96	0.78
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.41	1.42	0.84	1.00	0.81
Iron, Ferrous***	mg/L	--	--	< 0.10	< 0.10	0.12	0.11	< 0.10	< 0.10	1.4	NA	0.13	NA	<0.10	<0.10	0.97 J	5.35	6.51	6.75	7.07	2.58	1.8	1.5	6.9	5.9	6.15	2.77	4.75	2.63	5.32	6.86	5.04	9.1	8.70	7.50
Iron, Total	mg/L	--	--	0.10	19	0.40	1.9	71	1.9	3.5	NA	1.5	NA	0.17	20	2.2	6.18	6.54	8.22	6.37	3.87	3.11	2.15	4.96	5.84	6.30	7.43	5.84	2.77	5.45	8.41	6.08	12.0	8.70	11.0
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	89	81	81	80	74	76	78	47	62	57
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	18	9.9	22	15	18	16	17	18
Methane	µg/L	--	--	0.80	< 0.58	<0.58	0.78	0.70	0.22	0.54	NA	1.6	NA	<1.0	<1.0	160	0.79	3.8	3.2	7.2	6.6	8.9	6.3	24	18	91	120	280	140	100	140	270	100	140	640
Dissolved Oxygen	mg/L	--	--	6.1	9.3	1.7	1.6	1.5	1.5	1.4	NA	1.2	NA	0.91	1.2	1.6	1.7	1.1	1.9	2.5	1.8	1.3	1.5	1.1	1.4	0.58	6.8	0.79	1.5	2.4	0.90	0.88	1.1	1.0	0.57
Laboratory Results - Organic Constituents																																			
Volatile Organic Compounds																																			
Benzene	µg/L	5	8.3	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 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	2,297	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5(2)	--	< 5.0	< 5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	NA	<5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																																			
2,4-Dimethylphenol	µg/L	700	2,044	< 9.8	< 11	< 11	< 9.9	< 9.8	<10	< 9.4	NA	<10	NA	< 9.4	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 25	< 25
2-Methylphenol	µg/L	10(2)	5,110	< 9.8	< 11	< 11	< 9.9	< 9.8	<10	< 9.4	NA	<10	NA	< 9.4	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10(2)	511	< 9.8	< 11	< 10	< 9.9	< 9.8	NA	< 9.4	NA	<10	NA	< 9.4	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10(2)	6,132	< 9.8	< 11	< 11	< 9.9	< 9.8	<10	< 9.4	NA	<10	NA	< 9.4	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10(2)	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10(2)	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10(2)	82	NA	NA	NA	NA	NA	MNA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20(1)	< 9.8	< 11	< 11	< 9.9	< 9.8	<10	< 9.4	NA	<10	NA	< 9.4	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10(2)	3,066	< 9.8	< 11	< 11	< 9.9	< 9.8	<10	< 9.4	NA	<10	NA	< 9.4	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																																			
Arsenic	µg/L	50	50(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 20	< 20	< 15	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	112	110	79.8	96.2	105
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	3.06	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 2.5	< 10	< 10
Cyanide, total	µg/L	200	2,044	20	17	15	23	21	15	29	23	25	20	27	13	11	47	29	82	12	11	<10	11.0	20	< 10	15	12.0	< 10	22.2	16.0	19.0	13.0	17.0	18.0	16.0
Lead	µg/L	15	15(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 5.0	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	< 2.0	< 2.0	1.16	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 5.0	< 20	< 20

Notes:

ºC - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-09B																		
				Apr-12	Apr-11	Apr-10	Apr-09	4/09 - DUP	Apr-08	Apr-07	Apr-06	Apr-05	Apr-04	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01	Jan-01	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	568.62	572.87	572.64	573.50		568.87	568.3	570.12	576.99	570.62	573.11	568.52	571.83	568.15	570.83	571.69	571.66	568.30	567.88	570.00
Field Groundwater Quality Parameters																							
pH	SU	--	--	6.96	6.9	6.49	6.82	6.82	6.78	6.82	6.5	6.90	6.87	6.86	6.73	7.84	8.47	6.37	6.85	6.97	6.75	6.78	6.94
Conductivity	mS/cm	--	--	0.463	0.457	0.543	0.647	0.647	0.590	0.643	0.609	0.557	0.549	0.524	0.637	0.473	0.609	0.606	0.611	0.600	0.630	0.791	0.552
Temperature	ºC	--	--	17.46	18.83	18.06	19.77	19.77	19.98	19.50	20.05	18.87	19.22	19.01	19.44	19.29	17.82	18.90	19.49	18.68	17.80	19.60	19.31
Dissolved Oxygen	mg/L	--	--	0.86	1.42	0.67	0.36	0.36	0.51	4.03	0.17	0.12	0.22	0.17	0.30	4.42	0.00	NM	NM	0.28	0.40	0.38	-0.15
Oxidation Reduction Potential	mV	--	--	139.5	151.3	-18.8	-50.5	-50.5	-28.3	-23.3	343	-40.2	-78.7	-57.8	-41.4	-237	-124	-81	-74	-122	-58	-123	-63
Turbidity	NTU	--	--	2.12	0.81	6.03	7.28	7.28	1.43	5.39	1.63	18.7	3.12	7.9	5.3	0.00	9.40	5.63	2.50	81.6	16.0	209	19.3
Laboratory Results - Natural Attenuation Parameters																							
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.3	7.60	5.90
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0810	0.77	0.12	0.73	0.12
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	84.0	68.5	56	92	59
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.55	2.07	1.2	2.200	2.400
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.53	2.48	2.3	2.200	2.500
Iron, Ferrous***	mg/L	--	--	< 0.10	< 0.10	0.14	0.36	0.21	1.6 J	2	2.2	2.1	3.0	2.16	2.71	1.87	2.30	2.10	2.63	0.11	2.3	2.60	2.40
Iron, Total	mg/L	--	--	0.13	< 0.10	2	2.1	1.9	2.1	2.44	2.23	2.55	2.15	2.39	2.27	1.94	2.26	2.07	2.00	7.31	10	9.20	3.40
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	59	54	40	57	54	48	46	41	47	51
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	17	18	24	15	28	16	20	23
Methane	µg/L	--	--	15	1.3	25	48	44	62	110	93	110	100	130	100	110	140	61	66	30	75	140	600
Dissolved Oxygen	mg/L	--	--	5.7	1.5	1.5	1.3	1.3	2.7	2	4	1.4	1.1	1.4	7.3	0.60	1.5	0.80	1.4	1.0	1.7	0.72	0.83
Laboratory Results - Organic Constituents																							
Volatile Organic Compounds																							
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 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
Isopropylbenzene	µg/L	5[2]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																							
2,4-Dimethylphenol	µg/L	700	2,044	< 11	< 9.8	< 9.4	<11	< 10	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 25	< 25
2-Methylphenol	µg/L	10[2]	5,110	< 11	< 9.8	< 9.4	<11	< 10	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	< 11	NA	NA	<11	< 10	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10[2]	6,132	< 11	< 9.8	< 9.4	<11	< 10	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20[1]	< 11	< 9.8	< 9.4	<11	< 10	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10[2]	3,066	< 11	< 9.8	< 9.4	<11	< 10	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																							
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 20	< 20	< 15	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	70.6	83.6	85.0	77.7	84.6
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	7,310	6.79	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	21.1	NA	< 10
Cyanide, total	µg/L	200	2,044	23	27	29	< 10	< 10	12	19	< 10	10.0	< 10	< 10	< 10	< 10	16.7	< 10	10.0	11.0	13.0	12.0	11.0
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	8.93	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	14.9	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	< 2.0	< 2.0	< 1.0	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	92.3	< 20	< 20

Notes:

ºC - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-14A																					
				Oct-12	Apr-12	Oct-11	10/11 DUP	Apr-11	10/10 DUP	Oct-10	04/10 DUP	Apr-10	Jul-09	Apr-09	Oct-08	Jul-08	Apr-08	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01	Jan-01	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	566.07	568.85	566.30		572.99	566.05		571.40	571.40	568.80	572.77	565.67	566.03	569.20	572.21	571.47	572.55	571.05	570.54	572.96	572.57	569.93	567.60	569.55
Field Groundwater Quality Parameters																											
Conductivity	mS/cm	--	--	0.295	0.274	0.306	0.306	0.311	0.311	0.311	0.278	0.278	0.310	0.297	0.307	0.229	0.284	0.207	0.257*	0.193	0.176	0.271	0.278	0.213	0.290	0.370	0.786
Dissolved Oxygen	mg/L	--	--	5.15	0.39	1.00	1.00	1.14	1.14	1.14	1.18	1.18	4.38	0.87	0.61	4.10	1.29	0.12	0.79*	5.88	6.39	NM	0.16	1.64	1.40	0.88	1.20
Oxidation Reduction Potential	mV	--	--	247.4	204.5	-20.5	-20.5	300.1	300.1	300.1	276.7	276.7	147.9	189.8	46.7	210.1	150.2	162.3	178.6*	91	152	193	296	160	214	294	170
pH	SU	--	--	5.92	6.02	6.10	6.10	5.66	5.66	5.66	5.61	5.61	6.20	5.96	6.00	5.88	5.87	6.26	5.94*	7.31	5.00	6.25	5.99	4.63	6.00	5.99	6.35
Temperature	℃	--	--	18.89	17.03	20.31	20.31	21.01	21.01	21.01	16.05	16.05	21.91	16.56	20.25	17.47	17.56	15.76	18.44*	16.16	15.83	18.49	17.19	15.13	14.90	18.40	16.22
Turbidity	NTU	--	--	1.79	1.61	6.3	6.3	0.42	0.42	0.42	1.01	1.01	1.32	3.17	0.52	6	2.83	5.0	2.42*	1.20	3.48	2.95	2.60	1.60	4.98	1.57	2.40
Laboratory Results - Natural Attenuation Parameters																											
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	2.70	< 1.0
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.645	0.617	2.9	1.70	0.24
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	49.0	61.2	38	56	38
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.398	0.304	0.45	0.24	NM
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.363	0.331	0.48	0.30	0.37
Iron, Ferrous***	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.100	< 0.200	< 0.200	< 0.100	< 0.100	< 0.100	< 0.10	< 0.10	< 0.10	< 0.10
Iron, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.343	0.400	4.53	< 0.100	< 0.100	< 0.100	0.313	0.14	< 0.05	0.16
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	110	82	96	100	110	88	120	110	100	131
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17	18	12	22	15	22	24	18	21
Methane	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.4	0.37	0.59	3.7	0.45	0.55	3.3	5.0	9.5	< 0.070
Dissolved Oxygen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.4	7.7	1.1	2.1	2.4	2.0	2.2	4.2	2.8	1.2
Laboratory Results - Organic Constituents																											
Volatile Organic Compounds																											
Benzene	µg/L	5	8.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5(2)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																											
2,4-Dimethylphenol	µg/L	700	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 25	< 25
2-Methylphenol	µg/L	10(2)	5,110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10(2)	511	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10(2)	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10(2)	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10(2)	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10(2)	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10(2)	3,066	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																											
Arsenic	µg/L	50	50(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50.0	< 50	< 50	< 50	< 50	< 20	< 20	< 15	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43.2	48.3	46.8	46.1	51.1
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 2.5	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 2.5	< 10	< 10
Cyanide, total	µg/L	200	2,044	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	17	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15	15(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	< 5.0	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 5.0	< 20	21.5

Notes:

℃ - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Groundwater Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-401AR																										
				Oct-12	Apr-12	Oct-11	Apr-11	Oct-10	Apr-10	Oct-09	Jul-09	Apr-09	Jan-09	Oct-08	Apr-08	Oct-07	Apr-07	Oct-06	Apr-06	Oct-05	Apr-05	Oct-04	Apr-04	Oct-03	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	07/01 DUP	Apr-01
Groundwater Elevation	ft MSL	--	--	571.11	571.83	571.83	576.82	572.43	574.49	580.29	575.83	574.71	581.13	571.83	570.88	571.08	571.10	571.28	527.49	572.73	576.34*	575.19*	571.54*	572.82*	573.90	572.87	575.97	571.61	576.86	583.15		579.15
Field Groundwater Quality Parameters																																
Conductivity	mS/cm	--	--	0.447	0.44	0.46	0.643	0.429	0.421	0.448	0.423	0.482	0.554	0.493	NA	0.452	0.408	0.401	0.356	0.356	0.353*	0.397*	0.332*	0.327*	0.415	0.373*	0.271	NM	0.308	0.356	0.356	0.470
Dissolved Oxygen	mg/L	--	--	0.61	0.72	0.45	1.4	0.49	0.79	0.66	0.43	0.83	0.51	0.96	NA	0.28	0.42	0.22	0.37	0.12	0.13*	0.37*	0.29*	1.41*	0.10	0.45*	5.07	NM	NM	NM	NM	3.61
Oxidation Reduction Potential	mV	--	--	-33.2	223.6	92.1	207	11.3	124.8	58.1	91.9	173.6	48.6	112.5	NA	67.9	124.1	-125.50	714.9	37.8	190.4*	78.3*	74.7*	177.3*	61.1	176.6*	145	NM	106	212	212	225
pH	SU	--	--	6.22	5.85	6.63	6.18	5.84	5.73	6.53	6.61	5.9	5.87	5.76	NA	5.67	5.66	5.97	4.44	5.61	5.78*	5.72*	5.66*	5.82*	6.04	5.66*	7.05	NM	6.42	6.00	6.00	5.84
Temperature	℃	--	--	21.47	23.95	23.43	21.46	23.54	25.33	22.17	28.26	22.53	20.3	22.12	NA	23.99	22.70	23.75	23.16	25.57	22.33*	20.62*	20.19*	22.17*	19.91	20.54*	20.67	NM	21.31	21.51	21.51	16.96
Turbidity	NTU	--	--	398	7.92	99.5	1.05	2	4.72	5.88	6.53	6.79	4.11	7	NA	> 999	1000	> 1,000	> 1,000	242	5.36*	831*	NA*	<1,000*	31.1	< 1,000*	9.10	NM	1.35	2.34	2.34	3.60
Laboratory Results - Natural Attenuation Parameters																																
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	NA NA		NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	1.60	1.59	9.38
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	64.0	64.0	149
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	< 1.0	< 1.0	< 1.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	0.146	0.151	1.82
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	0.161	162	1.79
Iron, Ferrous***	mg/L	--	--	0.54	< 0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NA	<0.10	NA	<0.10	1.2 J	0.10	14.4	1.3	0.65	0.50	< 0.1	0.1	0.4	0.1	0.240	< 0.200	< 0.2	NS	< 0.100	< 0.100	< 0.100	< 0.10
Iron, Total	mg/L	--	--	1.1	0.29	0.10	<0.10	0.81	0.19	0.41	NA	0.092	NA	0.092	3.2	< 0.100	6.64	2.00	22.7	8.16	0.626	43.5	11.3	5.95	6.89	56.4	2.22	NS	< 0.100	< 0.100	< 0.100	0.277
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	250	210	160	NS	85	66	66	190
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	12	NS	21	13	13	13
Methane	µg/L	--	--	44	< 0.58	9.5	<0.58	5.6	0.39	0.21	NA	1.3	NA	1.3	210	140	230	140	250	390	41	290	6.6	1.6	38	2.0	4.5	NS	6.1	0.20	0.19	1.7
Dissolved Oxygen	mg/L	--	--	7.5	6.1	1.4	1.3	1.4	1.4	1.3	NA	0.89	NA	0.89	4.5	1.6	1.4	4.4	5.3	1.6	3.7	2.8	1.7	1.6	2.0	5.8	1.0	NS	2.8	6.8	6.7	3.1
Laboratory Results - Organic Constituents																																
Volatile Organic Compounds																																
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NS	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NS	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NS	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NS	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5[2]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NS	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	NS	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																																
2,4-Dimethylphenol	µg/L	700	2,044	< 11	< 10	< 10	< 9.9	< 9.7	<9.8	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
2-Methylphenol	µg/L	10[2]	5,110	< 11	< 10	< 10	< 9.9	< 9.7	<9.8	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	< 11	< 10	< 10	< 9.9	< 9.7	NA	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10[2]	6,132	< 11	< 10	< 10	< 9.9	< 9.7	<9.8	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20[1]	< 11	< 10	< 10	< 9.9	< 9.7	<9.8	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10[2]	3,066	< 11	< 10	< 10	< 9.9	< 9.7	<9.8	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																																
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	NS	< 50	< 20	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	42.9	43.2	102
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	NS	< 10	< 10	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	< 10	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	< 10	< 10	< 10
Cyanide, total	µg/L	200	2,044	< 10	< 10	<10	<10	<10	<10	<10	<10	< 10	11	< 10	< 10	< 10	< 10	12	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NS	< 10	< 10	< 10	<10
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	30	< 10	NS	< 10	< 10	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	NS	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	33	< 20	NS	< 20	< 20	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	< 2.0	< 2.0	< 2.0
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	< 20	< 20	< 20

Notes:

℃ - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-402A																																					
				Oct-12	Apr-12	Oct-11	Apr-11	Oct-10	Apr-10	Oct-09	Jul-09	Apr-09	Jan-09	Oct-08	Jul-08	Apr-08	Oct-07	Apr-07	Oct-06	Apr-06	Oct-05	Apr-05	04/05 DUP	Oct-04	Apr-04	Oct-03	Apr-03	Oct-02	Apr-02	04/02 DUP	Jan-02	Oct-01	10/01 DUP	Aug-01	Jul-01	Apr-01	04/01 DUP	Jan-01	Oct-00	10/00 DUP	Jun-00	06/00 DUP
Groundwater Elevation	ft MSL	--	--	571.70	572.14	572.14	576.36	574.32	577.97	577.92	575.37	575.34	573.5	572.61	572.67	572.72	572.00	572.99	573.83	574.36	575.28	577.75		577.55	575.42	576.74	577.55	575.03	576.25		575.02	578.81		577.95	580.79	575.89		573.46	573.28		574.02	
Field Groundwater Quality Parameters																																									
Conductivity	mS/cm	--	--	0.549	0.453	0.467	0.619	0.39	0.403	0.705	0.518	0.787	0.383	0.636	0.487	0.666	0.733	0.922	1.103	1.124	0.913	1.153	1.153	0.780	0.573	0.417	0.531	.920*	0.930	0.930	0.413	0.998	0.998	1.010	0.859	0.130	0.130	0.160	1.590	1.590	1.603	1.603
Dissolved Oxygen	mg/L	--	--	0.25	0.94	0.50	0.54	0.42	3.14	0.72	0.66	0.56	0.19	0.36	1.17	0.16	0.42	1.00	0.30	0.07	0.19	0.07	0.07	0.16	0.28	0.21	0.30	0.09*	1.90	1.90	1.23	0.830	0.830	0.00	NM	0.64	0.64	0.30	0.00	0.00	0.29	0.29
Oxidation Reduction Potential	mV	--	--	-47.0	-17.8	93.3	8.6	52.4	130.9	22.2	54	-6	109.1	40.2	43.3	-4.9	36.1	20.8	-25.90	-57	-58.7	-67.9	-67.9	-23.5	-41.8	-124.6	-10.4	-93.7	-134	-134	-105	-158	-158	-112	-90	-70	-70	-157	-34	-34	-68	-68
pH	SU	--	--	6.42	6.06	6.69	5.79	5.13	4.95	6.23	6.04	6.07	5.7	5.91	5.77	5.82	5.91	6.15	6.21	6.18	6.11	6.38	6.38	6.07	6.20	5.97	6.27	6.23*	6.28	6.28	7.55	7.02	7.02	6.61	6.42	6.19	6.19	7.07	6.32	6.32	6.92	6.92
Temperature	°C	--	--	21.49	19.72	20.46	19.77	23.57	22.14	19.69	23.67	21.95	19.21	23.34	21.58	19.89	23.31	21.66	23.73	20.59	22.29	19.82	19.82	20.95	18.97	20.19	17.61	19.88*	18.48	18.48	17.10	18.76	18.76	20.42	22.30	19.25	19.25	15.10	20.00	20.00	23.13	23.13
Turbidity	NTU	--	--	12.6	9.96	122	9.1	4.8	9.21	3.67	1.9	5.6	3.33	24	569	31.2	23.1	6.14	28.80	5.87	2.16	4.71	4.71	79.4	58.0	3.90	4.50	692*	17.43	17.43	2.18	5.62	5.62	14.0	25.0	4.80	4.80	18.9	4.81	4.81	7.70	7.70
Laboratory Results - Natural Attenuation Parameters																																									
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	82	45.00	NA	39.0	44.0
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05	< 0.05	< 0.10	NA	< 0.05	< 0.05
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	50	148	133	98	620	NA	490	510
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	NA	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.86	12.4	11.8	12.0	14.0	NA	NM	NM
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.94	13.7	11.7	13.0	15.0	NA	11.0	11.0
Iron, Ferrous***	mg/L	--	--	2.4	17	< 0.10	18	15	8.9	2.1	NA	11	NA	14	5.3	21 J	12.5	33.6	36.3	37.6	11.30	5.0	35.1	11.0	24.8	21.2	15.1	24.8	19	18.8	21.0	10.2	10.0	NA	6.99	18.7	19.7	10	37.0	NA	17.0	16.0
Iron, Total	mg/L	--	--	6.2	21	8.5	27	23	13	34	NA	18	NA	14	24	33	16.6	30.5	32.6	34.9	29.40	33.8	35.0	23.2	22.4	21.1	13.9	21.4	20.1	19.7	18.4	19.4	19.4	NA	19.5	33.6	35.3	39.0	37.0	NA	18.0	16.0
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200	260	200	210	250	210	NA	NA	180	270	270	71	270	NA	220	178
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	14	16	9.9	22	NA	NA	17	14	15	25	18	NA	15	14
Methane	µg/L	--	--	35	410	210	12	24	4.7	39	NA	15	NA	3.7	5.6	41	41	250	150	600	540	660	730	850	590	310	810	620	710	850	440	9,400	NA	NA	870	970	950	180	260	NA	3,500	2,700
Dissolved Oxygen	mg/L	--	--	3.8	4.0	1.2	1.4	1.4	1.3	1.2	NA	1.3	NA	1.1	0.92	2.1	1.6	1.7	2.5	2.4	0.96	0.65	0.61	0.61	0.78	0.81	0.68	3.5	0.62	0.55	0.57	0.83	NA	NA	0.98	0.88	0.85	0.61	0.75	NA	0.66	0.81
Laboratory Results - Organic Constituents																																									
Volatile Organic Compounds																																									
Benzene	µg/L	5	8.3	**74**	**140**	5.2	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	8.3	< 5.0	**21**	**640**	**730**	**1,400**	**4,400**	**4,400**	NA	< 5.0	**11**	**11**	**9**	**13**	**13**	**12**	**12**
Ethylbenzene	µg/L	700	2,297	10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.9	480	490	640	1,400	1,400	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	8.0	7.6
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	24	18	240	**2,400**	**2,400**	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	24	5.7	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.1	240	170	413	1,700	1,700	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5[2]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.4	91	59	110	200	180	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5	< 5	18	330	280	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**108**	**145.7**	**5.2**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**8.3**	**ND**	**33**	**1,384**	**1,408**	**2,693**	**9,900**	**9,900**	**NA**	**ND**	**11**	**11**	**9.0**	**13**	**13**	**20**	**20**
Semivolatile Organic Compounds																																									
2,4-Dimethylphenol	µg/L	700	2,044	< 9.8	< 9.7	< 10	< 11	< 9.4	< 9.7	< 10	NA	< 9.7	NA	< 9.7	< 9.4	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	11	< 10	< 10	450	240	290	410	< 10	< 10	< 10	< 25	< 25	< 25	< 25
2-Methylphenol	µg/L	10[2]	5,110	< 9.8	< 9.7	< 10	< 11	< 9.4	< 9.7	< 10	NA	< 9.7	NA	< 9.7	< 9.4	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	300	150	130	130	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	< 9.8	< 9.7	< 10	< 11	< 9.4	NA	< 10	NA	< 9.7	NA	< 9.7	< 9.4	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	32	26	46	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29	42	51	51	27	60	38	70	63	23	24	19	15	17	27	27
Acenaphthylene	µg/L	10[2]	6,132	< 9.8	< 9.7	< 10	< 11	< 9.4	< 9.7	< 10	NA	< 9.7	NA	< 9.7	< 9.4	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	16	21	21	< 10	23	15	17	16	< 10	< 10	< 10	< 10	< 10	< 10	11
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	12	11	< 10	11	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20[1]	**33**	< 9.7	< 10	< 11	< 9.4	< 9.7	< 10	NA	< 9.7	NA	< 9.7	< 9.4	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	12	< 10	18	**730**	**850**	**390**	**1,400**	**840**	**1,200**	**910**	< 10	< 10	< 10	< 10	< 10	**70**	**67**
Phenanthrene	µg/L	10[2]	3,066	< 9.8	< 9.7	< 10	< 11	< 9.4	< 9.7	< 10	NA	< 9.7	NA	< 9.7	< 9.4	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	12	15	13	< 10	11	< 10	12	11	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	22	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**33**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**12**	**29**	**88**	**840**	**946**	**417**	**2,255**	**1,333**	**1,745**	**1,608**	**23**	**24**	**19**	**15**	**17**	**97**	**105**
BTEX + Total SVOCs	µg/L	--	--	**141**	**145.7**	**5.2**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**20**	**29**	**121**	**2,224**	**2,354**	**3,110**	**12,155**	**11,233**	**1,745**	**1,608**	**34**	**35**	**28**	**28**	**30**	**117**	**125**
Laboratory Results - Inorganic Constituents																																									
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 50	< 50	NA	< 20	< 20	< 20	< 15	< 20	< 20	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	192	61.0	62.2	61.2	76.2	75.6	146	146
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	< 10	< 2.5	< 10	< 10	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	6.68	< 10	< 10	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Cyanide, total	µg/L	200	2,044	< 10	< 10	39	96	31	39	200	34	63	<10	33	48	36	137	< 10	23	189	99	329	193	52	125	30	109	137	280	295	95.6	152	151	NA	110	291	261	361	471	422	581	583
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	< 10	< 2.5	< 10	< 10	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	< 0.5	1.35	0.600	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NA	< 20	< 20	< 20	< 5.0	< 20	< 20	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2.0	< 2.0	< 2.0	< 2.0	1.16	1.64	**43.4**	**40.3**
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	75.2	76.5

