AECOM

Environment

Prepared for:
Atlanta Gas Light Company
Atlanta, Georgia

Prepared by:
AECOM
Atlanta, Georgia
60159368.521
May 2011

Voluntary Remediation Plan

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia
HSI #10109

AECOM Environment

Prepared for:
Atlanta Gas Light Company
Atlanta, Georgia

Prepared by:
AECOM
Atlanta, Georgia
60159368.521
May 2011

Voluntary Remediation Plan

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia
HSI #10109

Reviewed By: John Jolly, P.G.
Senior Project Manager

for
Prepared By: Laura Trozzolo
Risk Assessor

Prepared By: Mark Westray
Senior Technical Reviewer

Professional Geologist Certification

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

John D. Jolly, P.G
Registered Professional Geologist
Georgia Registration #1817

Electronic Copy Certification

"I certify that the Voluntary Remediation Plan, Former Manufactured Gas Plant Site, Rome, Georgia, HSI #10109 electronic copy of this report, included herein, is complete, identical to the paper copy, and virus free."

John Jolly
Project Manager

Contents

List of Appendices

List of Tables

List of Figures

List of Acronyms

µg/L	micrograms per liter
µg/mg	micrograms per milligram
$\mu g/m^3$	micrograms per cubic meter
AGLC	Atlanta Gas Light Company
AS/SVE	air sparging/soil vapor extraction
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BPLM	by-product-like material
BTEX	benzene, ethylbenzene, toluene, and xylenes
CAP	Corrective Action Plan
cm	centimeters
cm/sec	centimeters per second
COI	constituents of interest
CSF	cancer slope factor
CSM	Conceptual Site Model
CSR	Compliance Status Report
EF	Exposure Frequency
EPC	Exposure Point Concentration
EPD	Georgia Environmental Protection Division
FFS	Focused Feasibility Study
ft	feet
ft/day	feet per day
ft/ft	feet per foot
ft/yr	feet per year

gpm	gallons per minute
HEAST	Health Effects Assessment Summary Table
HHRA	Human Health Risk Assessment
HSRA	Hazardous Sites Response Act
IRIS	Integrated Risk Information System
ISCO	*in situ* chemical oxidation
iSOC®	*in situ* oxygen curtain
J&E	Johnson and Ettinger
kg	kilograms
m^3	cubic meters
m^3/day	cubic meters per day
MDC	maximum detected concentration
mg/Kg	milligrams per kilogram
mg/kg/day	milligrams per kilogram per day
mg/L	milligrams per liter
MGP	Manufactured Gas Plant
MNA	monitored natural attenuation
MRLs	minimal risk levels
NCEA	National Center for Environmental Assessment
NWI	National Wetland Inventory
O&M	Operations and Maintenance
ORD	Office of Research and Development
OU	Operable Unit
PAHs	polycyclic aromatic hydrocarbons
POD	Point of Demonstration

POTW	publicly owned treatment works
PPRTVs	Provisional Peer Reviewed Toxicity Values
r_{crack}	crack width
RETEC	Remediation Technologies, Inc.
RfD	reference dose
RI	Remedial Investigation
ROW	right-of-way
RRS	risk reduction standards
RSL	Regional Screening Level
SLM	slag-like material
SVOCs	semivolatile organic compounds
THI	target hazard index
TRL	target risk level
UCL	upper confidence limit
URF	unit risk factor
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VOCs	volatile organic compounds
VRP	Voluntary Remediation Plan
VRPA	Voluntary Remediation Program Act

1.0 Introduction

1.1 Over view

The Rome former Manufactured Gas Plant (MGP) site (Site) is located on West 1st Street in the City of Rome, Floyd County, Georgia (Figure 1-1). In accordance with the Georgia Hazardous Sites Response Act (HSRA), the definition of the Site includes all properties affected by the release of MGP materials which consists of ten parcels, six of which were formerly owned by the Atlanta Gas Light Company (AGLC). Currently, the parcels belong to the City of Rome, the County, and private landowners. MGP operations were conducted primarily on a 20,000-square-foot parcel (Parcel 3) located in the center of the Site, northwest of 1st Street. A former Central of Georgia Railroad right-of-way (ROW) runs from the northeast to the southwest throughout the Site. The bank of the Oostanaula River forms the northwest boundary of the Site. The approximate site boundary and parcel locations are shown on the Parcel Location Map (checklist item #3) (Figure 1-2). For the purposes of consistency with previous documents submitted for this Site, this document will use the original parcel numbering system used during initial parcel certification. Since that time, the parcel numbering system has been reorganized as shown on Figure 1-2.

In compliance with Consent Order #EPD-HSR-091, which AGLC signed with the Georgia Department of Natural Resources, Environmental Protection Division (EPD) in May 2000, AGLC has completed extensive environmental investigations and remedial actions at the Site. AGLC and its consultants have submitted numerous documents to EPD presenting the investigation results to fully characterize the geologic and hydrogeologic conditions at the Site and to assess the presence, concentrations, and limits of facility releases of MGP constituents to Site soils, groundwater, surface water, and sediments. Routine groundwater monitoring reports are currently submitted on a semiannual basis.

Soil remediation at the Site was conducted in phases between 1999 and 2003 and resulted in the removal of approximately 57,000 tons of impacted soil and debris. Subsequently, the Compliance Status Report (CSR) concluded that the parcels associated with the Site were in compliance with the calculated Type 4 Risk Reduction Standards (RRS) for Site MGP constituents of interest (COI) (RETEC 2001). Remedial activities to address impacted river sediments were conducted in 2001 and consisted of the removal of 143 tons of sediments, followed in 2008 with the placement of stone to prevent scouring (RETEC 2002). Consequently, groundwater has been the remaining environmental medium for which compliance with the previously calculated Type 4 RRS has not been demonstrated.