Notes:

°C - degrees Celsius
-- - RRS are not applicable to or were not calculated for this parameter
µg/L - micrograms per liter
mS/cm - millisiemens per centimeter
BTEX - benzene, toluene, ethylbenzene, and total xylenes
ft - feet
HSRA - Hazardous Site Response Act
J - estimated concentration based on data validation
mg/L - milligrams per liter
MGP - manufactured gas plant
MSL - mean sea level
mV - millivolts
NA - not analyzed or not applicable
NM - not measured
NS - not sampled; well was considered dry due to extremely low water levels or was damaged
NTU - nephelometric turbidity unit
RRS - Risk Reduction Standards
SU - standard unit
SVOC - semivolatile organic compounds
UJ - nondetect result is considered estimated based on data validation
(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.
Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.
Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.
Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.
* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.
***- 30-minute hold time for field testing of ferrous iron was exceeded
ND - Not Detected

Appendix C
Summary of Historical Groundwater Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-402B																																
				Oct-12	Apr-12	Oct-11	Apr-11	Oct-10	Apr-10	Oct-09	Jul-09	Apr-09	Jan-09	Oct-08	Jul-08	Apr-08	Oct-07	Apr-07	Oct-06	Apr-06	Oct-05	Apr-05	Oct-04	Apr-04	04/04 DUP	Oct-03	Apr-03	Oct-02	Apr-02	Jan-02	01/02 DUP	Oct-01	Jul-01	07/01 DUP	Apr-01	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	570.04	570.87	570.87	573.67	572.35	576.02	576.62	573.02	574.17	572.91	570.61	570.42	570.02	569.12	570.27	570.96	572.71	573.18	577.34	575.67	573.23	573.23	574.45	575.55	572.58	574.42	572.65	572.65	576.84	578.93	578.93	574.16	571.04	571.90
Field Groundwater Quality Parameters																																					
Conductivity	mS/cm	--	--	0.779	0.671	0.751	0.649	0.703	0.805	0.736	0.746	0.811	0.786	0.799	0.606	0.761	0.800	0.810	0.789	0.830	0.771	0.745	0.849	0.767	0.767	0.764	0.693	0.848	0.804	0.804	0.804	0.808	0.676	0.676	0.770	0.866	0.620
Dissolved Oxygen	mg/L	--	--	0.08	0.29	0.70	7.90	0.19	6.02	1.83	0.44	0.40	1.46	1.70	0.19	0.16	0.24	1.39	0.20	0.19	0.36	0.44	0.13	0.30	0.30	0.19	0.42	0.18	1.45	0.00	0.00	NM	NM	NM	0.60	0.00	0.26
Oxidation Reduction Potential	mV	--	--	-124.2	-252.3	-172.4	-32.9	-2.1	-22.8	34.5	-15.7	-120.4	-146.1	-49.8	-44.5	-37.7	-83.0	-11.5	-126.2	-54.9	-77.0	-52.2	-75.0	-51.3	-51.3	-119.9	-27.8	-51.2	-102	-91	-91	-61	-55	-55	-62	-33	-47
pH	SU	--	--	7.32	7.1	7.54	6.77	6.49	6.57	6.74	6.92	6.82	6.85	6.89	6.74	6.69	6.80	6.84	6.93	6.83	6.87	6.88	6.79	6.86	6.86	6.87	6.87	6.69	6.59	8.67	8.67	6.36	6.81	6.81	6.80	6.91	7.46
Temperature	℃	--	--	23.29	18.16	20.08	14.10	22.90	23.62	19.36	23.82	23.40	18.49	20.63	20.95	20.34	22.05	21.05	22.48	20.84	21.56	19.70	20.95	20.42	20.42	20.48	18.54	19.86	19.62	16.68	16.68	18.60	22.00	22.00	19.20	21.30	20.47
Turbidity	NTU	--	--	6.61	7.51	2.92	9.3	1	8.76	5.26	1.2	3	0.61	16.8	2.86	4.85	2.17	2.04	1.30	2.31	1.62	3.75	2.37	1.77	1.77	5.3	1.5	10.19	8.44	4.6	4.6	8.72	2.40	2.40	3.61	2.34	10.8
Laboratory Results - Natural Attenuation Parameters																																					
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.20	2.80
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.05	2.72	< 0.05	< 0.10	< 0.05
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	130	130	130	150	130
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.39	3.38	3.03	3.00	2.20
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.51	3,450	3.21	3.20	2.40
Iron, Ferrous***	mg/L	--	--	0.18	< 0.10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	0.33 J	0.65	0.94	0.82	1.12	0.94	0.1	1.1	0.3	0.6	0.8	0.850	1.24	0.722	0.780	1.79	0.325	NA	0.845	0.102	< 0.10	< 0.10
Iron, Total	mg/L	--	--	1.4	0.11	1.0	1.5	0.57	2.4	1.9	NA	1.5	NA	2.6	1.1	1.5	1.06	1.2	1.46	1.27	1.09	1.61	1.42	0.829	0.865	2.10	0.721	1.27	1240	0.940	0.944	0.950	0.722	0.707	0.715	0.66	1.20
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	80	76	49	71	80	82	69	71	66	76	54
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19	16	16	17	23	18	18	24	19	21
Methane	µg/L	--	--	130	21	120	13	120	11	240	NA	69	NA	130	92	480	510	490	480	320	460	320	350	460	390	230	350	410	320	350	440	380	92.0	91.0	60.0	230	450
Dissolved Oxygen	mg/L	--	--	6.6	5.1	1.5	1.6	1.5	1.7	1.5	NA	1.4	NA	1.3	1.1	1.8	2.1	1.8	1.9	2.7	2.8	1.7	3.7	1.3	1.2	1.1	1.6	6.4	0.59	0.49	0.66	0.79	1.0	0.94	0.88	3.1	1.2
Laboratory Results - Organic Constituents																																					
Volatile Organic Compounds																																					
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.9	**15**	**19**	**18**	**18**	< 5.0	< 5.0	< 5.0	8.0	< 5.0
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5[(2)]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**5.9**	**15**	**19**	**18**	**18**	**ND**	**ND**	**ND**	**8.0**	**ND**
Semivolatile Organic Compounds																																					
2,4-Dimethylphenol	µg/L	700	2,044	< 9.7	< 11	< 10	< 11	< 9.5	<9.9	< 10	NA	< 10	NA	< 10	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	16	10	< 10	< 10	< 10	< 10	< 10	< 25	< 25
2-Methylphenol	µg/L	10[(2)]	5,110	< 9.7	< 11	< 10	< 11	< 9.5	<9.9	< 10	NA	< 10	NA	< 10	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[(2)]	511	< 9.7	< 11	< 10	< 11	< 9.5	NA	< 10	NA	< 10	NA	< 10	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26	30	11	12	< 10	17	12	13	16	21	< 10
Acenaphthylene	µg/L	10[(2)]	6,132	< 9.7	< 11	< 10	< 11	< 9.5	<9.9	< 10	NA	< 10	NA	< 10	< 9.4	< 9.4	< 10	< 10	10	< 10	< 10	< 10	11	10	10	12	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[(2)]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10[(2)]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[(2)]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20[(1)]	< 9.7	< 11	< 10	< 11	< 9.5	<9.9	< 10	NA	< 10	NA	< 10	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10[(2)]	3,066	< 9.7	< 11	< 10	< 11	< 9.5	<9.9	< 10	NA	< 10	NA	< 10	< 9.4	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**10**	**ND**	**ND**	**ND**	**11**	**10**	**10**	**12**	**26**	**30**	**27**	**22**	**ND**	**17**	**12**	**13**	**16**	**21**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**10**	**ND**	**ND**	**ND**	**11**	**10**	**10**	**12**	**26**	**36**	**42**	**41**	**18**	**35**	**12**	**13**	**16**	**29**	**ND**
Laboratory Results - Inorganic Constituents																																					
Arsenic	µg/L	50	50[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 20	< 20	< 20	< 20	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	51	50.8	49.9	46.9	50.5
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10
Cyanide, total	µg/L	200	2,044	77	66	72	90	110	59	95	82	76	33	30	100	25	141	< 10	69	56	39	69	37	76	89	41	89	90	113	114	113	94	87	131	105	111	75
Lead	µg/L	15	15[(1)]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	< 2.0	< 2.0	< 1.0	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20

Notes:

℃ - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Groundwater Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-403A																													
				Oct-12	Apr-12	Nov-11	Apr-11	Oct-10	Apr-10	Oct-09	Jul-09	Apr-09	Jan-09	Oct-08	Jul-08	Apr-08	Oct-07	Apr-07	Oct-06	Apr-06	Oct-05	Apr-05	Oct-04	Apr-04	Oct-03	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01	Jan-01	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	572.36	573.09	573.09	575.96	574.59	577.75	577.09	575.51	575.19	573.4	573.03	572.71	572.52	572.25	573.17	573.67	574.87	576.08	577.43	578.16	575.38	576.97	577.18	574.98	575.97	575.54	580.73	581.97	575.11	573.33	572.75	573.38
Field Groundwater Quality Parameters																																			
Conductivity	mS/cm	--	--	0.74	0.719	0.73	0.752	0.682	1.028	0.749	0.799	0.956	0.533	1.006	1.106	0.919	0.920	0.682	0.788	0.754	0.800	0.700	0.815	1.202	1.076	1.090	1.255*	0.890	0.576	1.210	1.180	0.120	0.140	1.370	1.110
Dissolved Oxygen	mg/L	--	--	0.27	0.45	0.46	1.83	0.31	4.38	0.9	0.43	3.77	0.71	0.42	0.21	0.21	0.24	4.14	0.14	0.08	0.26	0.44	0.52	0.24	0.52	0.14	0.34*	1.59	5.04	0.750	NM	1.83	0.30	0.00	1.32
Oxidation Reduction Potential	mV	--	--	-61.0	83.0	84.9	29.7	-5.4	21.5	56.9	53.5	96.0	74.1	34.4	58.7	69.6	-50.3	28.2	-133.9	-30.2	-43.7	-158.3	113.9	30.1	12.1	4.4	9.5*	11	28	1	10	-11	31	-11	133
pH	SU	--	--	6.72	6.27	6.22	6.1	4.89	6.76	6.03	6.16	6.38	5.77	6.29	6.27	6.11	6.24	6.27	6.24	6.23	6.14	6.52	5.75	6.33	6.43	6.51	6.34*	6.14	6.68	6.85	6.46	6.42	6.66	6.53	6.13
Temperature	ºC	--	--	20.52	23.85	20.59	15.45	23.4	28.92	22.84	25.37	15.96	20.7	22.41	22.04	22.62	24.06	21.50	24.00	23.21	22.02	19.69	20.35	19.96	20.02	18.94	19.74*	19.88	17.26	20.29	20.83	16.49	20.12	20.10	26.81
Turbidity	NTU	--	--	0.33	0.86	1.22	6.55	2.6	6.32	3.58		3.7	4.68	2.4	7.97	1.26	3.26	0.02	0.48	1.25	2.36	3.65	7.6	7.97	6.2	4.9	41.9*	7.20	1.98	1.28	4.23	1.70	4.04	4.91	1.50
Laboratory Results - Natural Attenuation Parameters																																			
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27	14.00	18.00
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.05	0.104	< 0.05	< 0.10	0.18
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	130	43.4	150	200	140
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.97	5.45	5.8	6.30	NM
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.19	5.34	5.2	6.60	6.20
Iron, Ferrous***	mg/L	--	--	< 0.10	< 0.10	<0.10	<0.10	0.14	<0.10	<0.10	NA	<0.10	NA	< 10	< 10	0.41 J	1.68	0.17	5.09	3.97	5.03	5.8	0.2	0.7	1.0	1.20	1.35	0.622	0.544	< 0.100	0.963	0.367	< 0.10	< 0.10	< 1.0
Iron, Total	mg/L	--	--	0.59	0.49	0.56	0.71	0.90	0.62	2.2	NA	1.4	NA	0.21	0.45	1.9	1.58	0.267	4.88	3.79	5.01	6.00	1.67	3.13	1.30	2.77	5.63	1.03	0.647	1.47	0.917	0.989	0.82	1.60	0.21
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	350	210	240	290	260	230	20	310	280	224
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	14	9.8	16	14	19	17	17	16
Methane	µg/L	--	--	39	20	7.0	20	45	13	34	NA	58	NA	23	7.7	95	150	100	150	130	160	88	190	160	18	180	4.4	0.061	0.54	0.16	0.07	0.95	0.32	1.3	< 0.07
Dissolved Oxygen	mg/L	--	--	8.0	5.6	1.5	1.5	1.2	1.4	1.2	NA	1.3	NA	0.91	1.0	3.3	2.2	1.9	1.4	3.4	4.7	1.8	1.2	1.2	0.90	1.5	5.6	1.1	1.8	1.2	1.2	11	1.3	1.4	2.6
Laboratory Results - Organic Constituents																																			
Volatile Organic Compounds																																			
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 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	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5[2]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																																			
2,4-Dimethylphenol	µg/L	700	2,044	<9.6	< 11	< 11	< 11	< 9.4	<9.5	< 10	NA	< 9.4	NA	< 9.4	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 25	< 25
2-Methylphenol	µg/L	10[2]	5,110	<9.6	< 11	< 11	< 11	< 9.4	<9.5	< 10	NA	< 9.4	NA	< 9.4	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	NA	< 11	< 11	< 11	< 9.4	NA	< 10	NA	< 9.4	NA	< 9.4	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10[2]	6,132	<9.6	< 11	< 11	< 11	< 9.4	<9.5	< 10	NA	< 9.4	NA	< 9.4	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20[1]	<9.6	< 11	< 11	< 11	< 9.4	<9.5	< 10	NA	< 9.4	NA	< 9.4	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10[2]	3,066	<9.6	< 11	< 11	< 11	< 9.4	<9.5	< 10	NA	< 9.4	NA	< 9.4	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																																			
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 20	< 20	< 15	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	47.7	54.3	59.3	59.2	75.5
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	29.0	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	50.1	< 10	< 10
Cyanide, total	µg/L	200	2,044	340	< 10	150	190	35	140	290	260	150	150	100	440	320	305	< 10	175	61	60	133	171	435	151	302	500	366	184	940	519	450	581	422	460
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	34.6	< 20	< 20	68.1	< 20	21.3
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2.0	< 2.0	< 2.0	1.08	**24.1**
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	10.6	< 20	112

Notes:

ºC - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Groundwater Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-403B																																
				Oct-12	Apr-12	Nov-11	Apr-11	Oct-10	Apr-10	Oct-09	Jul-09	Apr-09	Jan-09	Oct-08	Jul-08	Apr-08	Oct-07	May-07**	Apr-07	Oct-06	Apr-06	Oct-05	Apr-05	Oct-04	Apr-04	Oct-03	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01	Feb-01	Jan-01	01/01 DUP	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	564.44	564.42	564.42	571.34	564.42	569.4	576.37	565.67	571.91	572.6	564.62	564.52	567.23	563.70	565.99	566.05	564.71	567.54	566.92	577.41	574.19	567.48	567.73	570.91	565.7	570.21	565.93	565.87	568.96	569.89	573.01	565.52		564.54	566.26
Field Groundwater Quality Parameters																																				
Conductivity	mS/cm	--	--	0.453	0.776	0.957	0.83	0.654	1.345	1.282	0.47	1.093	0.711	1.654	1.323	1.250	1.509	0.207	1.331	1.110	1.355	1.200	1.067	1.141	1.121	1.229	1.037	1.205	1.370	1.400	1.030	1.530	1.200	0.699	1.400	1.400	1.240	0.925
Dissolved Oxygen	mg/L	--	--	2.16	0.05	0.58	1.05	0.77	0.5	7.1	3.59	4.36	0.21	0.11	0.24	0.30	0.30	5.07	0.51	0.50	0.11	0.33	0.11	0.47	0.06	0.52	0.12	0.08	2.43	0.00	2.44	NM	0.39	0.40	0.40	0.40	0.45	0.20
Oxidation Reduction Potential	mV	--	--	134.0	-66.2	-142.5	-95.8	-90.8	-76.3	-98.1	-78.1	45.3	231.9	-132.4	-150.9	-62.5	-126.2	-20.7	-6.2	-463.4	651.0	-67.8	-148.5	-79.2	-185.2	-84.9	-135.7	-49.0	-93	-50	-26	-25	-87	-99	-144	-144	-115	-392
pH	SU	--	--	6.45	6.6	6.58	6.52	6.71	6.62	7.2	6.62	6.53	6.28	6.4	6.31	6.34	6.37	6.06	6.33	6.58	5.84	6.53	6.58	6.41	6.47	6.56	6.67	6.49	6.30	8.1	6.14	6.46	6.87	5.53	6.55	6.55	6.59	7.46
Temperature	℃	--	--	20.25	21.04	17.83	19.45	21.44	28.85	25.33	32.23	16.63	19.26	22.36	21.23	19.60	20.54	20.73	20.09	20.67	20.65	21.45	20.91	20.92	21.28	20.99	19.49	20.19	19.35	18.68	19.40	24.40	18.63	19.30	19.80	19.80	21.30	25.55
Turbidity	NTU	--	--	204	4.1	9.02	7.28	>1000	2.52	4.15	8.81	999	5.4	>1000	9.95	19.9	55.1	11.0	3.01	24.90	28.4	9.41	1.17	10	NA	8.8	8.0	12.6	3.60	3.4	34.0	3.20	7.70	4.20	4.38	4.38	4.77	3.10
Laboratory Results - Natural Attenuation Parameters																																				
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	3.60	1.40
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.05	0.321	NA	< 0.10	NA	< 0.10	< 0.05
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	79	41.5	NA	63	NA	51	16
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1 .0	NA	< 2.0	NA	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.47	1.30	NA	1.6	NA	1.60	1.70
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.60	1.57	NA	1.6	NA	1.60	2.00
Iron, Ferrous***	mg/L	--	--	0.16	0.57	0.60	0.57	<0.10	<0.10	<0.10	NA	<0.10	NA	1.9	0.41	1.1 J	1.99	NA	3.07	1.05	1.93	4.26	0.9	1.7	0.8	2.4	1.50	0.456	0.448	0.644	0.333	0.964	1.00	NA	< 0.10	NA	1.70	< 0.10
Iron, Total	mg/L	--	--	5.1	0.96	2.1	2.8	1.0	8.0	5.0	NA	37	NA	34.0	1.8	5.7	5.68	NA	3.37	3.63	4.9	3.20	0.715	3.17	4.7	2.03	1.84	1.23	0.672	0.824	1.08	0.909	3.83	NA	0.91	NA	1.70	1.40
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	290	220	290	310	NA	270	100	NA	300	NA	230	198
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	15	15	NA	15	33	NA	19	NA	17	20
Methane	µg/L	--	--	190	49	98	41	17	46	1.7	NA	62	NA	160	160	160	180	NA	240	160	45	94	130	120	89	150	140	95	230	190	NA	82	0.41	NA	380	NA	150	< 0.07
Dissolved Oxygen	mg/L	--	--	6.4	5.3	1.2	1.5	1.5	1.5	1.4	NA	1.1	NA	1.7	1.7	1.7	1.4	NA	1.6	2.0	1.8	3.4	2.9	1.4	1.1	1.4	1.2	4.4	1.2	0.87	NA	1.6	1.2	NA	1.2	NA	1.2	1.0
Laboratory Results - Organic Constituents																																				
Volatile Organic Compounds																																				
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	5.6
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5[2]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**5.6**
Semivolatile Organic Compounds																																				
2,4-Dimethylphenol	µg/L	700	2,044	< 10	< 11	< 11	< 11	< 9.8	<9.5	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	9.7 UJ	< 10	< 10	17	< 10	< 10	< 10	< 10	< 10	< 10	17	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 25	< 25
2-Methylphenol	µg/L	10[2]	5,110	< 10	< 11	< 11	< 11	< 9.8	<9.5	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	9.7 UJ	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	< 10	< 11	< 11	< 11	< 9.8	NA	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	9.7 UJ	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Acenaphthylene	µg/L	10[2]	6,132	< 10	< 11	< 11	< 11	< 9.8	<9.5	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	9.7 UJ	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Naphthalene	µg/L	20	20[1]	< 10	< 11	< 11	< 11	< 9.8	<9.5	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	9.7 UJ	< 10	< 10	280	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Phenanthrene	µg/L	10[2]	3,066	< 10	< 11	< 11	< 11	< 9.8	<9.5	< 9.4	NA	< 9.7	NA	< 9.7	< 9.7	9.7 UJ	< 10	< 10	15	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 100	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**312**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**17**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**312**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**17**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**ND**	**ND**	**5.6**
Laboratory Results - Inorganic Constituents																																				
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 20	< 20	NA	< 15	< 15	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	225	394	NA	284	317	468	921
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 2.5	< 2.5	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	NA	2.94	3.13	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	NA	< 10	< 10	< 10	< 10
Cyanide, total	µg/L	200	2,044	11	< 10	<10	<10	<10	16	15	<10	10	<10	12	12	< 10	36	NA	31	118	13	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	10	< 10
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 2.5	< 2.5	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	0.850	NA	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NA	< 5.0	< 5.0	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2.0	< 2.0	NA	< 2.0	< 2.0	< 1 .0	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	NA	< 20	< 20	< 20	< 20

Notes:

℃ - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Groundwater Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-404R																																	
				Oct-12	4/12 DUP	Apr-12	Oct-11	04/11 DUP	Apr-11	DUP 10/10	Oct-10	Apr-10	Oct-09	Jul-09	Apr-09	Jan-09	Oct-08	Jul-08	Apr-08	4/08 DUP	Oct-07	Apr-07	04/07 DUP	Oct-06	Apr-06	04/06 DUP	Oct-05	10/05 DUP	Apr-05	04/05 DUP	Oct-04	10/04 DUP	Apr-04	Oct-03	10/03 DUP	Apr-03	04/03 DUP	Oct-20
Groundwater Elevation	ft MSL	--	--	569.86		572.59	572.59		575.35		574.31	577.96	576.39	575.09	574.62	572.99	572.52	572.46		572.29	571.88		572.84	575.25		574.14		575.33		576.69		577.52	574.86		576.63		576.80	DRY
Field Groundwater Quality Parameters																																					
Conductivity	mS/cm	--	--	0.626	0.645	0.645	0.522	0.415	0.415	0.362	0.362	0.265	0.792	0.557	0.741	0.459	0.571	0.614	0.419	0.419	0.754	0.763	0.764	0.852	0.849	0.849	0.493	0.493	0.544	0.544	1.036	1.036	0.961	0.781	0.781	0.901	0.901	NM
Dissolved Oxygen	mg/L	--	--	1.06	1.05	1.05	0.38	0.58	0.58	0.51	0.51	0.74	0.29	0.27	0.31	0.44	0.52	0.98	0.84	0.84	0.55	0.62	0.63	0.25	0.05	0.05	0.62	0.62	0.52	0.52	0.15	0.15	0.23	0.22	0.22	0.08	0.08	NM
Oxidation Reduction Potential	mV	--	--	-9.6	-53.4	-53.4	-4.9	-45.5	-45.5	91.6	91.6	2.3	-52.4	-67.3	-59	57.3	23.5	-6.3	-121.2	-121.2	-92.3	-70.4	-70.5	-107.5	-74.4	-74.4	11.3	11.3	-45.7	-45.7	-29.9	-29.9	-185.2	-87.9	-87.9	-108.9	-108.9	NM
pH	SU	--	--	6.35	6.27	6.27	6.24	6.19	6.19	5.57	5.57	6.38	6.81	6.23	6.29	6.11	6.12	6.3	6.69	6.69	6.46	6.37	6.38	6.41	6.38	6.38	6.36	6.36	6.64	6.64	5.90	5.90	6.53	6.56	6.56	6.65	6.65	NM
Temperature	℃	--	--	23	26.43	26.43	21.08	22.96	22.96	22.48	22.48	20.2	22.21	26.85	21.56	19.21	24.09	21.8	22.54	22.54	22.84	22.13	22.14	24.44	21.19	21.19	23.84	23.84	20.08	20.08	21.23	21.23	18.72	20.2	20.2	18.70	18.70	NM
Turbidity	NTU	--	--	9.78	19.8	19.8	9.01	8.71	8.71	7.5	7.5	4.77	4.44	28.8	9.9	8.8	8	60.9	10.61	10.61	4.21	18.9	18.10	4.82	4.16	4.16	2.72	2.72	13.4	13.4	15	15	4.59	4.8	4.8	4.7	4.7	NM
Laboratory Results - Natural Attenuation Parameters																																					
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Iron, Ferrous***	mg/L	--	--	0.38	< 0.10	< 0.10	0.38	1.6	2.2	6.2	6.0	< 0.10	< 0.10	NA	< 0.10	NA	< 0.10	0.58	0.26 J	0.11 J	3.27	19.1	18.8	21.9	23.9	24.8	3.17	3.22	6.7	6.3	8.2	8.0	38.3	30.8	30.6	26.5	27.0	NS
Iron, Total	mg/L	--	--	5.7	1.9	1.9	1.5	9.1	10	8.8	8.8	11	3.7	NA	6.0	NA	1.4	9.9	2.2	2.2	2.83	16.1	16.3	18.5	22.7	23	3.45	3.47	9.22	8.89	30.2	30.8	29.7	29.8	28.7	24.1	23.9	NS
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	260	260	NS
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Methane	µg/L	--	--	640	130	160	190	450	430	300	330	27	810	NA	650	NA	14	74	1100	1100	850	1,700	1,700	2,000	2,200	1,800	400	340	760	840	1,000	1,000	960	860	780	760	760	NS
Dissolved Oxygen	mg/L	--	--	5.6	6.3	6.3	1.3	1.4	1.4	1.3	1.4	1.5	1.2	NA	1.4	NA	1.6	1.1	2.0	2.0	1.4	0.60	0.55	0.79	1.6	2.4	3.4	4.5	2.7	2.6	0.49	0.56	0.64	1.2	2.3	0.55	0.64	NS
Laboratory Results - Organic Constituents																																					
Volatile Organic Compounds																																					
Benzene	µg/L	5	8.3	**510**	**95**	**93**	**38**	**370**	**370**	**770**	**750**	**110**	**290**	**1200**	**400**	**98**	5.4	**17**	**110**	**100**	**43**	**440**	**440**	**3,000**	**3,000**	**3,000**	**850**	**780**	**1,900**	**2,200**	**4,700**	**4,800**	**8,600**	**11,000**	**12,000**	**9,900**	**10,000**	NS
Ethylbenzene	µg/L	700	2,297	280	55	55	51	160	160	110	91	22	130	NA	140	NA	< 5.0	17	190	180	5.9	450	500	1,100	1,400	1,400	220	190	680	780	1,800	1,800	**4,400**	**3,700**	**3,500**	**4,400**	**4,700**	NS
Toluene	µg/L	1,000	1,102	91	5.7	5.6	< 5.0	170	170	92	87	6.2	130	NA	45	NA	< 5.0	< 5.0	42	37	< 5.0	81	82	600	810	800	260	230	780	880	620	630	**4,100**	**7,700**	**6,800**	**7,100**	**7,600**	NS
Xylenes, Total	µg/L	10,000	204,000	330	34	33	16	250	250	140	130	16	200	NA	170	NA	< 5.0	32	250	220	7.8	400	440	770	1,400	1,400	310	260	750	890	1,300	1,300	8,000	6,700	6,200	11,000	12,000	NS
Isopropylbenzene	µg/L	5[2]	--	48	13	13	15	< 25	< 25	< 25	< 25	< 5.0	24	NA	26	NA	< 5.0	< 5.0	50	48	5.9	83	88	130	170	180	19	18	91	100	< 500	< 500	330	270	260	210	530	NS
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35	35	NS
Total BTEX	µg/L	--	--	**1259**	**203**	**200**	**120**	**950**	**950**	**1112**	**1058**	**148**	**774**	**1200**	**781**	**98**	**5.4**	**66**	**592**	**537**	**57**	**1,371**	**1,462**	**5,470**	**6,610**	**6,600**	**1,640**	**1,460**	**4,110**	**4,750**	**8,420**	**8,530**	**25,100**	**29,100**	**28,500**	**32,400**	**34,300**	**NA**
Semivolatile Organic Compounds																																					
2,4-Dimethylphenol	µg/L	700	2,044	< 20	< 14	< 10	< 9.9	22	25	< 9.4	17	< 9.4	< 9.4	NA	NA	NA	< 9.8	< 10	< 9.7	9.7 UJ	< 10	< 10	18	120	210	190	50	< 10	45	63	210	230	20	1,100	1,000	1,100	1,200	NS
2-Methylphenol	µg/L	10[2]	5,110	< 20	< 14	< 10	< 9.9	< 11	< 10	< 9.4	< 9.5	< 9.4	9.8	NA	NA	NA	< 9.8	< 10	< 9.7	9.7 UJ	< 10	< 10	< 10	24	42	32	19	< 10	33	44	80	84	260	< 10	200	11	12	NS
4-Methylphenol	µg/L	10[2]	511	< 20	< 14	< 10	< 9.9	< 11	< 10	< 9.4	< 9.5	NA	< 9.4	NA	NA	NA	< 9.8	< 10	< 9.7	9.7 UJ	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	30	30	61	< 10	< 10	50	54	NS
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	68	72	NS
Acenaphthylene	µg/L	10[2]	6,132	< 20	< 14	< 10	< 9.9	< 11	< 10	< 9.4	< 9.5	< 9.4	< 9.4	NA	NA	NA	< 9.8	< 10	< 9.7	9.7 UJ	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	13	13	< 10	< 10	18	14	15	NS
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11	12	NS
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	16	NS
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	NS
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	17	NS
Naphthalene	µg/L	20	20[1]	**230**	**200**	**170**	< 9.9	**130**	**170**	**78**	**86**	**9.9**	**47**	**170**	**94**	**32**	< 9.8	< 10	**110 J**	**70 J**	< 10	< 10	**300**	**360**	**610**	**570**	**130**	**47**	**160**	**250**	**1,000**	**1,100**	**1,900**	**1,700**	**1,800**	**1,600**	**2,200**	NS
Phenanthrene	µg/L	10[2]	3,066	< 20	< 14	< 10	< 9.9	< 11	< 10	< 9.4	< 9.5	< 9.4	< 9.4	NA	NA	NA	< 9.8	< 10	< 9.7	9.7 UJ	< 10	< 10	13	15	15	12	< 10	< 10	< 10	< 10	21	22	26	23	23	19	20	NS
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	NS
Total SVOCs	µg/L	--	--	**230**	**200**	**170**	**ND**	**152**	**195**	**78**	**103**	**9.9**	**57**	**170**	**94**	**32**	**ND**	**ND**	**110**	**70**	**ND**	**ND**	**331**	**519**	**877**	**804**	**199**	**47**	**238**	**357**	**1,354**	**1,479**	**2,267**	**2,823**	**3,041**	**2,902**	**3,618**	**NA**
BTEX + Total SVOCs	µg/L	--	--	**1489**	**403**	**370**	**120**	**1102**	**1145**	**1190**	**1161**	**163.9**	**831**	**1370**	**875**	**130**	**5**	**66**	**752**	**655**	**63**	**ND**	**1,793**	**5,989**	**7,487**	**7,404**	**1,839**	**1,507**	**4,348**	**5,107**	**9,774**	**10,009**	**27,367**	**31,923**	**31,541**	**35,302**	**37,918**	**NA**
Laboratory Results - Inorganic Constituents																																					
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50.0	NS
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10.0	NS
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Cyanide, total	µg/L	200	2,044	< 10	48	53	23	24	20	13	14	10	170	110	96	19	53	62	17 J	74 J	238	15	156	< 10	112	119	43	30	72	51	110	102	213	42	181	111	108	NS
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10.0	NS
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.5	< 0.5	NS
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20.0	NS
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS

Notes:

℃ - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

*** - 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-404									
				Apr-02	Jan-02	Oct-01	10/01 DUP	Jul-01	Apr-01	4/01 DUP	Jan-01	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	575.00	574.92	582.03		584.04	574.77		573.2	572.85	573.35
Field Groundwater Quality Parameters													
Conductivity	mS/cm	--	--	NM	0.686	0.693	0.693	0.881	2.890	2.890	0.920	1.050	0.678
Dissolved Oxygen	mg/L	--	--	NM	0.00	NM	NM	NM	0.98	0.98	5.60	1.83	NM
Oxidation Reduction Potential	mV	--	--	NM	61	129	129	96	48	48	-60	-104	-83
pH	SU	--	--	NM	5.88	6.57	6.57	6.28	4.63	4.63	7.04	6.48	7.28
Temperature	°C	--	--	NM	16.84	20.88	20.88	21.40	18.53	18.53	13.20	18.30	23.56
Turbidity	NTU	--	--	NM	2.82	0.280	0.280	5.00	32.4	32.4	36.5	18.6	21.9
Laboratory Results - Natural Attenuation Parameters													
Ammonia (as N)	mg/L	--	--	NS	NA	NA	NA	NA	NA	NA	32.0	31.0	31.0
Nitrate (as N)	mg/L	--	--	NS	NA	NA	NA	3.60	1.51	1.59	1.10	< 0.10	< 0.05
Sulfate	mg/L	--	--	NS	NA	NA	NA	220	1770	1790	60.0	69.0	190
Sulfide	mg/L	--	--	NS	NA	NA	NA	< 1.0	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NS	NA	NA	NA	2.00	29.9	28.5	4.1	7.200	16.00
Manganese, Total	mg/L	--	--	NS	NA	NA	NA	2.01	30.7	30.4	4.3	7.200	16.00
Iron, Ferrous***	mg/L	--	--	NS	< 0.100	< 0.100	< 0.100	0.176	27.9	30.0	1.40	12.0	13.0
Iron, Total	mg/L	--	--	NS	0.130	< 0.100	< 0.100	0.178	19.1	15.9	1.9	17.00	29.00
Carbon Dioxide	mg/L	--	--	NS	210	170	170	250	500	490	83	190	187
Nitrogen	mg/L	--	--	NS	8.7	19	19	16	14	13	20	15	15
Methane	µg/L	--	--	NS	0.021	0.0036	0.0036	0.052	0.35	0.38	0.22	0.56	0.26
Dissolved Oxygen	mg/L	--	--	NS	1.6	0.96	0.96	0.74	1.7	1.4	6.8	1.2	0.62
Laboratory Results - Organic Constituents													
Volatile Organic Compounds													
Benzene	µg/L	5	8.3	NS	**340**	**260**	**310**	**1,800**	**2,800**	**3,000**	**900**	**1,300**	**1,700**
Ethylbenzene	µg/L	700	2,297	NS	< 5.0	< 5.0	< 5.0	< 5.0	990	1,200	370	420	650
Toluene	µg/L	1,000	1,102	NS	< 5.0	< 5.0	< 5.0	17	750	900	240	440	**1,500**
Xylenes, Total	µg/L	10,000	204,000	NS	13	110	110	660	2,100	2,700	380	460	1,600
Isopropylbenzene	µg/L	5(2)	--	NS	9.8	6.4	7.1	45	48	65	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NS	< 5.0	5.1	< 5.0	< 5.0	5.7	6.6	< 5.0	< 5.0	6.0
Total BTEX	µg/L	--	--	**NA**	**353**	**370**	**420**	**2,477**	**6,640**	**7,800**	**1,890**	**2,620**	**5,450**
Semivolatile Organic Compounds													
2,4-Dimethylphenol	µg/L	700	2,044	NS	< 10	< 10	< 10	22	1,600	1,600	280	830	**3,500**
2-Methylphenol	µg/L	10(2)	5,110	NS	< 10	< 10	< 10	< 10	480	450	62	260	2,200
4-Methylphenol	µg/L	10(2)	511	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	96	**810**
Acenaphthene	µg/L	2,000	6,132	NS	< 10	< 10	< 10	< 10	11	10	24	19	33
Acenaphthylene	µg/L	10(2)	6,132	NS	< 10	< 10	< 10	< 10	< 10	< 10	13	13	23
Carbazole	µg/L	10(2)	143	NS	< 10	< 10	< 10	< 10	< 10	< 10	23	24	21
Dibenzofuran	µg/L	10(2)	409	NS	< 10	< 10	< 10	< 10	< 10	< 10	22	15	< 10
Diethyl phthalate	µg/L	10(2)	82	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	14	< 10
Fluorene	µg/L	1,000	4,088	NS	< 10	< 10	< 10	< 10	< 10	< 10	19	18	18
Naphthalene	µg/L	20	20(1)	NS	**55**	< 10	**62**	**260**	**510**	**450**	**530**	**550**	**1,100**
Phenanthrene	µg/L	10(2)	3,066	NS	< 10	< 10	< 10	< 10	< 10	< 10	19	16	21
Phenol	µg/L	4,000	61,320	NS	< 10	28	< 10	< 10	< 10	< 10	< 10	16	550
Total SVOCs	µg/L	--	--	**NA**	**55**	**28**	**62**	**282**	**2,601**	**2,510**	**992**	**1,871**	**8,276**
BTEX + Total SVOCs	µg/L	--	--	**NA**	**408**	**398**	**482**	**2,759**	**9,241**	**10,310**	**2,882**	**4,491**	**13,726**
Laboratory Results - Inorganic Constituents													
Arsenic	µg/L	50	50(1)	NS	< 50	< 50	< 50	< 20	**59.3**	**53.6**	< 15	< 20	< 20
Barium	µg/L	2,000	7,154	NS	NA	NA	NA	117	61.4	59.8	249	193	317
Beryllium	µg/L	5	204	NS	< 10	< 10	< 10	< 10	25.4	23.4	< 2.5	< 10	< 10
Chromium	µg/L	100	153,300	NS	NA	NA	NA	< 10	< 10	< 10	< 2.5	< 10	56.7
Copper	µg/L	1,300	4,088	NS	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	19.1
Cyanide, total	µg/L	200	2,044	NS	46.5	22.0	21.0	52.0	171	181	72.0	101	184
Lead	µg/L	15	15(1)	NS	< 10	< 10	< 10	< 10	**17.2**	**16.4**	< 2.5	< 10	**26.8**
Mercury	µg/L	2	31	NS	< 0.5	< 0.5	< 0.5	< 0.5	0.640	0.550	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NS	< 20	< 20	< 20	< 20	201	185	< 5.0	469	50.0
Thallium	µg/L	2	7.2	NS	NA	NA	NA	< 2.0	< 2.0	< 2.0	< 2.0	2.0	79.7
Zinc	µg/L	2,000	30,660	NS	NA	NA	NA	< 20	220	209	< 20	< 20	236

Notes:

°C - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-404B																														
				Oct-12	Apr-12	Oct-11	Apr-11	Oct-10	Apr-10	4/10 DUP	Oct-09	Jul-09	Apr-09	Jan-09	Oct-08	10/08 DUP	Jul-08	Apr-08	Oct-07	Apr-07	Oct-06	Apr-06	Oct-05	Apr-05	Oct-04	Apr-04	Oct-03	Apr-03	Oct-02	Apr-02	Jan-02	01/02 DUP	Oct-01	Jul-01	Apr-01
Groundwater Elevation	ft MSL	--	--	571.66	570.07	570.07	570.77	571.22	574.35		576.12	571.99	572.65	570.92	569.96		569.77	570.31	569.25	569.28	572.75	571.37	572.58	576.59*	576.95	572.6*	575.05	574.79	570.68	574.03	572.41		577.83	578.68	573.78
Field Groundwater Quality Parameters																																		
Conductivity	mS/cm	--	--	0.887	0.695	0.813	0.654	0.900	0.789	0.789	0.965	0.875	0.458	0.995	0.86	0.86	0.909	0.751	1.019	0.931	0.863	1.310	0.937	0.833*	1.032	0.962*	0.842	0.825	0.930	0.761	0.488	0.488	0.656	0.505	0.810
Dissolved Oxygen	mg/L	--	--	0.39	0.31	0.22	0.77	1.5	0.67	0.67	1.55	0.97	5.56	0.96	0.51	0.51	0.35	1.45	0.28	0.54	0.24	0.05	1.37	0.51*	0.68	0.84*	0.55	0.80	0.47	3.60	1.47	1.47	NM	NM	1.59
Oxidation Reduction Potential	mV	--	--	-52.4	-43.1	-56.9	-90.8	142.1	-47.3	-47.3	-45.5	-36.5	86.9	-43.6	-98.7	-98.7	-86.2	-104.6	-75.7	-25.4	9.8	68	-26.6	*-111.9*	-52.8	-114.7*	-76.6	-51.3	-89.6	-22	-114	-114	-131	-215	-63
pH	SU	--	--	7.05	6.66	6.62	6.71	6.8	6.76	6.76	6.78	6.61	6.95	6.57	6.74	6.74	6.59	6.72	6.56	6.53	6.60	5.7	6.70	6.86*	6.13	6.84*	6.78	6.94	6.70	6.91	7.21	7.21	7.02	7.62	11.11
Temperature	°C	--	--	20.99	21.26	20.98	21.44	26.04	21.32	21.32	20.53	24.22	19.3	16.6	22.81	22.81	26.75	26.09	21.34	19.25	20.44	20.04	23.23	22.10*	22.61	20.89*	20.71	20.60	20.99	20.10	14.76	14.76	20.20	22.10	20.14
Turbidity	NTU	--	--	>1000	>1000	209	>1000	56.1	2.76	2.76	66.8	5.09	1.09	84.8	2.25	2.25	241	3.8	227	488	19.50	>1,000	824	NA	55	NA*	4.2	330	38	10.1	80	80	444	8.00	47.5
Laboratory Results - Natural Attenuation Parameters																																		
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.17	0.0849
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99	67.0
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	1.60
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	0.00585
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0851	0.0160
Iron, Ferrous***	mg/L	--	--	0.11	< 0.10	< 0.10	< 0.10	0.41	< 0.10	< 0.10	< 0.10	NA	< 0.10	NA	0.78	0.13	0.17	0.27 J	2.59	1.32	1.23	10.9	10.70	4.6	1.1	6.7	18.6	< 0.100	3.43	0.448	1.66	1.39	< 0.100	0.941	< 0.10
Iron, Total	mg/L	--	--	190	61	11	1.7	8.2	2.6	2.4	10	NA	1.0	NA	12.0	11.0	4.1	6.0	12.0	18.5	12.4	124	66.0	95.6	2.67	24.3	4.97	0.725	7.21	5.69	3.93	3.72	0.256	0.892	1.93
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	87	85	32	15	16	3.8	2.4	< 0.60
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	17	16	16	27	24	21
Methane	µg/L	--	--	9.5	84	10	24	51	36	33	59	NA	88	NA	38	44	38	180	210	180	110	7	100	28	25	65	39	3.0	12	59	54	56	27	120	52
Dissolved Oxygen	mg/L	--	--	6.8	5.1	1.7	1.5	1.4	1.5	1.5	1.4	NA	1.6	NA	1.2	1.7	1.0	2.2	1.5	1.3	1.3	0.94	5.0	5.7	3.8	1.8	1.0	2.2	6.6	3.1	1.4	1.1	2.1	1.1	3.6
Laboratory Results - Organic Constituents																																		
Volatile Organic Compounds																																		
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.0	**16**	**44**	**13**	**210**	**220**	**420**	< 5.0	**210**
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	12	13	13	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	9.3	8.8	15	< 5.0	12
Xylenes, Total	µg/L	10,000	204,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	7.0	< 5.0	< 5	37	36	99	< 5.0	25
Isopropylbenzene	µg/	5[2]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5	< 5.0	< 5.0	8.6	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**5.0**	**23**	**44**	**13**	**268**	**278**	**547**	**ND**	**247**
Semivolatile Organic Compounds																																		
2,4-Dimethylphenol	µg/L	700	2,044	< 11	< 9.8	< 10	< 10	< 9.4	< 9.4	< 9.7	< 9.4	NA	< 10	NA	< 11	< 10	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	38	< 10
2-Methylphenol	µg/L	10[2]	5,110	< 11	< 9.8	< 10	< 10	<9.4	<9.4	< 9.7	<9.4	NA	< 10	NA	< 11	< 10	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	< 11	< 9.8	< 10	< 10	NA	NA	NA	<9.4	NA	< 10	NA	< 11	< 10	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10[2]	6,132	< 11	< 9.8	< 10	< 10	<9.4	<9.4	< 9.7	<9.4	NA	< 10	NA	< 11	< 10	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20[1]	< 11	< 9.8	< 10	< 10	<9.4	<9.4	< 9.7	<9.4	NA	< 10	NA	< 11	< 10	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	17	19	**76**	**110**	< 10
Phenanthrene	µg/L	10[2]	3,066	< 11	< 9.8	< 10	< 10	<9.4	<9.4	< 9.7	<9.4	NA	< 10	NA	< 11	< 10	< 9.7	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**17**	**19**	**76**	**148**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**5.0**	**16**	**44**	**13**	**285**	**297**	**623**	**148**	**247**
Laboratory Results - Inorganic Constituents																																		
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 50	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	66.9	67.2
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10
Cyanide, total	µg/L	200	2,044	57	59	57	55	71	79	86	31	100	97	37	59	89	97	92	63	114	59	73	29	39	19	85	63	74	79	80.1	74.7	< 10	43	78	10
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2.0	< 2.0
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20

Notes:

°C - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-405																
				Apr-12	Apr-11	Apr-10	Apr-09	Apr-08	Apr-07	Apr-06	Apr-05	Apr-04	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01	Jan-01	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	573.5	578.08	575.42	576.75	571.70	572.93	575.18	577.35	573.72	575.83	573.99	576.93	572.53	575.68	576.41	576.99	570.77	570.21	572.24
Field Groundwater Quality Parameters																						
Conductivity	mS/cm	--	--	0.691	0.891	0.849	0.817	0.842	0.913	0.896	0.714	0.779	0.745	0.898	0.825	0.940	0.863	0.891	0.600	0.860	0.920	0.764
Dissolved Oxygen	mg/L	--	--	1.32	3.12	0.33	0.79	0.19	9.30	0.29	0.32	0.39	0.13	0.27	1.25	0.00	NM	NM	1.03	0.50	0.43	2.21
Oxidation Reduction Potentia	mV	--	--	32.4	54.7	-29.5	117.2	102.2	75.4	93	119.4	93.1	31.5	43.3	92	28	1.0	68	101	19	--2.0	55
pH	SU	--	--	6.04	5.78	6.13	5.72	5.45	5.86	5.89	5.99	6.05	6.13	5.83	5.71	5.84	6.34	5.84	4.64	6.04	6.02	6.48
Temperature	℃	--	--	19.99	22.8	24.84	18.28	22.35	20.21	21.17	20.18	19.32	18.99	19.67	19.49	16.92	20.06	21.31	19.85	NM	21.10	22.89
Turbidity	NTU	--	--	18.7	6.92	5.77	0.88	3.76	2.17	10.82	23.6	6.14	8.6	42	21.1	4.9	8.33	27.3	11.5	4.78	3.06	4.90
Laboratory Results - Natural Attenuation Parameters																						
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.50	8.00	2.20
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.05	< 0.05	0.73	1.90	0.05
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	340.0	315	180	400	250
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.9	16.2	18	19.00	18.00
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18.3	18.9	18	20.00	18.00
Iron, Ferrous***	mg/L	--	--	9.9	< 0.10	7.2	0.41	1.2 J	4.34	0.27	< 0.1	0.4	8.18	7.80	0.684	2.96	9.89	6.37	< 0.10	3.1	4.80	2.80
Iron, Total	mg/L	--	--	17	0.69	18.0	1.7	1.1	4.51	0.951	2.51	5.23	18.1	17.5	2.35	2.89	11.7	5.78	3.62	4.1	9.40	3.00
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	210	160	160	150	200	190	180	220	200	179
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	12	10	13	12	14	19	16	17
Methane	µg/L	--	--	27	< 0.58	17.0	1.8	6.3	15	2.8	7.6	2.6	33	16	0.18	2.6	6.9	1.8	2.6	60	1.5	380
Dissolved Oxygen	mg/L	--	--	6.3	1.6	1.3	2.1	1.3	2.1	3	3.6	1.2	1.3	4.4	1.0	2.8	0.56	1.8	2.1	1.8	0.65	2.5
Laboratory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 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
Isopropylbenzene	µg/L	5[2]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**6.4**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																						
2,4-Dimethylphenol	µg/L	700	2,044	<11	< 11	< 10	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 25	< 25
2-Methylphenol	µg/L	10[2]	5,110	<11	< 11	< 10	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	<11	< 11	< 10	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	14	14	< 10	16	16	< 10
Acenaphthylene	µg/L	10[2]	6,132	<11	< 11	< 10	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20[1]	<11	< 11	< 10	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10[2]	3,066	<11	< 11	< 10	< 9.8	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**14**	**14**	**ND**	**16**	**16**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**20**	**14**	**ND**	**16**	**16**	**ND**
Laboratory Results - Inorganic Constituents																						
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 20	< 20	< 15	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.2	28.1	31.4	35.6	580
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 2.5	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10
Cyanide, total	µg/L	200	2,044	< 10	44	46	42	34	38	16	13	41	31	42	25.1	34.4	62	32	28	23	31	23
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 5.0	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	< 2.0	< 2.0	1.44	**57.6**
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20

Notes:

℃ - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

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RRS - Risk Reduction Standards

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SVOC - semivolatile organic compounds

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Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

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** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-406A																	
				Apr-12	04/12 DUP	04/11 DUP	Apr-11	Apr-10	Apr-09	04/09 DUP	Apr-08	Apr-07	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01	Jan-01	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	567.85		573.94		570.94	573.53		568.48	567.42	571.63	568.43	572.85	567.95	569.43	573.15	572.69	567.47	566.55	568.01
Field Groundwater Quality Parameters																						
Conductivity	mS/cm	--	--	0.572	0.572	0.603	0.603	0.671	0.816	0.816	0.670	0.776	0.671	0.788	0.677	NM	0.736	0.833	0.870	0.890	0.715	0.667
Dissolved Oxygen	mg/L	--	--	0.26	0.26	0.71	0.71	2.19	0.36	0.36	0.19	0.32	0.24	0.10	1.47	NM	NM	1.85	0.80	0.20	0.00	1.65
Oxidation Reduction Potentia	mV	--	--	168	168	14.9	14.9	339.5	216.5	216.5	67.3	154.9	238.2	37.1	58	NM	95	349	210	120	-11	88
pH	SU	--	--	5.49	5.49	5.1	5.1	4.57	5.13	5.13	5.64	5.40	5.40	5.96	5.71	NM	5.54	4.92	5.40	6.76	6.16	5.94
Temperature	°C	--	--	19.06	19.06	16.81	16.81	24.14	18.51	18.51	20.04	19.14	18.70	18.91	18.56	NM	18.50	22.64	17.35	17.30	21.10	22.76
Turbidity	NTU	--	--	9.12	9.12	8.36	8.36	4.7	0	0	5.81	1.06	34.0	5.6	11.89	NM	6.75	2.40	2.80	58.0	7.25	5.70
Laboratory Results - Natural Attenuation Parameters																						
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	13.00	6.60
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.50	6.39	2.2	8.40	7.40
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420	282	200	280	210
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.18	6.34	7.4	9.50	NM
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.38	6.21	7.8	9.50	10.00
Iron, Ferrous***	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.210	3.23	1.26	0.184	2.41	0.691	0.259	4.2	7.40	1.30
Iron, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.15	4.83	2.35	7.16	2.22	0.459	0.618	4.6	7.60	2.70
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	260	140	160	190	170	210	220	130	150	224
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	14	16	22	9.1	15	22	18	20
Methane	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.3	23	0.20	16	0.66	0.071	7.3	13	8.0	< 0.07
Dissolved Oxygen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.8	6.1	0.74	1.4	1.5	2.9	2.1	1.5	2.5	2.12
Laboratory Results - Organic Constituents																						
Volatile Organic Compounds																						
Benzene	µg/L	5	8.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5(2)	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																						
2,4-Dimethylphenol	µg/L	700	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 25	< 25
2-Methylphenol	µg/L	10(2)	5,110	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10(2)	511	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10(2)	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10(2)	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10(2)	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10(2)	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10(2)	3,066	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																						
Arsenic	µg/L	50	50(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50.0	< 50	< 50	< 50	< 50	< 20	< 20	< 15	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	65.7	21.5	30.9	27.7	30.5
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	16.9	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	27.7	< 10	< 10
Cyanide, total	µg/L	200	2,044	< 10	< 10	42	41	30	< 10	11	< 10	30.0	49.0	14.0	< 10	20.1	< 10	36.0	30.0	19.0	21.0	21.0
Lead	µg/L	15	15(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20	37.0	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	< 2.0	< 2.0	1.10	50.0
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	45.6	27.4	14.8	< 20	63.3

Notes:

°C - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-406B															
				Apr-12	Apr-11	Apr-10	Apr-09	Apr-08	Apr-07	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	May-01	Apr-01	Feb-01	Jan-01	Oct-00	Jun-00
Groundwater Elevation	ft MSL	--	--	566.17	573.62	568.04	571.89	568.45	565.52	570.59	565.6	570.28	565.95	566.58	570.06	NM	569.90	573.32	567.48	564.63	566.54
Field Groundwater Quality Parameters																					
Conductivity	mS/cm	--	--	0.628	0.775	0.764	0.665	0.812	0.754	0.681	0.809	0.734	0.773	0.781	0.654	0.592	0.770	0.366	0.710	0.903	0.790
Dissolved Oxygen	mg/L	--	--	0.31	0.85	2.39	0.59	0.17	0.49	0.22	0.14	1.19	0.00	NM	NM	NM	0.87	1.40	0.40	0.01	--0.30
Oxidation Reduction Potentia	mV	--	--	136.7	-8.9	105.3	169.7	74.4	119.9	132	122.5	3.0	68	132	219	172	110	116	59	115	-160
pH	SU	--	--	6.07	5.95	6.07	5.91	6.24	6.10	6.59	6.44	6.30	6.93	6.10	6.49	6.58	6.80	5.04	6.00	6.96	7.40
Temperature	ºC	--	--	19.08	17.62	23.73	19.8	20.57	20.23	18.52	19.00	18.60	16.78	19.10	20.50	19.78	18.18	17.90	17.50	19.90	20.50
Turbidity	NTU	--	--	7.94	9.2	9.91	2.15	33.8	102.6	5.6	145	6.06	4.2	8.92	5.60	5.62	270	3.40	44.4	5.00	46.1
Laboratory Results - Natural Attenuation Parameters																					
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17	14.00	9.20
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.50	NA	0.174	NA	< 0.05	0.56	0.07
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	420	NA	158	NA	160	210	140
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	NA	< 1.0	NA	< 2.0	< 2.0	< 2.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.932	NA	1.04	NA	1.2	1.30	1.20
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.917	NA	1.46	NA	1.1	1.30	1.30
Iron, Ferrous***	mg/L	--	--	NA	NA	NA	NA	NA	NA	< 0.100	0.408	< 0.200	< 0.100	< 0.100	0.691	NA	< 0.100	NA	< 0.100	< 0.100	< 0.100
Iron, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	0.249	4.92	0.286	< 0.100	0.127	< 0.100	NA	13.6	NA	1.4	0.18	0.86
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	130	88	90	99	110	86	NA	69	NA	76	83	66
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	17	16	14	22	18	NA	26	NA	27	24	24
Methane	µg/L	--	--	NA	NA	NA	NA	NA	NA	44	30	27	21	25	0.14	NA	23	NA	40	45	< 0.07
Dissolved Oxygen	mg/L	--	--	NA	NA	NA	NA	NA	NA	0.88	5.9	0.94	0.87	0.69	1.9	NA	1.0	NA	1.6	1.7	1.0
Laboratory Results - Organic Constituents																					
Volatile Organic Compounds																					
Benzene	µg/L	5	8.3	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/	5(2)	--	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**NA**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																					
2,4-Dimethylphenol	µg/L	700	2,044	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 25	< 25
2-Methylphenol	µg/L	10(2)	5,110	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
4-Methylphenol	µg/L	10(2)	511	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Acenaphthylene	µg/L	10(2)	6,132	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Carbazole	µg/L	10(2)	143	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Dibenzofuran	µg/L	10(2)	409	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Diethyl phthalate	µg/L	10(2)	82	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Naphthalene	µg/L	20	20(1)	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Phenanthrene	µg/L	10(2)	3,066	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**NA**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**	**NA**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																					
Arsenic	µg/L	50	50(1)	NA	NA	NA	NA	NA	NA	< 50.0	< 50	< 50	< 50	< 50	< 20	NA	< 20	NA	< 15	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.8	NA	101	NA	50.5	48.9	76.1
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	< 10	NA	< 10	NA	< 2.5	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	NA	12.4	NA	3.9	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	12.9	NA	< 2.5	< 10	< 10
Cyanide, total	µg/L	200	2,044	<10	<10	<10	14	< 10	25.0	19.0	19.0	< 10	19.3	94.0	20.0	NA	24.0	NA	21.0	24.0	23.0
Lead	µg/L	15	15(1)	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10	**17.4**	NA	3.20	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.5	NA	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	< 20.0	< 20	< 20	< 20	< 20	< 20	NA	< 20	NA	< 5.0	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	NA	< 2.0	NA	< 2.0	< 1.0	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	NA	56.2	NA	10.0	< 20	23.9

Notes:

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mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

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HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

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Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

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ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Unit	Type 1 RRS	Type 4 RRS	MW-406C													
				Apr-12	Apr-11	Apr-10	Apr-09	Apr-08	May-07**	Apr-07	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01
Groundwater Elevation	ft MSL	--	--	566.65	571.52	567.18	571.69	566.00	563.85	565.90	573.12	565.40	569.94	563.25	566.40	568.54	567.29
Field Groundwater Quality Parameters																	
Conductivity	mS/cm	--	--	0.501	0.602	0.676	0.524	0.657	0.621	0.680	0.537	0.618	0.499	0.622	0.525	0.220	0.500
Dissolved Oxygen	mg/L	--	--	0.74	1.07	1.48	5.41	0.28	0.91	1.05	0.44	0.51	4.62	0.00	NM	3.32	0.32
Oxidation Reduction Potential	mV	--	--	-32.7	-52.1	2.26	129.8	-100.9	-161.8	-36.5	-82	159.7	-120	-114	-117	223	-203
pH	SU	--	--	7.09	6.65	6.79	5.41	7.00	7.16	7.03	7.28	7.35	7.11	9.11	6.78	9.74	8.00
Temperature	ºC	--	--	17.32	16.62	26.92	18.85	20.62	18.86	16.01	17.52	22.02	18.18	16.41	18.90	22.25	18.77
Turbidity	NTU	--	--	8.27	7.07	7.57	0.58	9.86	0.73	10.1	5.0	29.6	350	5.9	5.74	3.80	34.7
Laboratory Results - Natural Attenuation Parameters																	
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.05	0.0517
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	94	49.7
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0313	0.0176
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0276	0.0646
Iron, Ferrous***	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	0.390	0.200	0.99	0.266	0.141	0.348	0.672
Iron, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	0.398	0.339	3.83	0.360	0.340	0.204	2.64
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	29	13	25	27	23	15	5.1
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	18	20	16	25	24	7.0
Methane	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	370	29	45	20	1.4	0.29	70
Dissolved Oxygen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	1.20	8.1	1.9	1.1	1.9	2.1	1.2
Laboratory Results - Organic Constituents																	
Volatile Organic Compounds																	
Benzene	µg/L	5	8.3	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5(2)	--	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																	
2,4-Dimethylphenol	µg/L	700	2,044	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Methylphenol	µg/L	10(2)	5,110	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10(2)	511	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10(2)	6,132	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10(2)	143	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10(2)	409	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10(2)	82	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20(1)	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10(2)	3,066	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																	
Arsenic	µg/L	50	50(1)	NA	NA	NA	NA	NA	NA	NA	< 50.0	< 50	< 50	< 50	< 50	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	143	171
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10
Cyanide, total	µg/L	200	2,044	<10	<10	<10	10	< 10	10.0	25.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15	15(1)	NA	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	< 20.0	< 20	< 20	< 20	< 20	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20

Notes:

ºC - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-501															
				Apr-12	Apr-11	Apr-10	Apr-09	Apr-08	Apr-07	Apr-06	Apr-05	Apr-04	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01	Mar-01
Groundwater Elevation	ft MSL	--	--	572.37	574.9	577.76	574.2	572.01	572.50	574.24	576.29	574.72	576.71	574.10	575.04	574.86	582.15	584.02	574.77	NM
Field Groundwater Quality Parameters																				
Conductivity	mS/cm	--	--	0.642	0.426	0.467	0.891	1.013	0.859	0.709	0.269	0.229	0.175	0.204	0.162	0.177	0.261	0.400	0.700	0.889
Dissolved Oxygen	mg/L	--	--	0.43	1.18	5.29	0.41	0.28	1.08	0.31	2.57	1.00	3.50	2.89	6.58	0.00	282	NM	3.21	4.74
Oxidation Reduction Potential	mV	--	--	149.8	213.3	123.5	98.8	120.7	188.2	50.9	131.4	329.1	141.7	225.4	189	148	185	361	85	267
pH	SU	--	--	5.99	6.08	5.63	6.33	6.06	6.09	5.79	5.70	5.33	5.49	5.61	6.85	5.52	6.12	5.53	6.03	6.09
Temperature	℃	--	--	21.25	21.68	20.33	23.14	22.55	21.78	22.57	20.59	19.39	19.27	20.36	20.19	19.92	22.49	19.53	18.00	12.20
Turbidity	NTU	--	--	8.7	0.58	4.16	0.37	2.10	1.39	3.87	4.97	2.75	0.70	1.53	0.20	-0.01	0.820	1.67	3.90	12.0
Laboratory Results - Natural Attenuation Parameters																				
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.42	10.8	NA
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	96.0	194	NA
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0	NA
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.179	3.62	NA
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.163	3.76	NA
Iron, Ferrous***	mg/L	--	--	< 0.10	< 0.10	< 0.10	< 0.10	0.10 UJ	< 0.10	0.27	< 0.1	0.3	< 0.100	0.840	< 0.2	< 0.100	< 0.100	< 0.100	< 0.100	NA
Iron, Total	mg/L	--	--	0.17	< 0.10	0.12	0.077	0.096	< 0.100	0.951	1.14	< 0.100	< 0.100	10.2	2.59	< 0.100	< 0.100	< 0.100	< 0.100	NA
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	96	54	55	58	52	70	190	NA
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16	14	11	22	17	17	NA
Methane	µg/L	--	--	<0.58	<0.58	<0.19	<1.0	1.5	6.5	2.8	47	3.9	0.78	370	1,700	940	2,400	160	4.5	NA
Dissolved Oxygen	mg/L	--	--	6.8	1.6	1.6	1.7	1.8	2.5	3.0	3.3	5.5	4.7	6.6	2.8	3.5	6.6	5.1	5.2	NA
Laboratory Results - Organic Constituents																				
Volatile Organic Compounds																				
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 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
Isopropylbenzene	µg/L	5(2)	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																				
2,4-Dimethylphenol	µg/L	700	2,044	<11	< 9.9	< 9.7	< 9.7	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Methylphenol	µg/L	10(2)	5,110	<11	< 9.9	<9.7	<9.7	9.4 UJ	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10(2)	511	<11	< 9.9	NA	< 9.7	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10(2)	6,132	<11	< 9.9	< 9.7	< 9.7	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10(2)	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10(2)	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10(2)	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20(1)	<11	< 9.9	< 9.7	< 9.7	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10(2)	3,066	<11	< 9.9	< 9.7	< 9.7	< 9.4	< 10	< 10	< 10	< 10	< 10	< 10	< 10	14	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**14**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**14**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																				
Arsenic	µg/L	50	50(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 20	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.2	< 20	117
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10
Cyanide, total	µg/L	200	2,044	53	30	10	79	130	< 10	56.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	14.0	31.0	51.0
Lead	µg/L	15	15(1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	< 20	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	20.6

Notes:

℃ - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

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HSRA - Hazardous Site Response Act

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SU - standard unit

SVOC - semivolatile organic compounds

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ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-503																												
				Oct-12	10/12 DUP	Apr-12	Oct-11	Apr-11	Oct-10	Apr-10	Oct-09	10/09 DUP	Jul-09	7/09 DUP	Apr-09	Jan-09	1/09 DUP	Oct-08	10/08 DUP	Jul-08	7/08 DUP	Apr-08	May-07**	Apr-07	Apr-06	Apr-05	Apr-04	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Jul-01	Apr-01
Groundwater Elevation	ft MSL	--	--	565.51		568.34	566.03	571.73	566.67	571.95	572.61		568.43		571.85	568.15		565.21		564.61		567.27	565.09	566.88	568.94	574.88	569.42	572.12	567.51	570.82	567.01	567.56	570.18	571.94
Field Groundwater Quality Parameters																																		
Conductivity	mS/cm	--	--	0.526	0.526	0.554	0.552	0.37	0.529	0.667	0.508	0.508	0.612	0.612	0.43	0.435	0.435	0.484	0.484	0.354	0.354	0.417	0.459	0.485	0.530	0.533	0.559	0.454	0.567*	0.283	NM	0.463	0.300	0.450
Dissolved Oxygen	mg/L	--	--	3.26	3.26	2.76	3.41	6.27	3.1	6.27	2.96	2.96	3.29	3.29	4.65	2.14	2.14	3.2	3.2	6.41	6.41	1.97	2.77	9.90	2.54	2.05	1.09	2.07	3.55*	7.97	NM	3.58	NM	2.90
Oxidation Reduction Potential	mV	--	--	244.8	244.8	191.6	1.9	66.8	306.4	-40.4	116.4	116.4	110.3	110.3	89.1	210.5	210.5	105.8	105.8	162	162	180.7	-95.4	99.2	89.5	152	286	129.4	120.0*	106	NM	130	224	137
pH	SU	--	--	6.26	6.26	6.33	6.35	6.30	6.46	6.66	6.23	6.23	6.43	6.43	4.31	6.12	6.12	6.18	6.18	6.41	6.41	5.99	6.42	6.34	6.36	6.21	6.26	6.18	6.08*	7.37	NM	6.39	6.46	6.25
Temperature	ºC	--	--	22.08	22.08	21.58	21.91	13.05	21.34	23.76	19.78	19.78	23.65	23.65	19.65	18.46	18.46	24.19	24.19	21.58	21.58	19.06	19.56	19.09	20.48	20.45	18.79	19.57	19.91*	19.44	NM	22.60	21.52	19.67
Turbidity	NTU	--	--	7.71	7.71	3.73	125	9.91	47	9.89	1.64	1.64	6.5	6.5	2.1	9.16	9.16	59.4	59.4	47.7	47.7	3.69	2.91	3.36	0.92	4.7	1.96	1.9	93.5*	1.20	NM	86.5	2.77	4.40
Laboratory Results - Natural Attenuation Parameters																																		
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.10	3.50
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.0	36.7
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00854	0.0139
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00944	0.0136
Iron, Ferrous***	mg/L	--	--	NA	NA	< 0.10	NA	< 0.10	NA	< 0.10	NA	NA	NA	NA	< 0.10	NA	NA	NA	NA	NA	NA	0.10 UJ	NA	< 0.10	< 0.10	< 0.1	< 0.1	< 0.100	< 0.200	< 0.200	0.198	< 0.100	< 0.100	< 0.100
Iron, Total	mg/L	--	--	NA	NA	< 0.10	NA	< 0.10	NA	0.27	NA	NA	NA	NA	0.12	NA	NA	NA	NA	NA	NA	0.93	NA	0.171	0.188	1.16	0.308	0.754	0.760	< 0.100	0.666	1.84	< 0.100	< 0.100
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	**NA**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200	120	78	180	92	84	110
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17	15	16	19	12	18
Methane	µg/L	--	--	NA	NA	< 0.58	NA	<0.58	NA	<0.19	NA	NA	NA	NA	<0.19	NA	NA	NA	NA	NA	NA	0.31	NA	0.8	2.2	3.3	0.18	0.61	2.7	0.48	2.2	7.7	0.12	0.55
Dissolved Oxygen	mg/L	--	--	NA	NA	8.1	NA	1.8	NA	1.7	NA	NA	NA	NA	2.1	NA	NA	NA	NA	NA	NA	3.3	NA	5.2	5.0	5.0	3.2	3.1	8.8	5.6	0.68	4.2	2.3	4.7
Laboratory Results - Organic Constituents																																		
Volatile Organic Compounds																																		
Benzene	µg/L	5	8.3	NA	NA	< 5.0	NA	< 5.0	NA	< 5.0	NA	NA	NA	NA	< 5.0	NA	NA	NA	NA	NA	NA	< 5.0	NA	< 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	2,297	NA	NA	< 5.0	NA	< 5.0	NA	< 5.0	NA	NA	NA	NA	< 5.0	NA	NA	NA	NA	NA	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	NA	NA	< 5.0	NA	< 5.0	NA	< 5.0	NA	NA	NA	NA	< 5.0	NA	NA	NA	NA	NA	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	NA	NA	< 5.0	NA	< 5.0	NA	< 5.0	NA	NA	NA	NA	< 5.0	NA	NA	NA	NA	NA	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/L	5[2]	--	NA	NA	< 5.0	NA	< 5.0	NA	< 5.0	NA	NA	NA	NA	< 5.0	NA	NA	NA	NA	NA	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total BTEX	µg/L	--	--	NA	NA	**ND**	NA	**ND**	NA	**ND**	NA	NA	NA	NA	**ND**	NA	NA	NA	NA	NA	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																																		
2,4-Dimethylphenol	µg/L	700	2,044	NA	NA	< 12	NA	< 11	NA	<9.9	NA	NA	NA	NA	< 10	NA	NA	NA	NA	NA	NA	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Methylphenol	µg/L	10[2]	5,110	NA	NA	< 12	NA	< 11	NA	<9.9	NA	NA	NA	NA	< 10	NA	NA	NA	NA	NA	NA	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	NA	NA	< 12	NA	< 11	NA	NA	NA	NA	NA	NA	< 10	NA	NA	NA	NA	NA	NA	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10[2]	6,132	NA	NA	< 12	NA	< 11	NA	<9.9	NA	NA	NA	NA	< 10	NA	NA	NA	NA	NA	NA	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20[1]	NA	NA	< 12	NA	< 11	NA	<9.9	NA	NA	NA	NA	< 10	NA	NA	NA	NA	NA	NA	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10[2]	3,066	NA	NA	< 12	NA	< 11	NA	<9.9	NA	NA	NA	NA	< 10	NA	NA	NA	NA	NA	NA	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Total SVOCs	µg/L	--	--	NA	NA	**ND**	NA	**ND**	NA	**ND**	NA	NA	NA	NA	**ND**	NA	NA	NA	NA	NA	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	NA	NA	**ND**	NA	**ND**	NA	**ND**	NA	NA	NA	NA	**ND**	NA	NA	NA	NA	NA	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																																		
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77.8	98.1
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10
Cyanide, total	µg/L	200	2,044	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	270	280	< 10	25.0	27.0	< 10	22	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	< 2.0	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20

Notes:

ºC - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-S04																																					
				Oct-12	10/12 DUP	Apr-12	04/12 DUP	Oct-11	10/11 DUP	04/11 DUP	Apr-11	Oct-10	Apr-10	04/10 DUP	Oct-09	10/09 DUP	Jul-09	07/09 DUP	Apr-09	Jan-09	01/09 DUP	Oct-08	Jul-08	07/08 DUP	Apr-08	04/08 DUP	Oct-07	10/07 DUP	Apr-07	04/07 DUP	Oct-06	10/06 DUP	Apr-06	04/06 DUP	Oct-05	Apr-05	Oct-04	Apr-04	04/04 DUP	Oct-03	Apr-03	04/03 DUP	Oct-02	10/02 DUP	Apr-02	04/02 DUP	Jan-02	Oct-01	Aug-01	Jul-01	Apr-01
Groundwater Elevation	ft MSL	--	--	571.79		572.34		572.34		575.73		574.24	577.90		576.94		575.14		574.76		572.99		572.45		572.44		572.36		571.83		572.73		572.85		574.13		575.23	575.99	575.99		575.01		576.49		576.97		574.38		575.42		574.66	580.24	578.24	582.12	578.33
Field Groundwater Quality Parameters																																																	
Conductivity	mS/cm	--	--	1.012	1.012	0.916	0.916	0.841	0.841	0.665	0.665	1.091	1.127	1.127	0.893	0.893	1.011	1.011	0.831	0.947	0.947	1.032	0.722	0.722	0.939	0.939	1.077	1.077	1.010	1.011	0.960	0.960	1.107	1.107	1.171	0.954	1.145	1.204	1.204	1.425	0.956	0.956	1.208	1.208	1.290	1.290	1.550	0.870	1.340	0.714	0.999
Dissolved Oxygen	mg/L	--	--	0.32	0.32	0.38	0.38	0.67	0.67	1.52	1.52	0.53	0.13	0.13	0.35	0.35	0.16	0.16	0.31	0.26	0.26	0.38	0.76	0.76	0.09	0.09	0.37	0.37	4.13	4.14	0.49	0.49	0.09	0.09	0.11	0.26	0.10	0.18	0.18	0.14	0.30	0.30	0.34	0.34	1.79	1.79	0.00	NM	0.00	NM	2.11
Oxidation Reduction Potential	mV	--	--	-88.4	-88.4	-95.8	-95.8	-65.1	-65.1	-129.2	-129.2	71.4	-126.2	-126.2	-117.7	-117.7	-117.7	-117.7	-182	-182	-182	-125.4	121.8	121.8	-134.4	-94.6	-94.6	-133.2	-133.2	-59.9	-59.1	-69.2	-69.2	-118.6	-118.6	-134	-131.8	-122.5	-150.2	-150.2	-176.2	109.8	109.8	-124.2	-124.2	-169	-169	-195	-166	-132	-136	-114
pH	SU	--	--	7.31	7.31	6.73	6.73	6.65	6.65	6.94	6.94	6.42	6.77	6.77	6.94	6.94	6.7	6.7	6.89	6.78	6.78	6.82	6.78	6.78	6.67	6.67	6.72	6.72	6.77	6.78	6.81	6.81	6.81	6.81	6.74	6.90	6.73	6.83	6.83	6.9	6.84	6.84	6.71	6.71	6.53	6.53	7.62	7.44	6.70	6.80	5.47
Temperature	°C	--	--	19.22	19.22	20.73	20.73	18.78	18.78	17.78	17.78	20.47	24.61	24.61	22.12	22.12	25.42	25.42	20.82	18.14	18.14	19.89	22.15	22.15	21.61	21.61	21.93	21.93	20.43	20.44	21.49	21.49	20.11	20.11	20.51	20.15	19.68	18.77	18.77	20.98	18.16	18.16	19.83	19.83	18.79	18.79	15.81	20.60	21.25	19.70	19.92
Turbidity	NTU	--	--	4.3	4.3	1.66	1.66	4.85	4.85	5.28	5.28	3.5	3.02	3.02	4.65	4.65	7.92	7.92	1.86	8.7	8.7	3.52	43.6	43.6	3.59	3.59	3.22	3.22	2.07	2.08	2.45	2.45	3.31	3.31	2.29	4.1	3.07	1.40	1.40	3.4	1.7	1.7	0.73	0.73	9.47	9.47	4.05	3.46	5.00	5.70	7.50
Laboratory Results - Natural Attenuation Parameters																																																	
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.05	0.601
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	70.0	75.8
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0	< 1.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.00	0.964
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.07	0.963
Iron, Ferrous***	mg/L	--	--	0.22	< 0.10	< 0.10	< 0.10	1.7	1.5	<0.10	<0.10	<0.10	<0.10	<0.10	0.79	0.37	NA	NA	0.22	NA	NA	0.27	1.8	1.9	2.7 J	3.7 J	15.7 J+	15.3 J+	15.8	15.6	16.4	16.5	17.9	17.8	9.96	26.9	17.4	29.1	29.6	23.4	21.0	21.4	23.6	23.8	20.7	20.9	21.3	12.8	NA	6.87	0.297
Iron, Total	mg/L	--	--	18	20	17	16	16	16	25	17	15	12	12	14	13	NA	NA	14	NA	NA	16	78	53	15	15	15.5	15.3	14.8	14.6	15.0	15.2	17.2	16.4	16.30	15.5	17.9	23.1	22.8	17.6	17.7	17.7	28.4	28.7	20.1	20.5	22.4	11.2	NA	11.5	8.22
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	77	94
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20	1.7
Methane	µg/L	--	--	1900	1300	1700	2200	570	570	450	610	4,400	1,900	1,900	110	120	NA	NA	58	NA	NA	290	69	88	900	940	1,400	1,000	2,200	2,000	2,300	2,300	3,800	4,700	4700	710	NS	7,200	7,300	5,500	2,000	1,900	2,700	2,600	1.7	1.4	1.6	7.1	NA	1.4	0.17
Dissolved Oxygen	mg/L	--	--	4.3	2.9	4.3	4.0	1.0	1.4	1.3	1.3	1.3	1.2	1.2	1.5	1.4	NA	NA	1.4	NA	NA	1.2	1.1	0.9	1.2	1.5	1.1	0.95	0.87	0.64	0.72	0.72	2.6	1.2	2.9	1.1	NS	0.53	0.54	0.85	0.78	0.82	2.8	2.7	0.53	0.55	0.56	1.0	NA	0.99	1.1
Laboratory Results - Organic Constituents																																																
Volatile Organic Compounds																																																	
Benzene	µg/L	5	8.3	**2,800**	**2,300**	**3,000**	**2,700**	**1,400**	**970**	**140**	**120**	**2,200**	**3,000**	**2,800**	**44**	**45**	**1,400**	**1,400**	**95**	**360**	**350**	**1,700**	**490**	**520**	**700**	**700**	**880**	**880**	**1,500**	**1,500**	**2,000**	**2,100**	**2,400**	**2,400**	**2,700**	**220**	**1,300**	**3,100**	**2,600**	**4,100**	**1,500**	**1,500**	**340**	**330**	**770**	**790**	**1,800**	**520**	NA	< 5.0	**52**
Ethylbenzene	µg/L	700	2,297	< 250	< 250	130	130	69.0	4.1	7.7	6.6	< 100	< 130	< 5.0	< 5.0	< 5.0	NA	NA	< 5.0	NA	NA	71	< 25	27	< 50	< 50	47	45	80	79	84	83	100	99	110	8.8	61	100	96	160	70	70	21	20	32	31	76	20	NA	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 250	< 250	54	56	120	86	< 5.0	< 5.0	130	400	360	< 5.0	< 5.0	NA	NA	< 5.0	NA	NA	34	< 25	< 25	< 50	< 50	8.2	8.9	12	12	18	18	110	110	190	< 5.0	46	110	120	850	120	130	43	42	33	32	300	55	NA	< 5.0	28
Xylenes, Total	µg/L	10,000	204,000	690	570	810	820	430	270	42	35	370	580	510	5.8	5.6	NA	NA	14	NA	NA	530	160	180	230	220	260	250	490	480	340	370	630	640	790	54	520	1,300	1,100	1,600	740	720	150	150	190	180	790	230	NA	< 5.0	42
Isopropylbenzene	µg/L	5[2]	--	< 250	< 250	11	11	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 130	< 5.0	< 5.0	< 5.0	NA	NA	< 5.0	NA	NA	< 25	< 25	< 25	< 50	< 50	< 5.0	< 5.0	9	6.2	8.0	8.0	9.6	9.7	8.2	< 5.0	7.4	10	12	15	9.1	9.3	< 5.0	< 5.0	5.9	6.1	5.9	< 5.0	NA	< 5.0	< 5.0
Styrene	µg/L	100	2,557	< 250	< 250	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0
Total BTEX	µg/L			**3,490**	**2,870**	**4,005**	**3,717**	**2,019**	**1,330**	**190**	**162**	**2,700**	**3,980**	**3,670**	**50**	**51**	**1,400**	**1,400**	**109**	**360**	**350**	**2,335**	**650**	**727**	**930**	**920**	**1,195**	**1,184**	**2,082**	**2,071**	**2,424**	**2,571**	**3,240**	**3,249**	**3,790**	**283**	**1,927**	**4,610**	**3,916**	**6,710**	**2,430**	**2,420**	**554**	**542**	**1,025**	**1,033**	**2,966**	**825**	**NA**	**ND**	**122**
Semivolatile Organic Compounds																																																
2,4-Dimethylphenol	µg/L	700	2,044	**5,300**	**5,300**	**3,500**	**2,600**	880	260	49	99	**4,000**	**26,000**	**25,000**	< 9.4	< 9.4	NA	NA	< 9.7	NA	NA	1,800	**2,600**	**2,300**	380	430	310	300	1,500	1,600	860	570	**4,500**	**4,600**	**6,800**	92	2,000	**11,000**	**8,000**	**16,000**	**3,600**	**3,000**	1,800	1,100	1,100	1,100	**6,400**	**3,100**	**17,000**	1,700	55
2-Methylphenol	µg/L	10[2]	5,110	< 490	< 490	< 560	< 550	< 9.8	< 9.6	< 9.7	< 9.7	< 9.4	**64,000**	**45,000**	< 9.4	10	NA	NA	< 9.7	NA	NA	55	< 470	< 470	< 9.4	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	210	210	< 10	< 10	58	4,300	2,100	**19,000**	1,200	1,100	410	270	150	160	4,600	1,000	**11,000**	310	12
4-Methylphenol	µg/L	10[2]	511	< 490	< 490	< 560	< 550	< 9.8	< 9.6	< 9.7	< 9.7	NA	NA	NA	< 9.4	< 9.4	NA	NA	< 9.7	NA	NA	61	< 470	< 470	< 9.4	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	**640**	420	1,200	66	49	42	31	< 10	< 10	210	23	**2,400**	12	15
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1800	NA	NA	NA	NA	NA	25	26	19	21	11	11	< 10	11	17	21	17
Acenaphthylene	µg/L	10[2]	6,132	< 490	< 490	< 560	< 550	< 9.8	< 9.6	< 9.7	< 94	< 9.4	< 94	< 110	< 9.4	< 9.4	NA	NA	< 9.7	NA	NA	< 9.8	< 470	< 470	< 9.4	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	35	< 10	< 10	14	12	13	10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	11	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20[1]	**1,200**	**1,400**	**1,600**	**1,300**	**610**	**510**	**420**	**520**	**1,700**	**1,200**	**1,100**	18	19	**970**	**930**	**30**	**670**	**440**	**1,100**	**1,100**	**1,000**	**300**	**340**	**280**	**280**	**880**	**940**	**450**	**420**	**1,000**	**990**	**1,300**	**110**	**720**	**2,000**	**1,500**	**1,800**	**660**	**610**	**470**	**310**	**260**	**270**	**770**	**590**	**1,900**	**260**	**100**
Phenanthrene	µg/L	10[2]	3,066	< 490	< 490	< 560	< 550	< 9.8	< 9.6	< 9.7	< 9.7	< 9.4	< 94	< 110	< 9.4	< 9.4	NA	NA	< 9.7	NA	NA	< 9.1	< 9.2	< 9.3	< 9.4	< 9.7	< 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
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	740	680	99	69	37	35	680	75	6,200	23	< 10
Total SVOCs	µg/L	--	--	**6,500**	**6,700**	**5,100**	**3,900**	**1,490**	**770**	**469**	**619**	**5,700**	**71,200**	**71,100**	**18**	**29**	**970**	**930**	**30**	**670**	**440**	**3,016**	**3,700**	**3,300**	**680**	**770**	**590**	**580**	**2,380**	**2,540**	**1,310**	**990**	**5,710**	**5,800**	**9,935**	**202**	**2,778**	**16,954**	**12,032**	**38,013**	**6,281**	**5,475**	**2,851**	**1,801**	**1,558**	**1,576**	**12,660**	**4,799**	**38,517**	**2,326**	**199**
BTEX + Total SVOCs	µg/L	--	--	**9,990**	**9,570**	**9,105**	**7,617**	**3,509**	**2,100**	**659**	**781**	**8,400**	**75,180**	**74,770**	**68**	**80**	**2,370**	**2,330**	**139**	**1,030**	**790**	**5,351**	**4,350**	**4,027**	**1,610**	**1,690**	**1,785**	**1,764**	**4,462**	**4,611**	**3,734**	**3,561**	**8,950**	**9,049**	**13,725**	**485**	**4,705**	**21,564**	**15,948**	**44,723**	**8,711**	**7,895**	**3,405**	**2,343**	**2,583**	**2,609**	**15,626**	**5,624**	**38,517**	**2,326**	**321**
Laboratory Results - Inorganic Constituents																																																
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	< 50	< 50	NA	< 20	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	222	112
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10
Cyanide, total	µg/L	200	2,044	< 10	34	37	33	32	70	81	88	400	370	53	53	64	62	39	29	28	21	< 10	< 10	50.2	21.J	61	59	40	34	26	28	42	44	36	22	54	68	65	162	63	64	82	87	72.3	59.3	103	151	NA	78	80
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	NA	< 0.5	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NA	< 20	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	< 2.0	< 20
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	< 20	< 20	NA	< 20	< 20

Notes:

°C - degrees Celsius
-- - RRS are not applicable to or were not calculated for this parameter
µg/L - micrograms per liter
mS/cm - millisiemens per centimeter
BTEX - benzene, toluene, ethylbenzene, and total xylenes
ft - feet
HSRA - Hazardous Site Response Act
J - estimated concentration based on data validation
mg/L - milligrams per liter
MGP - manufactured gas plant
MSL - mean sea level
mV - millivolts
NA - not analyzed or not applicable
NM - not measured
NS - not sampled; well was considered dry due to extremely low water levels or was damaged
NTU - nephelometric turbidity unit
RRS - Risk Reduction Standards
SU - standard unit
SVOC - semivolatile organic compounds
UJ - nondetect result is considered estimated based on data validation
(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.
(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.
Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.
Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.
Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.
* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.
** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.
***- 30-minute hold time for field testing of ferrous iron was exceeded
ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-505R				MW-505								
				Apr-12	Apr-11	Apr-10	Apr-09	Apr-08	Apr-07	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Aug-01	Jul-01
Groundwater Elevation	ft MSL	--	--	NA	NM	NM	NM	573.13	572.97	574.86	573.29	575.61	572.73	572.86	573.14	574.48
Field Groundwater Quality Parameters																
Conductivity	mS/cm	--	--	0.756	0.575	0.496	0.424	0.654	0.828	0.768*	0.964*	0.492	0.542	0.849	0.720	0.477
Dissolved Oxygen	mg/L	--	--	0.93	1.06	0.56	1.09	0.24	0.90	0.09*	0.14*	5.86	0.00	3.25	0.00	NM
Oxidation Reduction Potential	mV	--	--	114.4	-131.6	18.9	57.3	-19.8	-28.6	-154.3*	-4.0*	-62	-73	-50	-17	0.0
pH	SU	--	--	6.45	7.14	6.38	6.5	6.73	6.49	6.81*	6.46*	7.63	7.06	7.07	6.65	7.14
Temperature	℃	--	--	19.5	16.02	19.72	17.66	18.68	18.43	17.60*	22.04*	17.94	15.87	21.86	21.37	23.20
Turbidity	NTU	--	--	9.8	3.41	9.82	31.6	6.21	1.01	1.4*	5.0*	4.80	5.06	5.16	1.00	4.20
Laboratory Results - Natural Attenuation Parameters																
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.29
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40.0
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.69
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.47
Iron, Ferrous***	mg/L	--	--	NA	NA	NA	NA	NA	NA	1.12	1.09	< 0.200	3.02	0.349	NA	0.210
Iron, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	1.47	26.3	0.766	6.44	2.20	NA	< 0.100
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	210	150	64	140	130	NA	17
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	14	14	7.5	18	NA	12
Methane	µg/L	--	--	NA	NA	NA	NA	NA	NA	33	0.23	0.26	3.7	3.3	NA	0.10
Dissolved Oxygen	mg/L	--	--	NA	NA	NA	NA	NA	NA	3.9	2.8	2.5	0.58	3.1	NA	3.0
Laboratory Results - Organic Constituents																
Volatile Organic Compounds																
Benzene	µg/L	5	8.3	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Ethylbenzene	µg/L	700	2,297	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Toluene	µg/L	1,000	1,102	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Xylenes, Total	µg/L	10,000	204,000	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Isopropylbenzene	µg/L	5(2)	--	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Total BTEX	µg/L	--	--	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Semivolatile Organic Compounds																
2,4-Dimethylphenol	µg/L	700	2,044	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	81
2-Methylphenol	µg/L	10(2)	5,110	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	80
4-Methylphenol	µg/L	10(2)	511	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	120
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10(2)	6,132	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10(2)	143	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10(2)	409	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10(2)	82	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20(1)	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	**67**
Phenanthrene	µg/L	10(2)	3,066	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	45
Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**393**
BTEX + Total SVOCs	µg/L	--	--	NA	NA	NA	NA	NA	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**393**
Laboratory Results - Inorganic Constituents																
Arsenic	µg/L	50	50(1)	NA	NA	NA	NA	NA	NA	< 50.0	< 50	< 50	< 50	< 50	NA	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	91.9
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	NA	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10
Cyanide, total	µg/L	200	2,044	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10
Lead	µg/L	15	15(1)	NA	NA	NA	NA	NA	NA	< 10.0	< 10	< 10	< 10	< 10	NA	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	NA	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	< 20.0	< 20	< 20	< 20	< 20	NA	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	< 2.0
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20

Notes:

℃ - degrees Celsius

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µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

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mg/L - milligrams per liter

MGP - manufactured gas plant

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NS - not sampled; well was considered dry due to extremely low water levels or was damaged

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SVOC - semivolatile organic compounds

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Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-506														
				Apr-10	Apr-09	Apr-08	May 07**	Apr-07	Apr-06	Apr-05	Apr-04	Apr-03	Oct-02	Apr-02	Jan-02	Oct-01	Aug-01	Jul-01
Groundwater Elevation	ft MSL	--	--	575.53	572.8	568.80	566.48	567.52	571.27	575.93	571.99	574.60	568.51	572.63	569.07	572.07	573.32	573.96
Field Groundwater Quality Parameters																		
Conductivity	mS/cm	--	--	0.185	0.159	0.189	0.207	0.207	0.183	0.145	0.161	0.160	0.217	0.131	0.271	0.380	0.302	0.183
Dissolved Oxygen	mg/L	--	--	6.83	4.87	5.26	5.07	5.74	5.81	5.55	5.38	5.87	8.17	9.77	4.83	4.55	7.81	NM
Oxidation Reduction Potential	mV	--	--	52.1	40.2	218.7	-20.7	210.1	370.8	185.5	370.1	188.6	298.9	139	146	186	244	140
pH	SU	--	--	6.42	5.67	5.90	6.06	5.86	6.09	5.91	5.9	5.91	5.76	6.98	5.89	6.18	5.84	5.68
Temperature	ºC	--	--	18.85	15.35	20.43	20.73	20.11	21.69	21.22	20.99	21.04	21.20	21.36	20.53	20.04	21.57	27.50
Turbidity	NTU	--	--	2.08	6.33	4.94	11.0	4.03	0.41	2.9	2.55	0.25	7.40	1.40	4.80	2.16	3.50	4.70
Laboratory Results - Natural Attenuation Parameters																		
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.96
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	54.0
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.147
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.144
Iron, Ferrous***	mg/L	--	--	< 0.10	< 0.10	0.10 UJ	NA	< 0.10	< 0.10	< 0.1	< 0.1	< 0.100	< 0.200	< 0.200	< 0.100	< 0.100	NA	0.160
Iron, Total	mg/L	--	--	<0.10	<0.05	< 0.050	NA	0.196	< 0.100	< 0.1	0.132	0.126	0.407	0.167	< 0.100	< 0.100	NA	< 0.100
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	78	84	68	86	76	NA	37
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	18	14	12	15	NA	12
Methane	µg/L	--	--	<0.19	<0.19	< 0.10	NA	0.68	0.058	1.2	0.81	0.40	5.4	0.26	2.1	6.9	NA	0.34
Dissolved Oxygen	mg/L	--	--	1.7	1.6	6.5	NA	7.3	7.6	8.4	6.5	6.8	10	6.2	5.0	8.2	NA	5.0
Laboratory Results - Organic Constituents																		
Volatile Organic Compounds																		
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Isopropylbenzene	µg/L	5(2)	--	< 5.0	< 5.0	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**ND**
Semivolatile Organic Compounds																		
2,4-Dimethylphenol	µg/L	700	2,044	<9.4	< 10	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	13
2-Methylphenol	µg/L	10(2)	5,110	<9.4	< 10	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	21
4-Methylphenol	µg/L	10(2)	511	NA	< 10	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	33
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthylene	µg/L	10(2)	6,132	<9.4	< 10	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10(2)	143	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dibenzofuran	µg/L	10(2)	409	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Diethyl phthalate	µg/L	10(2)	82	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	20	20(1)	<9.4	< 10	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	**38**
Phenanthrene	µg/L	10(2)	3,066	<9.4	< 10	< 9.7	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	48
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**153**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**153**
Laboratory Results - Inorganic Constituents																		
Arsenic	µg/L	50	50(1)	NA	NA	NA	NA	NA	NA	NA	NA	< 50	< 50	< 50	< 50	< 50	NA	< 20
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.6
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	NA	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10
Cyanide, total	µg/L	200	2,044	< 10	< 10	< 10	< 10	26.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10
Lead	µg/L	15	15(1)	NA	NA	NA	NA	NA	NA	NA	NA	< 10	< 10	< 10	< 10	< 10	NA	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	NA	< 0.5
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	< 20	< 20	< 20	< 20	< 20	NA	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NA	< 2.0
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20

Notes:

ºC - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Ground Water Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-507																	
				Oct-12	Apr-12	Oct-11	Apr-11	Oct-10	Apr-10	Oct-09	Jul-09	Apr-09	Jan-09	Oct-08	Jul-08	Apr-08	Oct-07	Apr-07	Oct-06	Apr-06	Oct-05	Apr-05	Nov-04
Groundwater Elevation	ft MSL	--	--	571.74	572.45	571.97	575.92	574.81	577.92	577.72	575.22	574.87	573.77	572.5	572.91	572.75	571.79	572.85	573.15	573.96	575.24	577.65	576.00
Field Groundwater Quality Parameters																							
Conductivity	mS/cm	--	--	0.389	0.38	0.364	0.303	0.32	0.303	0.446	0.427	0.487	0.494	0.553	0.538	0.530	0.609	0.538	0.518	0.537	0.575	0.483	0.548
Dissolved Oxygen	mg/L	--	--	0.14	0.73	0.55	0.62	0.85	7.55	0.62	0.48	0.64	0.55	0.47	0.77	0.19	0.19	7.88	0.21	0.09	0.11	0.18	2.48
Oxidation Reduction Potential	mV	--	--	-96.3	-74.5	-92.3	-126.9	102.3	-44.7	-102.7	-95.6	-73.1	-79.2	-73.1	-117.1	-89.2	-123.7	-48.4	-63.8	-92.5	-94.2	-113.9	-9.3
pH	SU	--	--	7.38	6.73	6.66	6.84	5.75	6.54	7.12	6.9	6.85	6.91	6.75	6.77	6.72	6.81	6.81	6.93	6.9	6.77	7.08	6.90
Temperature	℃	--	--	18.87	19.88	19.85	20.1	19.69	17.59	17.05	22.51	17.24	16.43	19.59	19.06	20.91	21.71	19.01	20.28	21.03	20.45	20.07	19.83
Turbidity	NTU	--	--	1.09	6.45	9.04	9.9	8	8.72	7.35	27.1	9.9	5.58	8.79	184	4.11	6.13	4.98	2.56	7.5	14.0	9.4	24.4
Laboratory Results - Natural Attenuation Parameters																							
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Ferrous***	mg/L	--	--	2.9	1.0	<0.10	0.13	0.19	<0.10	<0.10	NA	0.17	NA	1.3	< 0.10	3.9 J	9.68	7.91	6.41	3.72	6.54	2.8	0.6
Iron, Total	mg/L	--	--	16	12	12	4.9	7.2	3.9	7.8	NA	5.2	NA	9.6	5.3	7.9	10.5 J+	7.61	7.21	4.03	4.39	3.47	1.59
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/L	--	--	1.3	2.0	1.3	0.73	1.8	0.27	2.6	NA	1.1	NA	1.4	1.0	7.1	9.2	12	15	18	25	35	NA
Dissolved Oxygen	mg/L	--	--	5.4	7.4	1.6	1.7	1.6	1.7	1.4	NA	1.3	NA	1.4	1.4	2.4	1.6	0.64	1.5	2.5	2.6	3.4	NA
Laboratory Results - Organic Constituents																							
Volatile Organic Compounds																							
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/	5[2]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	NA	< 5.0	NA	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds																							
2,4-Dimethylphenol	µg/L	700	2,044	< 9.8	< 11	< 10	<9.5	<9.5	<9.4	<9.4	NA	< 10	NA	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Methylphenol	µg/L	10[2]	5,110	< 9.8	< 11	< 10	<9.5	<9.5	<9.4	<9.4	NA	< 10	NA	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	< 9.8	< 11	< 10	<9.5	<9.5	NA	<9.4	NA	< 10	NA	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	10[2]	6,132	< 9.8	< 11	< 10	<9.5	<9.5	<9.4	<9.4	NA	< 10	NA	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	20	20[1]	< 9.8	< 11	< 10	<9.5	<9.5	<9.4	<9.4	NA	< 10	NA	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10[2]	3,066	< 9.8	< 11	< 10	<9.5	<9.5	<9.4	<9.4	NA	< 10	NA	< 9.7	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	NA	**ND**	NA	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents																							
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, total	µg/L	200	2,044	< 10	18	22	21	20	24	38	36	43	30	44	38	57	69	62.0	< 10	58.0	60.0	62.0	146
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

℃ - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

ND - Not Detected

Appendix C
Summary of Historical Groundwater Monitoring Data
June 2000 through October 2012
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

Parameter	Units	Type 1 RRS	Type 4 RRS	MW-508									
				Apr-12	Apr-11	Apr-10	Apr-09	4/09 DUP	Apr-08	Apr-07	Apr-06	Apr-05	Nov-04
Groundwater Elevation	ft MSL	--	--	571.47	577.38	577.86	575.82	575.82	573.25	573.21	574.46	578.42	NM
Field Groundwater Quality Parameters													
Conductivity	mS/cm	--	--	0.168	0.145	0.178	0.177	0.177	0.185	0.204	0.177	0.183	0.199
Dissolved Oxygen	mg/L	--	--	2.82	4.28	5.8	4.72	4.72	4.98	6.75	4.05	3.03	2.72
Oxidation Reduction Potential	mV	--	--	173.7	226.3	188	45.5	45.5	206.9	95.0	829.9	169	143.7
pH	SU	--	--	6.15	6.05	5.74	6.06	6.06	5.80	6.11	4.46	6.37	6.30
Temperature	ºC	--	--	19.12	17.01	19.08	20.06	20.06	20.31	21.06	21.29	19.95	19.92
Turbidity	NTU	--	--	9.28	3.19	6.06	4.25	4.25	5.18	0.93	0.13	3.74	4.24
Laboratory Results - Natural Attenuation Parameters													
Ammonia (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Total	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Ferrous***	mg/L	--	--	< 0.10	<0.10	<0.10	<0.10	<0.10	0.10 UJ	< 0.10	< 0.10	< 0.1	< 0.010
Iron, Total	mg/L	--	--	0.17	<0.10	0.22	0.059	0.077	0.090	0.198	< 0.100	0.604	366
Carbon Dioxide	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/L	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/L	--	--	< 0.58	<0.58	<0.19	<0.19	<0.19	0.11	0.65	0.1	1.3	NA
Dissolved Oxygen	mg/L	--	--	9.7	1.7	1.6	1.3	1.6	5.9	5	6	6.7	NA
Laboratory Results - Organic Constituents													
Volatile Organic Compounds													
Benzene	µg/L	5	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/L	700	2,297	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/L	1,000	1,102	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes, Total	µg/L	10,000	204,000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/	5[2]	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	µg/L	100	2,557	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total BTEX	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Semivolatile Organic Compounds													
2,4-Dimethylphenol	µg/L	700	2,044	< 12	<9.5	<9.9	< 10	< 10	< 9.7	< 10	< 10	< 10	< 10
2-Methylphenol	µg/L	10[2]	5,110	< 12	<9.5	<9.9	< 10	< 10	< 9.7	< 10	< 10	< 10	< 10
4-Methylphenol	µg/L	10[2]	511	< 12	<9.5	NA	< 10	< 10	< 9.7	< 10	< 10	< 10	< 10
Acenaphthene	µg/L	2,000	6,132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	10[2]	6,132	< 12	<9.5	<9.9	< 10	< 10	< 9.7	< 10	< 10	< 10	< 10
Carbazole	µg/L	10[2]	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	10[2]	409	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	10[2]	82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	1,000	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	20	20[1]	< 12	<9.5	<9.9	< 10	< 10	< 9.7	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	10[2]	3,066	< 12	<9.5	<9.9	< 10	< 10	< 9.7	< 10	< 10	< 10	< 10
Phenol	µg/L	4,000	61,320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
BTEX + Total SVOCs	µg/L	--	--	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Laboratory Results - Inorganic Constituents													
Arsenic	µg/L	50	50[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 50
Barium	µg/L	2,000	7,154	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	5	204	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10
Chromium	µg/L	100	153,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	1,300	4,088	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanide, total	µg/L	200	2,044	< 10	< 10	< 10	< 10	< 10	< 10	14.0	< 10	< 10	< 10
Lead	µg/L	15	15[1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10
Mercury	µg/L	2	31	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.2
Nickel	µg/L	100	2,044	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 20
Thallium	µg/L	2	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	2,000	30,660	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

ºC - degrees Celsius

-- - RRS are not applicable to or were not calculated for this parameter

µg/L - micrograms per liter

mS/cm - millisiemens per centimeter

BTEX - benzene, toluene, ethylbenzene, and total xylenes

ft - feet

HSRA - Hazardous Site Response Act

J - estimated concentration based on data validation

mg/L - milligrams per liter

MGP - manufactured gas plant

MSL - mean sea level

mV - millivolts

NA - not analyzed or not applicable

NM - not measured

ND - not detected

NS - not sampled; well was considered dry due to extremely low water levels or was damaged

NTU - nephelometric turbidity unit

RRS - Risk Reduction Standards

SU - standard unit

SVOC - semivolatile organic compounds

UJ - nondetect result is considered estimated based on data validation

(1) Highest RRS equaled Type 1 RRS; therefore, the cleanup goal becomes the Type 1 RRS for this chemical.

(2) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the detection limit.

Only those organic constituents that have been detected, are HSRA-regulated, and are MGP-related are reported in this table.

Values are listed with the laboratory-reported number of significant digits, which varies between different sets of constituents.

Shaded values indicate MGP-related concentrations that exceed the Type 4 RRS.

* - Well went dry due to purging; allowed to recharge and sample with pump or bailer.

** - Well re-sampled on 5/7/07 or 5/8/07 due to detections of one or more analytes in wells where there have been not consistent detections before.

***- 30-minute hold time for field testing of ferrous iron was exceeded

APPENDIX D

April 2001 Slug Test Data

Bouwer and Rice Slug Test Solution

Site: Rome MGP Site
Monitoring Point: MW-402A

Slug Test Date: 7/12/2001

Well / Aquifer Parameters

Parameter	Value	Units	Description
w =	18.82	feet	Depth to water
d_t =	20.50	feet	Depth to top of well screen
d_b =	30.50	feet	Depth to bottom of well screen
d_a =	30.50	feet	Depth to bottom of aquifer
r_c =	1.00	inches	Radius of well casing
	0.08	feet	
R =	4.00	inches	Radius of gravel pack
	0.33	feet	
L_e =	10.00	feet	Effective screen length
L_w =	11.68	feet	Length of water table to bottom of well screen
h =	11.68	feet	Aquifer saturated thickness

Graphical Determination of Bouwer and Rice Solution Parameter $(1/t)\ln(H_t/H_o)$

$(1/t)\ln(H_t/H_o)$ = Slope of Best Fit Line =	-0.1955

Appropriate Value of $\ln(R_e/R)$ for Calculation of K =	=	2.6743

Calculation of Hydraulic Conductivity - Bouwer and Rice Solution

$K=(r_c^2*\ln(R_e/R))/(2*L_e)*((-1)*(1/t)*\ln(H_t/H_o))$ =	1.82E-04	feet/minute
	3.03E-06	feet/second
	9.22E-05	cm/second

Bouwer and Rice Slug Test Solution

Site: Rome MGP Site
Monitoring Point: MW-403A

Slug Test Date: 7/11/2001

Well / Aquifer Parameters

Parameter	Value	Units	Description
w =	17.00	feet	Depth to water
d_t =	22.50	feet	Depth to top of well screen
d_b =	32.50	feet	Depth to bottom of well screen
d_a =	32.50	feet	Depth to bottom of aquifer
r_c =	1.00	inches	Radius of well casing
	0.08	feet	
R =	4.00	inches	Radius of gravel pack
	0.33	feet	
L_e =	10.00	feet	Effective screen length
L_w =	15.50	feet	Length of water table to bottom of well screen
h =	15.50	feet	Aquifer saturated thickness

Graphical Determination of Bouwer and Rice Solution Parameter $(1/t)\ln(H_t/H_o)$

$(1/t)\ln(H_t/H_o)$ = Slope of Best Fit Line =	-0.0262

Appropriate Value of $\ln(R_e/R)$ for Calculation of K =	=	2.8479

Calculation of Hydraulic Conductivity - Bouwer and Rice Solution

$K=(r_c^2*\ln(R_e/R))/(2*L_e)*((-1)*(1/t)*\ln(H_t/H_o))$ =	2.59E-05	feet/minute
	4.32E-07	feet/second
	1.32E-05	cm/second

Bouwer and Rice Slug Test Solution

Site: Rome MGP Site
Monitoring Point: MW-404

Slug Test Date: 7/11/2001

Well / Aquifer Parameters

Parameter	Value	Units	Description
w =	15.71	feet	Depth to water
d_t =	18.00	feet	Depth to top of well screen
d_b =	28.00	feet	Depth to bottom of well screen
d_a =	28.00	feet	Depth to bottom of aquifer
r_c =	2.00	inches	Radius of well casing
	0.17	feet	
R =	5.00	inches	Radius of gravel pack
	0.42	feet	
L_e =	10.00	feet	Effective screen length
L_w =	12.29	feet	Length of water table to bottom of well screen
h =	12.29	feet	Aquifer saturated thickness

Graphical Determination of Bouwer and Rice Solution Parameter $(1/t)\ln(H_t/H_o)$

$(1/t)\ln(H_t/H_o)$ = Slope of Best Fit Line =	-0.7800

Appropriate Value of $\ln(R_e/R)$ for Calculation of K =	=	2.5214

Calculation of Hydraulic Conductivity - Bouwer and Rice Solution

$K=(r_c^2*\ln(R_e/R))/(2*L_e)*((-1)*(1/t)*\ln(H_t/H_o))$ =	2.73E-03	feet/minute
	4.55E-05	feet/second
	1.39E-03	cm/second

APPENDIX E

Vapor Intrusion Modeling Summary

1.0 Introduction

This document presents the methods used to conduct a vapor intrusion evaluation to determine whether subsurface impacts may pose indoor air risks to hypothetical future on-site and off-site indoor workers at the Atlanta Gas Light Company Former Manufactured Gas Plant (Site), which is located in Rome, Georgia. This vapor intrusion evaluation was conducted in accordance with USEPA guidance (USEPA 2004a) due to the presence of several analytes in groundwater and subsurface soil at concentrations above United States Environmental Protection Agency (USEPA) groundwater Screening Levels (SLs) protective of indoor air (USEPA 2002) as well as California EPA's subsurface soil SLs protective of indoor air (CalEPA 2005). Therefore, this vapor intrusion discusses the application of the Johnson and Ettinger (J&E) vapor intrusion model version 3.1, (USEPA, 2004b) for soil and groundwater in accordance with USEPA guidance (USEPA 2002; USEPA 2004a) to calculate groundwater and subsurface soil risk-based concentrations (Risk-Based Cleanup Goals, RBCGs) protective of indoor air for the on-site/off-site commercial/industrial indoor worker.

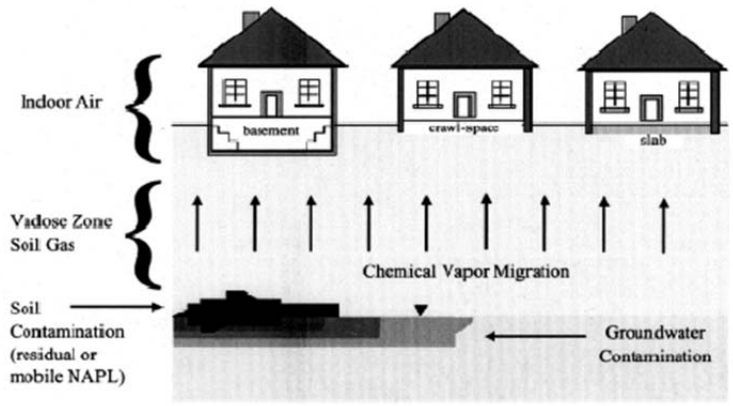
This Appendix presents the J&E evaluation of indoor air VOCs emanating from potential sources in groundwater and subsurface soil, including a discussion of model input parameters.

2.0 The Johnson and Ettinger Model

This risk assessment presents the methods used to conduct a vapor intrusion evaluation to determine whether subsurface soil or groundwater impacts may pose indoor air risks. Groundwater and subsurface soil have been identified as potential source media for impacts to indoor air. As a result, this document discusses the application of the Johnson and Ettinger (J&E) vapor intrusion model for groundwater with incorporation of USEPA guidance (USEPA, 2002; USEPA, 2004a) to calculate groundwater and subsurface soil calculate RBCG values protective of indoor air.

This section discusses the J&E model theory and equations. The discussion is largely based on information provided in USEPA's *User's Guide for Evaluating Subsurface Vapors Intrusion into Buildings* (USEPA 2004a). Volatilization of chemicals located in subsurface media, and the subsequent mass transport of these vapors into indoor spaces (**Figure 2-1**) constitutes a potential inhalation exposure pathway to be evaluated as part of a human health risk assessment. Johnson and Ettinger (1991) introduced a screening-level model (J&E model), which incorporates both convective and diffusive mechanisms for estimating the transport of chemical vapors emanating from the subsurface into indoor spaces located directly above the source of contamination. In their article, Johnson and Ettinger reported that the results of the model were in qualitative agreement with published experimental case histories and in good qualitative and quantitative agreement with detailed three-dimensional numerical modeling of radon transport into houses (Loureiro, et al. 1990). USEPA has adopted the J&E model in its *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils* (USEPA 2002). While the draft USEPA guidance (2002) has not been issued as a final document, and uncertainties with the J&E model are well documented (as discussed in Section 2.6), the use of the J&E model has been accepted as a reliable method for evaluation vapor intrusion issues.

Figure 2-1 Generalized schematic of the pathway for subsurface vapor intrusion into indoor air



Source: USEPA 2002.

The J&E model is a one-dimensional analytical solution to convective and diffusive vapor transport into indoor spaces and provides an estimated attenuation coefficient that relates the vapor concentration in the indoor space to the vapor concentration at the source of contamination. The model is constructed as both a steady-state solution to vapor transport (infinite or non-diminishing source) and as a quasi-steady-state solution (finite or diminishing source). Inputs to the model include chemical properties, saturated and unsaturated zone soil properties, incorporation of site-specific exposure assumptions for site receptors, and structural properties of the building (USEPA 2002).

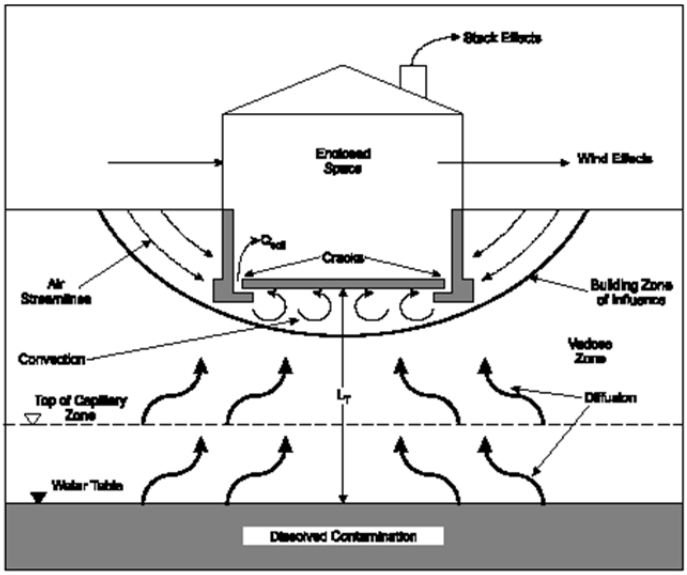
The J&E model provides a relationship between the concentration of a chemical within a source area and the concentration of that chemical in indoor air directly above or proximate to the source area. The source medium can be groundwater, unsaturated soil, or nonaqueous phase liquid (NAPL) (USEPA 2002). At the Site, groundwater and subsurface soil may be a source medium for indoor air impacts based on vapor intrusion screening level exceedance, as presented in Table 2-6 of the VRP Application.

2.1 Johnson and Ettinger Model Setting

Consider a chemical vapor source (C_{source}) located some distance (L_T) below the floor of an enclosed building constructed with a basement or constructed slab-on-grade. The source of contamination may potentially be a soil-incorporated volatile chemical, a volatile chemical in solution with groundwater below the top of the water table, or NAPL (USEPA 2004a).

Figure 2-2 is a simplified conceptual diagram of the scenario where the source of contamination is below the top of the water table. Here, the chemical must diffuse through a capillary zone immediately above the water table and through the subsequent unsaturated (or vadose) zone before convection transports the vapors into the structure. Convective air movement within the soil column transports the vapors through cracks between the foundation and the basement slab floor. This convective sweep effect is induced by a negative pressure within the structure caused by a combination of wind effects and stack effects due to building heating and mechanical ventilation (USEPA 2004a).

Figure 2-2 Conceptual diagram of a groundwater source



In order to estimate the intrusion rate of vapors into the building, the following assumptions are made:

- The chemical concentration is constant in the source (infinite or non-diminishing source).
- No loss of chemical as it diffuses towards ground surface (i.e., no biodegradation).
- Vapors enter the building primarily through cracks and openings in the walls and foundation.
- Convective transport is likely to be most significant in the region close to the basement or foundation, and vapor velocities decrease rapidly with increasing distance from the building.
- Vapor-phase diffusion is the dominant mechanism for transporting vapors from the source to the subsurface region near the foundation.
- All vapors originating from directly below the basement will enter the basement.
- The soil is homogenous within any horizontal plane with respect to effective diffusion coefficients. Heterogeneity in the vertical direction is accounted for in the model.
- Convective vapor flow in the region near the foundation is uniform.
- Well-mixed atmospheric dispersion of the emanating vapors occurs within the building.

2.1.1 Vapor concentration at the chemical source

The initial step in the Johnson and Ettinger model begins with an estimate of the vapor concentration at the source. In the case of impacted groundwater, the initial chemical concentration (C_W) is less than the aqueous solubility limit (i.e., in solution with water). When it is assumed that the initial chemical concentration in groundwater (C_W) is less than the chemical's aqueous solubility limit (USEPA 2004a), C_{source} for groundwater is estimated assuming that the vapor and aqueous-phases are in local equilibrium according to Henry's law such that:

$$C_{source} = H'_{TS} C_W \quad [1]$$

where

C_{source} = Vapor concentration at the chemical source, g/cm^3-v

H'_{TS} = Henry's law constant at the system (groundwater) temperature, dimensionless

C_W = Groundwater concentration, g/cm^3-water

2.1.2 Diffusion through the capillary zone

Directly above the water table, a saturated capillary zone exists whereby groundwater is held within the soil pores at less than atmospheric pressure. Between drainage and wetting conditions, the saturated water content varies, but is always less than the fully saturated water content, which is equal to the soil total porosity. This is the result of air entrapment in the pores during the wetting process (USEPA 2004a).

The air-entry pressure head corresponds with the top of the saturated capillary zone. Therefore, to allow for the calculation of the effective diffusion coefficient by lumping the gas-phase and aqueous-phase together, the water-filled soil porosity in the capillary zone ($\theta_{w,cz}$) is calculated at the air-entry pressure head (h) according to the procedures of Waitz et. al. (1996) and the van Genuchten equation (van Genuchten 1980) for the water retention curve:

$$\theta_{w,cz} = \theta_r + \frac{\theta_s - \theta_r}{\left[1+(\alpha h)^N\right]^M} \quad [2]$$

where

$\theta_{w,cz}$ = Water-filled porosity in the capillary zone, cm^3/cm^3

θ_r = Residual soil water content, cm^3/cm^3

θ_s = Saturated soil water content, cm^3/cm^3

α = Point of inflection in the water retention curve where d_w/dh is maximal, cm^{-1}

h = Air-entry pressure head, cm (=1/α and assumed to be positive)

N = van Genuchten curve shape parameter, dimensionless

M = 1 - (1/N)

With a calculated value of $\theta_{w,cz}$ within the capillary zone at the air-entry pressure head, the air-filled porosity within the capillary zone ($\theta_{a,cz}$) corresponding to the minimum value at which gas diffusion is relevant is calculated as the total porosity (n) minus $\theta_{w,cz}$ (USEPA 2004a).

The total concentration effective diffusion coefficient across the capillary zone (D^{eff}_{cz}) may then be calculated using the Millington and Quirk (1961) model as:

$$D^{eff}_{cz} = D_a\left(\theta^{3.33}_{a,cz}/n^{2}_{cz}\right) + \left(D_w / H'_{TS}\right)\left(\theta^{3.33}_{w,cz}/n^{2}_{cz}\right) \quad [3]$$

where:

D^{eff}_{cz} = Effective diffusion coefficient across the capillary zone, cm^2/s

D_a = Diffusivity in air, cm^2/s

$\theta_{a,cz}$ = Soil air-filled porosity in the capillary zone, cm^3/cm^3

n_{cz} = Soil total porosity in the capillary zone, cm^3/cm^3

D_w = Diffusivity in water, cm^2/s

H'_{TS} = Henry's Law constant at the system temperature, dimensionless

$\theta_{w,cz}$ = Soil water-filled porosity in the capillary zone, cm^3/cm^3

According to Fick's law of diffusion, the rate of mass transfer across the capillary zone can be approximated by the expression:

$$E = A\left(C_{source} - C_{g0}\right) D^{eff}_{cz} / L_{cz} \quad [4]$$

where:

E = Rate of mass transfer, g/s

A = Cross-sectional area through which vapors pass, cm^2

C_{source} = Vapor concentration within the capillary zone, g/cm^3-v

C_{g0} = A known vapor concentration at the top of the capillary zone, g/cm^3-v (C_{g0} is assumed to be zero as diffusion proceeds upward)

D^{eff}_{cz} = Effective diffusion coefficient across the capillary zone, cm^2/s

L_{cz} = Thickness of capillary zone, cm.

The value of C_{source} is calculated using Equation [1]; the value of A is assumed to be one cm^2; and the value of D^{eff}_{cz} is calculated by Equation [3] (USEPA 2004a). What remains is a way to estimate a value for L_{cz}.

Lohman (1972) and Fetter (1994) estimated the rise of the capillary zone above the water table using the phenomenon of capillarity such that water molecules are subject to an upward attractive force due to surface tension at the air-water interface and the molecular attraction of the liquid and solid phases. The rise of the capillary zone can thus be estimated using the equation for the height of capillary rise in a bundle of tubes of various diameters equivalent to the diameters between varying soil grain sizes (USEPA 2004a). Fetter (1994) estimated the mean rise of the capillary zone as:

$$L_{cz} = \frac{2\alpha\, COS\, \lambda}{\rho_w\, g\, R} \quad [5]$$

where:

L_{cz} = Mean rise of the capillary zone, cm

α = Surface tension of water, g/s (=73)

λ = Angle of the water meniscus with the capillary tube, degrees (assumed to be zero)

ρ_w = Density of water, g/cm^3 (=0.999)

g = Acceleration due to gravity, cm/s^2 (=980)

R = Mean interparticle pore radius, cm

and

$$R = 0.2D \quad [6]$$

R = Mean interparticle pore radius, cm

D = Mean particle diameter, cm

$$L_{cz} = \frac{0.15}{R} \quad [7]$$

The mean thickness of the capillary zone may then be estimated using Equations [6] and [7].

2.1.3 Diffusion

The effective diffusion coefficient within the unsaturated zone may also be estimated using the same form as Equation [3]:

$$\theta_{w,cz} = \theta_r + \frac{\theta_s - \theta_r}{\left[1+(\alpha h)^N\right]^M} \quad [8]$$

where:

$\theta_{w,cz}$ = Water-filled porosity in the capillary zone, cm^3/cm^3

θ_r = Residual soil water content, cm^3/cm^3

θ_s = Saturated soil water content, cm^3/cm^3

α = Point of inflection in the water retention curve where d_w/dh is maximal, cm^{-1}

h = Air-entry pressure head, cm (=$1/\alpha$ and assumed to be positive)

N = van Genuchten curve shape parameter, dimensionless

M = 1 - (1/N)

With a calculated value of $\theta_{w,cz}$ within the capillary zone at the air-entry pressure head, the air-filled porosity within the capillary zone ($\theta_{a,cz}$) corresponding to the minimum value at which gas diffusion is relevant is calculated as the total porosity (n) minus $\theta_{w,cz}$ (USEPA 2004a).

The total concentration effective diffusion coefficient across the capillary zone (D^{eff}_{cz}) may then be calculated using the Millington and Quirk (1961) model as:

$$D^{eff}_{T} = \frac{L_T}{\sum_{i=0}^{n} L_i / D^{eff}_{i}} \quad [9]$$

where:

D^{eff}_{T} = Total overall effective diffusion coefficient, cm^2/s

L_i = Thickness of soil layer i, cm

D^{eff}_{i} = Effective diffusion coefficient across soil layer i, cm^2/s

L_T = Distance between the source of contamination and the bottom of the enclosed

2.1.4 The Infinite Source Solution to Convective and Diffusive Transport

J&E (1991) defined an attenuation coefficient as the ratio of the concentration of a compound in soil gas at the source and its concentration in indoor air. Under the

assumption of an infinite source, the mass transfer is steady-state. For this case, J&E (1991) gave the solution for the attenuation coefficient (α) as:

$$\alpha = \frac{\left[\left(\frac{D_T^{eff} A_B}{Q_{building} L_T}\right) x \exp\left(\frac{Q_{soil} L_{crack}}{D^{crack} A_{crack}}\right)\right]}{\left[\exp\left(\frac{Q_{soil} L_{crack}}{D^{crack} A_{crack}}\right) + \left(\frac{D_T^{eff} A_B}{Q_{building} L_T}\right) + \left(\frac{D_T^{eff} A_B}{Q_{soil} L_T}\right)\left[\exp\left(\frac{Q_{soil} L_{crack}}{D^{crack} A_{crack}}\right) - 1\right]\right]} \quad [10]$$

where:

α = Steady-state attenuation coefficient (unitless)

D_T^{eff} = Total overall effective diffusion coefficient (cm^2/s)

A_B = Area of the enclosed space below grade (cm^2)

$Q_{building}$ = Building ventilation rate (cm^3/s)

L_T = Source-building separation (cm)

Q_{soil} = Volumetric flow rate of soil gas into the enclosed space (cm^3/s)

L_{crack} = Enclosed space foundation or slab thickness (cm)

A_{crack} = Area of total cracks (cm^2)

D^{crack} = Effective diffusion coefficient through the cracks (assumed equivalent to D_i^{eff} of soil layer i in contact with the floor) (cm^2/s)

The total overall effective diffusion coefficient is calculated in Equation [9]. The value of A_B includes the area of the floor in contact with the underlying soil and the total wall area below grade. The building ventilation rate ($Q_{building}$) may be calculated as:

$$Q_{building} = \frac{\left(L_B W_B H_B ER\right)}{3{,}600 \ \frac{s}{h}} \quad [11]$$

where:

$Q_{building}$ = Building ventilation rate (cm^3/s)

L_B = Length of building (cm)

W_B = Width of building (cm)

H_B = Height of building (cm)

ER = Air exchange rate (1/h)

The building dimensions in Equation [11] are those dimensions representing the total living/working space of the building; this assumes that the total air volume within the structure is well mixed and that any vapor contaminant entering the structure is instantaneously and homogeneously distributed. The volumetric flow rate of soil gas entering the building (Q_{soil}) is calculated by the analytical solution of Nazaroff (1988) such that:

$$Q_{soil} = \frac{2\pi\Delta P\ k_v\ X_{crack}}{\mu\ 1n\left(\frac{2\ Z_{crack}}{r_{crack}}\right)} \qquad [12]$$

where:

Q_{soil} = Volumetric flow rate of soil gas entering the building (cm^3/s)

π = 3.14159

ΔP = Pressure differential between the soil surface and the enclosed space ($g/cm\text{-}s^2$)

k_v = Soil vapor permeability (cm^2)

X_{crack} = Floor-wall seam perimeter (cm)

μ = Viscosity of air (g/cm-s)

Z_{crack} = Crack depth below grade (cm)

r_{crack} = Equivalent crack radius (cm).

Equation [12] is an analytical solution to vapor transport solely by pressure-driven air flow to an idealized cylinder buried some distance (Z_{crack}) below grade; the length of the cylinder is taken to be equal to the building floor-wall seam perimeter (X_{crack}). The cylinder, therefore, represents that portion of the building below grade through which vapors pass. The equivalent radius of the floor-wall seam crack (r_{crack}) is given in J&E (1991) as:

$$r_{crack} = \eta\left(\frac{A_B}{X_{crack}}\right) \qquad [13]$$

where:

r_{crack} = Equivalent crack radius (cm)

η = A_{crack}/A_B, $(0 \leq \eta \leq 1)$

A_B = Area of the enclosed space below grade (cm^2)

X_{crack} = Floor-wall seam perimeter (cm)

The variable r_{crack} is actually the product of the fixed crack-to-total area ratio (η) and the hydraulic radius of the idealized cylinder, which is equal to the total area (A_B) divided by that portion of the cylinder perimeter in contact with the soil gas (X_{crack}). Therefore, if the dimensions of the enclosed space below grade (A_B) and/or the floor-wall seam perimeter

(X_{crack}) vary, and the crack-to-total area ratio (η) remains constant, the value of r_{crack} must also vary. The total area of cracks (A_{crack}) is the product of η and A_B.

Equation [12] requires that the soil column properties within the zone of influence of the building (e.g., porosities, bulk density, etc.) be homogeneous, that the soil be isotropic with respect to vapor permeability, and that the pressure within the building be less than atmospheric.

With a calculated value of α, the steady-state vapor-phase concentration of the contaminant in the building ($C_{building}$) is calculated as:

$$C_{building} = \alpha \, C_{source} \qquad [14]$$

2.2 Site-specific model inputs

2.2.1 Chemicals Included in the Analysis

Those chemicals in groundwater and subsurface soil that were identified as part of the COC process, considered volatile, and have inhalation toxicity available were selected for the J&E indoor air evaluation. Nineteen chemicals were identified as unsaturated subsurface soil COI for soil from 2 to 20 feet bgs, as well as four groundwater analytes (benzene, cyanide, methane and naphthalene) were retained as groundwater COI for the vapor intrusion pathway), as presented in Tables 2-9 and 2-10 of the VRP Application. Chemical-specific factors for these analytes are presented in Table 2-12 of the VRP Application.

2.2.2 Soil Parameters

Soil parameters were estimated based on Figure 9, Cross-Section B-B' in the area of SB-416 and SB-415 of the *Focused Feasibility Study for the Rome, GA Former MGP Site, HIS No. 10109* (AECOM. 2009). Site soils consist of shallow sand layer from the surface down to 8 feet below ground surface (bgs) (called Stratum A) and a sandy clay layer from 8 feet bgs to the water table, which is approximately 20 feet bgs (called Stratum B). However, site-specific, geotechnical values are not available, such as soil bulk density and total porosity for these soil layers. As a result, all soil parameters are based on USEPA default soil values for sand and sandy clay (USEPA. 2004a) as presented in Table 2-16 of the VRP Application.

The depth to subsurface soil impacts range from 7.5 feet bgs (near the hotel) to 16 feet bgs (near the Parcel 12 building). Therefore, the depth below grade to subsurface soil impacts is assumed to start one foot below the hotel's basement at 230 cm and only encompasses Stratum A. Near the Parcel 12 building, the depth below grade to subsurface soil impacts is assumed to start at 16 ft (488 cm), which encompasses all of Stratum A and a portion of Stratum B.

2.2.3 Building Parameters

Two categories of indoor workers are considered in the vapor intrusion evaluation, a hotel worker and a Broad Street retail worker. Hotel dimensions assume a length of 190 ft (5,791 cm), averaged width of 96 ft (2526 cm) and height of 36 ft (1097 cm) based on dimensions presented in Figure 11 of the *Focused Feasibility Study for the Rome, GA Former MGP Site, HIS No. 10109* (AECOM 2009). Parcel 12 building was chosen to represent all retail buildings on Broad Street, with an assumed length of 150 ft (4,572 cm), width of 65 ft (1981 cm) and height of 24 ft (731 cm), based on dimension presented in Site Layout figure of this report.

The calculations for the Broad Street retail building and the hotel assume USEPA's default floor-wall seam crack width of 0.1 cm, as slab covers the entire basement floor of the retail building and the hotel basement floor is approximately 25% dirt floor covered by a Geomembrane and stone, and 75% slab floor. Where site-specific building information is not

available, building properties were based on USEPA default values (USEPA 2004a), including building enclosed space floor thickness, soil-building soil pressure differential, and soil vapor flux (Qsoil) values as shown in Table 2-16 of the VRP Application.

2.3 Modeling Results

2.3.1 Subsurface Soil RBCG Values Protective of Indoor Air

Table 2-18 of the VRP Application presents the calculated subsurface soil RBCG values protective of indoor air. Anthracene does not have inhalation toxicity information available; therefore, a RBCG could not be calculated. For the remaining subsurface soil COI, subsurface soil RBCG values were calculated for carcinogenic and/or noncarcinogenic effects; however, the minimum RBCG among the carcinogenic and noncarcinogenic values was chosen to compare against subsurface soil data.

2.3.2 Groundwater RBCG Values Protective of Indoor Air

Table 2-19 of the VRP Application presents the calculated groundwater RBCG values protective of indoor air for groundwater COI; however, RBCG values could not be calculated for methane as it lacks inhalation toxicity information. For the remaining groundwater COI (benzene, naphthalene and cyanide), groundwater RBCG values were calculated based on carcinogenic and noncarcinogenic effects; however, for benzene and naphthalene the minimum RBCG value is based on carcinogenic effects for both the hotel worker and Broad Street retail worker, as presented below:

- Benzene: groundwater RBCG, hotel worker: 39.2 mg/l
- Benzene: groundwater RBCG, Broad Street retail worker: 23.9 mg/l
- Cyanide: groundwater RBCG, hotel worker: 14.9 mg/l
- Cyanide: groundwater RBCG, Broad Street retail worker: 24.7 mg/l
- Naphthalene: groundwater RBCG, hotel worker: 41.7 mg/l
- Naphthalene: groundwater RBCG, Broad Street retail worker: 23.3 mg/l

2.4 Conclusions

Potential indoor air exposure to volatiles emanating from subsurface soil or groundwater into indoor air is considered a potentially complete exposure pathway for the current/future indoor workers at the hotel and retail stores on Broad Street. Therefore, USEPA's J&E vapor intrusion model was used to calculate RBCG values using site-specific chemical data, soil properties, building dimensions, and exposure assumptions for the indoor worker. Once calculated, the RBCG values can be compared against Site data to help identify which areas of the Site may require remedial action. A summary of subsurface soil and groundwater RBCG values is presented in Table 2-20 of the VRP Application.

2.5 Uncertainty Analysis

Potential sources of uncertainty associated with calculating risk-based subsurface soil and groundwater concentrations are discussed below. Uncertainties associated with risk assessment, in general, and with the vapor intrusion modeling for this Site include those associated with:

- Data evaluation
- Soil parameters
- Building parameters
- Risk characterization

2.5.1 Data Evaluation

Those groundwater and subsurface soil COIs for which RBCG values were calculated are identified as constituents which are both volatile and have inhalation toxicity information available. Those chemicals that do not have inhalation toxicity information (e.g., anthracene) were not evaluated, which may introduce some uncertainty.

2.5.2 Soil Parameters

Most of the soil parameters are based on literature values assuming a sandy soil type (Stratum A) or sandy clay soil type (Stratum B). The actual soil type and soil parameters may differ from the literature values, which may introduce some uncertainty.

2.5.3 Building Parameters

Building parameters were estimated based on maps or figures of the Site. In addition, although a site visit helped identify areas of the hotel basement with dirt floors, the percentage of the building with a dirt floor could not be precisely calculated. Therefore, a professional judgement value of approximately 25% of the building footprint was assumed, which may introduce some uncertainty.

2.5.4 Risk Characterization

The combination of uncertainties regarding input parameters for the J&E vapor intrusion modeling may result in a slight over- or underestimation of volatilization factors and resulting groundwater and subsurface soil RBCG values protective of indoor air. Therefore, care was taken to ensure reasonably conservative and consistent model parameters were used as input to the model (USEPA, 2002; 2004a).

3.0 Conclusions

For the purposes of the risk assessment, potential exposure to chemicals volatilizing from groundwater and subsurface soil to indoor air is considered a potentially complete exposure pathway. To evaluate the potential for adverse indoor air risk from the vapor intrusion of groundwater, the J&E model calculated groundwater and subsurface soil RBCG values protective of indoor air. The RBCG values are summarized in Table 2-3 of this report (and Table 2-20 of the VRP Application) and will be used to compare against site data.

4.0 References

AECOM 2009. Focused Feasibility Study for the Rome, GA Former MGP Site, HIS No. 10109. Letter Report to Mr. Kevin Collins (GDNR) from Mark Westray and John Jolly (AECOM). December 11, 2009.

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Johnson, Paul C. and Robert A. Ettinger, 1991. Heuristic Model for Predicting the Intrusion Rate of Contaminant Vapors into Buildings. *Environ. Sci. Technol*. 1991. 25, 1445-1452.

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Loureiro, C.O., L.M. Abriola; J.E. Martin; R.G. Sextro. *Environ. Sci. Technol*. 1990, 24, 1338-1348.

Millington, R.J, and J.M Quirk, 1961. *Permeability of Porous Solids. Trans. Faraday Soc.*, 57: 1200-1207.

Nazaroff, W.W, 1988. Predicting the rate of ^{222}Rn entry from soil into the basement of a dwelling due to pressure-driven air flow. *Radiation Protection Dosimetry*, 24:199-202.

U.S. Environmental Protection Agency, 2002. Draft Guidance for Evaluating Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance). Office of Solid Waste and Emergency Response, Washington, D.C. November 29, 2002.

U.S. Environmental Protection Agency, 2004a. *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings*. Office of Emergency and Remedial Response, Washington, D.C. Revised February 22, 2004.

U.S. Environmental Protection Agency, 2004b. *Groundwater Advanced (GW-ADV) and Soil Advanced (SL-ADV) Models. Version 3.1. 3-Phase Systems and Soil Gas Models*. February 2004. Available at: http://www.epa.gov/superfund/programs/risk/airmodel/johnson_ettinger.html

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Waitz, M. F. W., J. Freijer, P. Kreule, and F. Swartjes. 1996. The VOLASOIL Risk Assessment Model Based on CSOIL for Soils Contaminated with Volatile Compounds. Report No. 715810014. National Institute of Public Health and the Environment, Bilthoven, The Netherlands

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APPENDIX F

Copies of Draft Universal Environmental Covenants

After Recording Return to:
Georgia Environmental Protection Division
Response and Remediation Program
2 Martin Luther King, Jr. Drive, SE
Suite 1462 East
Atlanta, Georgia 30334

Environmental Covenant

This instrument is an Environmental Covenant executed pursuant to the Georgia Uniform Environmental Covenants Act, OCGA §44-16-1, *et seq.* This Environmental Covenant subjects the Property identified below to the activity and/or use limitations specified in this document. The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded in accordance with OCGA §44-16-8(a).

Fee Owner of Property/Grantor: Battey Downtown, LLC
401 Broad Street, Suite 304
Rome, GA 30161

Grantee/Holder: Atlanta Gas Light Company
Attn: Jeffrey Brown
Ten Peachtree Place
Atlanta, GA 30309

Grantee/Entity with express power to enforce: State of Georgia
Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive, SE
Suite 1152 East Tower
Atlanta, GA 30334

Parties with interest in the Property: N/A

Property:

The property subject to this Environmental Covenant is the Batty Downtown, LLC (hereinafter "Property"), located on **<street address>** in Rome, Floyd County, Georgia. This tract of land was conveyed on _____ from ____ to ____ recorded in Deed Book ___, Page ___, Floyd County Records. The area is located in Land Lot Nos. 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, and 72 of the 1st Ward of the City of Rome, Floyd County, Georgia. The Property is approximately ____ acres, consisting of two 3-story buildings and an asphalt parking lot. One building is developed as a hotel, and the other building is used as a restaurant. A complete legal description of the area is attached as Exhibit A and a map of the area is attached as Exhibit B.

Tax Parcel Number(s):

<**Tax ID parcel number**> of Floyd County, Georgia

Name and Location of Administrative Records:

The corrective action at the Property that is the subject of this Environmental Covenant is described in the following document[s]:

Compliance Status Report, Atlanta Gas Light Company Former Manufactured Gas Plant Site, Rome, Georgia. September 28, 2001, revised February 15, 2002, May 31, 2002, and June 7, 2004 (RETEC, 2001).

Continuing Action Monitoring Plan, Atlanta Gas Company Former Manufactured Gas Plant Site, Rome, Georgia. October 2013. (Burns & McDonnell, 2013).

Corrective Action Plan, Former Manufactured Gas Plant Site, Rome, Georgia. June 10, 1997, revised May 27, 1998, February 26, 1999, and April 27, 1999 (ThermoRetec, 1999a).

Corrective Action Plan – Operable Unit 3 – Rivers Place Building (Parcel 5), Former Manufactured Gas Plant Site, Rome, Georgia. January 2000, revised March 13, 2000 (ThermoRetec, 2000b).

Groundwater Corrective Action Plan – OU4, Former Manufactured Gas Plant Site, Rome, Georgia. September 2000, revised December 2000 ThermoRetec, 2000c).

Groundwater Corrective Action Plan Addendum – OU4, Former Manufactured Gas Plant Site, Rome, Georgia. April 2001 (ThermoRetec, 2001b).

Remedial Investigation/Compliance Status Report Manufactured Gas Plant Site, Rome, Georgia, HSI Site Number 10109. March 1997 (RETEC and Law, 1997).

Voluntary Remediation Program Compliance Status Report, Atlanta Gas Light Company Former Manufactured Gas Plant Site, Rome, Georgia. December 2013. (Burns & McDonnell, 2013).

These documents are available at the following locations:

Georgia Environmental Protection Division
Response and Remediation Program
2 MLK Jr. Drive, SE, Suite 1462 East Tower
Atlanta, GA 30334
M-F 8:00 AM to 4:30 PM excluding state holidays

Description of Contamination and Corrective Action:

Soil and groundwater impacts at the property were related to operations of the former manufactured gas plant (MGP) previously located on the properties. Soil was excavated to meet a Type 4 (non-residential) risk reduction standard and all such work was completed in 2003_. To reduce potential exposure risks in the hotel basement (Parcel 5), a geomembrane barrier was installed below a gravel covering on the area that was excavated, as well as any area with exposed soil. The majority of the basement is covered by concrete. Groundwater monitoring was initiated in 1997 and continued quarterly to semiannually through October 2012. Groundwater was remediated via monitored natural

attenuation. Impacts remain in only three (3) on-site monitoring wells, but the remaining concentrations are below the groundwater clean-up criteria calculated in the VRP and therefore, future groundwater monitoring is not required.

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 of Covenant is made pursuant to the Georgia Uniform Environmental Covenants Act, O.C.G.A. §44-16-1 *et seq.* by Battey Downtown, LLC, its successors and assigns, Atlanta Gas Light Company, and the State of Georgia, Department of Natural Resources, Environmental Protection Division (hereinafter "EPD"), its successors and assigns. This Environmental Covenant is required because a release of benzene and naphthalene occurred on the Property. Benzene and naphthalene are "regulated substances" as defined under the Georgia Hazardous Site Response Act, O.C.G.A. §12-8-90 *et seq.*, and the rules promulgated thereunder (hereinafter "HSRA" and "Rules", respectively). The Corrective Action consists of institutional controls (consisting of limiting the use to non-residential activities and prohibiting the use of groundwater except for monitoring purposes) to protect human health and the environment.

Grantor, Battey Downtown, LLC, hereby binds Grantor, its successors and assigns to the activity and use restriction(s) for the Property identified herein and grants such other rights under this Environmental Covenant in favor of Atlanta Gas Light Company and EPD. EPD shall have full right of enforcement of the rights conveyed under this Environmental Covenant pursuant to HSRA, O.C.G.A. §12-8-90 *et seq.*, and the rules promulgated thereunder. Failure to timely enforce compliance with this Environmental Covenant or the use or activity limitations contained herein by any person shall not bar subsequent enforcement by such person and shall not be deemed a waiver of the person's right to take action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict EPD from excising any authority under applicable law.

Battey Downtown, LLC, makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, pursuant to O.C.G.A. §44-16-5(a); is perpetual, unless modified or terminated pursuant to the terms of this Covenant pursuant to O.C.G.A. §44-16-9; and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereinafter "Owner"). Should a transfer or sale of the Property occur before such time as this Environmental Covenant has been amended or revoked then said Environmental Covenant shall be binding on the transferee(s) or purchaser(s).

The Environmental Covenant shall inure to the benefit of Atlanta Gas Light Company, EPD, Battey Downtown, LLC, and their respective successors and assigns and shall be enforceable by the Director or his agents or assigns, Atlanta Gas Light Company or its successors and assigns, and other party(ies) as provided for in O.C.G.A. §44-16-11 in a court of competent jurisdiction.

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Activity and/or Use Limitation(s)

1. Registry. Pursuant to O.C.G.A. §44-16-12, this Environmental Covenant and any amendment or termination thereof, may be contained in EPD's registry for environmental covenants.

2. Notice. The Owner of the Property must give thirty (30) day advance written notice to EPD of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Corrective Action. The Owner of the Property must also give thirty (30) day advance written notice to EPD of the Owner's intent to change the use of the Property, apply for building permit(s), or propose any site work that would affect the Property.

3. Notice of Limitation in Future Conveyances. Each instrument hereafter conveying an interest in the Property subject to this Environmental Covenant shall contain a notice of the activity and use limitations set forth in this Environmental Covenant and shall provide the recorded location of the Environmental Covenant.

4. Monitoring. The Continuing Action Monitoring Action Plan (CAMP) will include an annual inspection to ensure property use remains non-residential.

5. Periodic Reporting. Annually, by no later than October 2014 following the effective date of this Environmental Covenant, the Owner shall submit to EPD an Annual Report as specified in the CAMP dated October 2013.

6. Activity and Use Limitation(s). The Property shall be used only for non-residential uses, as defined in Section 391-3-19-.02 of the Rules and defined in and allowed under Floyd County's zoning regulations as of the date of this Environmental Covenant. Any residential use on the Property shall be prohibited.

7. Groundwater Limitation. The use or extraction of groundwater beneath the Property for drinking water or for any other non-remedial purposes shall be prohibited.

8. Right of Access. In addition to any rights already possessed by EPD and/or Atlanta Gas Light Company, the Owner shall allow authorized representatives of EPD and/or Atlanta Gas Light Company the right to enter the Property at reasonable times for the purpose of evaluating the Corrective Action; to take samples, to inspect the Corrective Action conducted at the Property, to determine compliance with this Environmental Covenant, and to inspect records that are related to the Corrective Action.

9. Recording of Environmental Covenant and Proof of Notification. Within thirty (30) days after the date of the Director's signature, the Owner shall file this Environmental Covenant with the Recorders of Deeds for each County in which the Property is located, and send a file stamped copy of this Environmental Covenant to EPD within thirty (30) days of recording. Within that time period, the Owner shall also send a file-stamped copy to each of the following: (1) Atlanta Gas Light Company, (2) each person holding a recorded interest in the Property subject

to the covenant, (3) each person in possession of the real property subject to the covenant, (4) each municipality, county, consolidated government, or other unit of local government in which real property subject to the covenant is located, and (5) each owner in fee simple whose property abuts the property subject to the Environmental Covenant.

10. Termination or Modification. The Environmental Covenant shall remain in full force and effect in accordance with O.C.G.A. §44-5-60, unless and until the Director determines that the Property is in compliance with the Type 1, 2, 3, or 4 Risk Reduction Standards, as defined in Georgia Rules of Hazardous Site Response (Rules) Section 391-3-19-.07 and removes the Property from the Hazardous Site Inventory, whereupon the Environmental Covenant may be amended or revoked in accordance with Section 391-3-19-08(7) of the Rules and O.C.G.A. §44-16-1 *et seq*.

11. Severability. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

12. No Property Interest Created in EPD. This Environmental Covenant does not in any way create any interest by EPD in the Property that is subject to the Environmental Covenant. Furthermore, the act of approving this Environmental Covenant does not in any way create any interest by EPD in the Property in accordance with O.C.G.A. §44-16-3(b).

Representations and Warranties.

Grantor hereby represents and warrants to the other signatories hereto:

a) That the Grantor has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;

b) That the Grantor is the sole owner of the Property and holds fee simple title which is free, clear and unencumbered;

c) That the Grantor has identified all other parties that hold any interest (e.g., encumbrance) in the Property and notified such parties of the Grantor's intention to enter into this Environmental Covenant;

d) That this Environmental Covenant will not materially violate, contravene, or constitute a material default under any other agreement, document or instrument to which Grantor is a party, by which Grantor may be bound or affected;

e) That the Grantor has served each of the people or entities referenced in Activity 10 above with an identical copy of this Environmental Covenant in accordance with O.C.G.A. §44-16-4(d).

f) That this Environmental Covenant will not materially violate or contravene any zoning law or other law regulating use of the Property; and

g) That this Environmental Covenant does not authorize a use of the Property that is otherwise prohibited by a recorded instrument that has priority over the Environmental Covenant.

Notices.

Any document or communication required to be sent pursuant to the terms of this Environmental Covenant shall be sent to the following persons:

Georgia Environmental Protection Division
Branch Chief
Land Protection Branch
2 Martin Luther King Jr. Drive SE
Suite 1154 East Tower
Atlanta, GA 30334

AGL Resources, Inc.
Attn: Executive Vice President and General Counsel
Ten Peachtree Place
Atlanta, GA 30309

Grantor has caused this Environmental Covenant to be executed pursuant to The Georgia Uniform Environmental Covenants Act, on the _____ day of _____, 20___.

Battey Downtown, LLC

_____
[Name of Signatory]
[Title]

Dated: _____

Atlanta Gas Light Company

_____
[Name of Person Acknowledging Receipt]
[Title]

Dated: _____

STATE OF GEORGIA
ENVIRONMENTAL PROTECTION DIVISION

_____
[Name of Person Acknowledging Receipt]
[Title]

Dated: _____

DRAFT

[INDIVIDUAL ACKNOWLEDGMENT]

STATE OF _____
COUNTY OF _____

On this ___ day of _____ , 20__, I certify that _____personally appeared before me, and acknowledged that **he/she** is the individual described herein and who executed the within and foregoing instrument and signed the same at **his/her** free and voluntary act and deed for the uses and purposes therein mentioned.

_____
Notary Public in and for the State of Georgia, residing at _____.
My appointment expires_____.

[CORPORATE ACKNOWLEDGMENT]

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____personally appeared before me, acknowledged that **he/she** is the of the corporation that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that **he/she** was authorized to execute said instrument for said corporation.

_____
Notary Public in and for the State of Georgia, residing at _____.
My appointment expires_____.

DRAFT

[REPRESENTATIVE ACKNOWLEDGEMENT]

STATE OF _____
COUNTY OF _____

On this ____ day of _____, 20__, I certify that _____personally appeared before me, acknowledged that **he/she** signed this instrument, on oath stated that **he/she** was authorized to execute this instrument, and acknowledged it as the _____ [type of authority] of _____ [name of party being represented] to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

_____
Notary Public in and for the State of Georgia, residing at _____.
My appointment expires _____.

DRAFT

Exhibit A
Legal Description

After Recording Return to:
Georgia Environmental Protection Division
Response and Remediation Program
2 Martin Luther King, Jr. Drive, SE
Suite 1462 East
Atlanta, Georgia 30334

Environmental Covenant

This instrument is an Environmental Covenant executed pursuant to the Georgia Uniform Environmental Covenants Act, OCGA §44-16-1, *et seq.* This Environmental Covenant subjects the Property identified below to the activity and/or use limitations specified in this document. The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded in accordance with OCGA §44-16-8(a).

Fee Owner of Property/Grantor: **City of Rome**
601 Broad Street
Rome, GA 30162

Grantee/Holder: Atlanta Gas Light Company
Attn: Senior Vice President and Deputy General Counsel
Ten Peachtree Place
Atlanta, GA 30309

Grantee/Entity with express power to enforce: State of Georgia
Department of Natural Resources
Environmental Protection Division
2 Martin Luther King Jr. Drive, SE
Suite 1152 East Tower
Atlanta, GA 30334

Parties with interest in the Property: N/A

Property:

The property subject to this Environmental Covenant is located on West 1st Street and its Right-of-Way and along the banks of the Oostanaula River near West 1st Street in Rome, Floyd County, Georgia. The Properties are approximately ____ feet, consisting of the bank of the Oostanaula River and portions of West 1st Street and its Right-of-Way (ROW). The riverbank is grassy, but improved with a concrete pedestrian sidewalk. A complete legal description of the area is attached as Exhibit A and a map of the area is attached as Exhibit B.

Tax Parcel Number(s):

Not applicable

Name and Location of Administrative Records:

The corrective action at the Property that is the subject of this Environmental Covenant is described in the following document[s]:

Compliance Status Report, Atlanta Gas Light Company Former Manufactured Gas Plant Site, Rome, Georgia. September 28, 2001, revised February 15, 2002, May 31, 2002, and June 7, 2004 (RETEC, 2001).

Continuing Action Monitoring Plan, Atlanta Gas Company Former Manufactured Gas Plant Site, Rome, Georgia. October 2013. (Burns & McDonnell, 2013).

Corrective Action Plan, Former Manufactured Gas Plant Site, Rome, Georgia. June 10, 1997, revised May 27, 1998, February 26, 1999, and April 27, 1999 (ThermoRetec, 1999a).

Corrective Action Plan – Operable Unit 3 – Rivers Place Building (Parcel 5), Former Manufactured Gas Plant Site, Rome, Georgia. January 2000, revised March 13, 2000 (ThermoRetec, 2000b).

Groundwater Corrective Action Plan – OU4, Former Manufactured Gas Plant Site, Rome, Georgia. September 2000, revised December 2000 ThermoRetec, 2000c).

Groundwater Corrective Action Plan Addendum – OU4, Former Manufactured Gas Plant Site, Rome, Georgia. April 2001 (ThermoRetec, 2001b).

Remedial Investigation/Compliance Status Report Manufactured Gas Plant Site, Rome, Georgia, HSI Site Number 10109. March 1997 (RETEC and Law, 1997).

Voluntary Remediation Program Compliance Status Report, Atlanta Gas Light Company Former Manufactured Gas Plant Site, Rome, Georgia. December 2013. (Burns & McDonnell, 2013).

These documents are available at the following location:

Georgia Environmental Protection Division
Response and Remediation Program
2 MLK Jr. Drive, SE, Suite 1462 East Tower
Atlanta, GA 30334
M-F 8:00 AM to 4:30 PM excluding state holidays

Description of Contamination and Corrective Action:

A small portion of soil was excavated in West 1st Street in the area of GP-320, to meet Type 4 (non-residential) risk-reduction standards (RRSs) and such work was completed in 2003. Groundwater monitoring was initiated in 1997 and continued quarterly to semiannually through October 2012. Based on a groundwater monitoring well installed on the eastern right-of-way of West 1st Street, groundwater meets Type 1 RRS.

There are very minimal areas of with minor impacts (source material) that remain at depth below West 1St Street and the ROW, shallower on the western side adjacent to an underground gas line [approximately 8 - 9 feet (ft) to 15 ft below ground surface (bgs)]. The impacts were observed deeper on the eastern side with the uppermost impacts at approximately 13.75 ft bgs to 15.75' ft bgs. It is

important to note that these impacts were observed in a tight clayey unit and not continuous in nature, horizontally or vertically. The remaining impacts would be below any underground utility in the area. In addition, there was a utility 'corridor' installed on the eastern side of West 1st Street and all utilities, with the exception of the underground gas line on the west side of West 1st Street, were installed within that 'corridor', so any work needed on those utilities would not intercept any of the remaining impacts. Due to these remaining impacts, this area will require a "Type 5" designation and a marker is installed in the street right-of-way to note the remaining impacts.

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 of Covenant is made pursuant to the Georgia Uniform Environmental Covenants Act, O.C.G.A. §44-16-1 *et seq*. by City of Rome, its successors and assigns, Atlanta Gas Light Company, and the State of Georgia, Department of Natural Resources, Environmental Protection Division (hereinafter "EPD"), its successors and assigns. This Environmental Covenant is required because a release of benzene and naphthalene occurred on the Property. Benzene and naphthalene are "regulated substances" as defined under the Georgia Hazardous Site Response Act, O.C.G.A. §12-8-90 *et seq.*, and the rules promulgated thereunder (hereinafter "HSRA" and "Rules", respectively). The Corrective Action consists of institutional controls (consisting of limiting the use to non-residential activities and prohibiting the use of groundwater except for monitoring purposes) to protect human health and the environment.

Grantor, City of Rome hereby binds Grantor, its successors and assigns to the activity and use restriction(s) for the Property identified herein and grants such other rights under this Environmental Covenant in favor of Atlanta Gas Light Company and EPD. EPD shall have full right of enforcement of the rights conveyed under this Environmental Covenant pursuant to HSRA, O.C.G.A. §12-8-90 *et seq*., and the rules promulgated thereunder. Failure to timely enforce compliance with this Environmental Covenant or the use or activity limitations contained herein by any person shall not bar subsequent enforcement by such person and shall not be deemed a waiver of the person's right to take action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict EPD from excising any authority under applicable law.

The City of Rome makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, pursuant to O.C.G.A. §44-16-5(a); is perpetual, unless modified or terminated pursuant to the terms of this Covenant pursuant to O.C.G.A. §44-16-9; and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereinafter "Owner"). Should a transfer or sale of the Property occur before such time as this Environmental Covenant has been amended or revoked then said Environmental Covenant shall be binding on the transferee(s) or purchaser(s).

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The Environmental Covenant shall inure to the benefit of Atlanta Gas Light Company, EPD, City of Rome, and their respective successors and assigns and shall be enforceable by the Director or his agents or assigns, Atlanta Gas Light Company or its successors and assigns, and other party(ies) as provided for in O.C.G.A. §44-16-11 in a court of competent jurisdiction.

Activity and/or Use Limitation(s)

1. Registry. Pursuant to O.C.G.A. §44-16-12, this Environmental Covenant and any amendment or termination thereof, may be contained in EPD's registry for environmental covenants.

2. Notice. The Owner of the Property must give thirty (30) day advance written notice to EPD of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for continued monitoring, operation, and maintenance of the Corrective Action. The Owner of the Property must also give thirty (30) day advance written notice to EPD of the Owner's intent to change the use of the Property, apply for building permit(s), or propose any site work that would affect the Property.

3. Notice of Limitation in Future Conveyances. Each instrument hereafter conveying an interest in the Property subject to this Environmental Covenant shall contain a notice of the activity and use limitations set forth in this Environmental Covenant and shall provide the recorded location of the Environmental Covenant.

4. Monitoring. The Continuing Action Monitoring Action Plan (CAMP) includes an annual inspection to ensure property use remains non-residential.

5. Periodic Reporting. Annually, by no later than October 2014 following the effective date of this Environmental Covenant, the Owner shall submit to EPD an Annual Report as specified in the CAMP, dated October 2013

6. Activity and Use Limitation(s). The Property shall be used only for non-residential uses, as defined in Section 391-3-19-.02 of the Rules and defined in and allowed under Floyd County's zoning regulations as of the date of this Environmental Covenant. Any residential use on the Property shall be prohibited.

7. Groundwater Limitation. The use or extraction of groundwater beneath the Property for drinking water or for any other non-remedial purposes shall be prohibited.

8. Right of Access. In addition to any rights already possessed by EPD and/or Atlanta Gas Light Company, the Owner shall allow authorized representatives of EPD and/or Atlanta Gas Light Company the right to enter the Property at reasonable times for the purpose of evaluating the Corrective Action; to take samples, to inspect the Corrective Action conducted at the Property, to determine compliance with this Environmental Covenant, and to inspect records that are related to the Corrective Action.

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9. Recording of Environmental Covenant and Proof of Notification. Within thirty (30) days after the date of the Director's signature, the Owner shall file this Environmental Covenant with the Recorders of Deeds for each County in which the Property is located, and send a file stamped copy of this Environmental Covenant to EPD within thirty (30) days of recording. Within that time period, the Owner shall also send a file-stamped copy to each of the following: (1) Atlanta Gas Light Company, (2) each person holding a recorded interest in the Property subject to the covenant, (3) each person in possession of the real property subject to the covenant, (4) each municipality, county, consolidated government, or other unit of local government in which real property subject to the covenant is located, and (5) each owner in fee simple whose property abuts the property subject to the Environmental Covenant.

10. Termination or Modification. The Environmental Covenant shall remain in full force and effect in accordance with O.C.G.A. §44-5-60, unless and until the Director determines that the Property is in compliance with the Type 1, 2, 3, or 4 Risk Reduction Standards, as defined in Georgia Rules of Hazardous Site Response (Rules) Section 391-3-19-.07 and removes the Property from the Hazardous Site Inventory, whereupon the Environmental Covenant may be amended or revoked in accordance with Section 391-3-19-08(7) of the Rules and O.C.G.A. §44-16-1 *et seq*.

11. Severability. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

12. No Property Interest Created in EPD. This Environmental Covenant does not in any way create any interest by EPD in the Property that is subject to the Environmental Covenant. Furthermore, the act of approving this Environmental Covenant does not in any way create any interest by EPD in the Property in accordance with O.C.G.A. §44-16-3(b).

Representations and Warranties.

Grantor hereby represents and warrants to the other signatories hereto:

a) That the Grantor has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;

b) That the Grantor is the sole owner of the Property and holds fee simple title which is free, clear and unencumbered;

c) That the Grantor has identified all other parties that hold any interest (e.g., encumbrance) in the Property and notified such parties of the Grantor's intention to enter into this Environmental Covenant;

d) That this Environmental Covenant will not materially violate, contravene, or constitute a material default under any other agreement, document or instrument to which Grantor is a party, by which Grantor may be bound or affected;

e) That the Grantor has served each of the people or entities referenced in Activity 10 above with an identical copy of this Environmental Covenant in accordance with O.C.G.A. §44-16-4(d).

f) That this Environmental Covenant will not materially violate or contravene any zoning law or other law regulating use of the Property; and

g) That this Environmental Covenant does not authorize a use of the Property that is otherwise prohibited by a recorded instrument that has priority over the Environmental Covenant.

Notices.

Any document or communication required to be sent pursuant to the terms of this Environmental Covenant shall be sent to the following persons:

Georgia Environmental Protection Division
Branch Chief
Land Protection Branch
2 Martin Luther King Jr. Drive SE
Suite 1154 East Tower
Atlanta, GA 30334

AGL Resources, Inc.
Attn: Executive Vice President and General Counsel
Ten Peachtree Place
Atlanta, GA 30309

Grantor has caused this Environmental Covenant to be executed pursuant to The Georgia Uniform Environmental Covenants Act, on the _____ day of _____, 20___.

City of Rome

_____
[Name of Signatory]
[Title]

Dated: _____

Atlanta Gas Light Company

_____
[Name of Person Acknowledging Receipt]
[Title]

Dated: _____

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STATE OF GEORGIA
ENVIRONMENTAL PROTECTION DIVISION

_____
[Name of Person Acknowledging Receipt]
[Title]

Dated: _____

[INDIVIDUAL ACKNOWLEDGMENT]

STATE OF _____
COUNTY OF _____

On this ___ day of _____ , 20__, I certify that _____personally appeared before me, and acknowledged that **he/she** is the individual described herein and who executed the within and foregoing instrument and signed the same at **his/her** free and voluntary act and deed for the uses and purposes therein mentioned.

_____
Notary Public in and for the State of Georgia, residing at _____.
My appointment expires_____.

[CORPORATE ACKNOWLEDGMENT]

STATE OF _____
COUNTY OF _____

On this _____ day of _____, 20__, I certify that _____personally appeared before me, acknowledged that **he/she** is the of the corporation that executed the within and foregoing instrument, and signed said instrument by free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that **he/she** was authorized to execute said instrument for said corporation.

_____
Notary Public in and for the State of Georgia, residing at _____.
My appointment expires_____.

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[REPRESENTATIVE ACKNOWLEDGEMENT]

STATE OF _____
COUNTY OF _____

On this ____ day of _____, 20__, I certify that _____personally appeared before me, acknowledged that **he/she** signed this instrument, on oath stated that **he/she** was authorized to execute this instrument, and acknowledged it as the _____ [type of authority] of _____ [name of party being represented] to be the free and voluntary act and deed of such party for the uses and purposes mentioned in the instrument.

_____
Notary Public in and for the State of Georgia, residing at _____.
My appointment expires _____.

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Exhibit A
Legal Description