The current corrective action for groundwater at the Site is monitored natural attenuation (MNA) in accordance with the Corrective Action Plan (CAP) submitted in December 2000 (ThermoRetec 2000c), revised in April 2001 (ThermoRetec 2001), and approved in June of 2001. During the period of post-remediation groundwater monitoring, only two monitoring wells (MW-404R and MW-504) have exhibited dissolved constituent concentrations exceeding the Type 4 RRS for groundwater. While the monitoring data have demonstrated that MNA is reducing concentrations of dissolved MGP constituents and effectively limiting constituent migration, AGLC has continued to evaluate potentially applicable remedial alternatives to address MGP-related residuals in the subsurface with the objective of reducing the time to achieve groundwater RRS. A Focused Feasibility Study (FFS) was submitted in December 2009, which concluded that more aggressive remedial measures were likely to be ineffective or infeasible due to the proximity of structures, roadways, and utilities; therefore, MNA provides appropriate and effective protection of human health and the environment (AECOM 2009b).

In its response to the FFS dated March 15, 2010, EPD recommended that AGLC pursue one of three potential courses of action, one of which consisted of submitting "…an application proposing site-specific RRS pursuant to the Voluntary Remediation Program Act." As a result, AGLC and AECOM submitted a Voluntary Remediation Plan (VRP) and associated Voluntary Remediation Plan Application Form and Checklist on September 3, 2010 to formally request admission of the Site into the Voluntary Remediation Program. In its letter to AGLC dated March 14, 2011, EPD provided a number of comments on the original VRP application package. Consequently, AGLC is submitting this revised VRP application package to address those comments.

This VRP is organized in five sections. Following this introduction, Section 2 provides a summary of environmental conditions at the Site, including a review of previously completed environmental investigations and remedial actions, identification of current contaminant distributions in soils and groundwater, and description of contaminant fate and transport mechanisms. Section 2 also provides an updated human health risk assessment (HHRA) based on current Site conditions and recalculation of applicable, site-specific Type 4 RRS. Section 3 presents the proposed remediation plan. Section 4 identifies the anticipated remediation plan implementation schedule, and Section 5 lists the references cited in this document.

1.2 Qualifying Property

The qualifying properties included in this VRP application include:

- Parcels owned by Battey Downtown LLC (Parcel numbers J14D 020, 021, 022, 023, and 024)
- Parcel owned by Floyd County (Parcel number J14D 018)
- Parcels jointly owned by Floyd County and the City of Rome (Parcel number J14D 020A)
- Parcels owned by the City of Rome (Parcel number J14D 019 and 025)
- City of Rome ROW of West 1st Street between 2nd Avenue and 3rd Avenue (does not have a Parcel identification number)

Qualifying property details are included in the VRP Application Form and Checklist in Appendix A. The Warranty Deed (checklist item #2) is included in Appendix B. A Georgia Professional Land Surveyor (Donaldson, Garrett, & Associates, Inc.) was contracted to survey the West 1st Street roadway and ROW for inclusion as a qualifying property in the VRP Application. This stamped survey is included as Appendix C.

1.3 Qualify ing Applicant

AGLC is considered the qualified applicant and has secured written consent to enroll the parcels solely owned by Battey Downtown LLC and the City of Rome in the VRP. AGLC is currently coordinating with the Rome-Floyd County Development Authority for enrollment of Parcels J14D 018 and J14D 020A and expects to receive written approval to enroll these parcels in the VRP in May 2011. Qualifying applicant information is included in the VRP Application Form and Checklist in Appendix A.

2.0 Current Environmental Information

2.1 Site History

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

Historical MGP operations and associated structures were primarily located on Parcel 3. The aboveground structures were removed from the Site between 1930 and 1941. In 1985, during the redevelopment of the Rivers Place Shopping Center near the former MGP property, workers uncovered a subsurface gas holder. This gas holder was subsequently investigated and remediated under the direction of the United States Environmental Protection Agency (USEPA). Items in Section 2.0 apply to item 5 on the Voluntary Remediation Plan Form Checklist.

2.2 History of Environmental Investigations

Extensive environmental investigations have been completed at the Site from 1986 to 2007 to characterize Site geologic and hydrogeologic conditions, and to evaluate impacts to soils and groundwater resulting from MGP process residuals. A Consent Order (#EPD-HSR-227) was signed by AGLC and EPD in May 2000 which specified required actions and schedules for subsequent investigations, work plans, and remedial actions. A detailed timeline of investigation and remediation activities, along with associated document submittals and regulatory correspondence, is provided as Table 2-1. Figure 2-1 (checklist item #5.a.) shows the locations of all soil borings and monitoring wells that have been used to characterize environmental conditions during the Site's investigative history.

After remediation of the gas holder in 1985, a preliminary site reconnaissance was conducted by Law Environmental, Inc. (now MACTEC) in 1986, and the USEPA determined that no further remedial action would be planned for the facility. Subsequently, however, a preliminary assessment (1991) and a site investigation (1992) were performed by Law (Law 1991 and 1992). Additionally, a Remedial Investigation (RI) was conducted at the Site in 1996 by Law and Remediation Technologies, Inc. (RETEC, now AECOM) and a RI/CSR was completed in 1997 (RETEC/Law 1997). Additional investigations to supplement the CSR and aid in the development of a CAP were performed from 1997 through 1999. These investigations included the exploration of subsurface soils, groundwater monitoring well installation, human and ecological receptor studies and risk assessments, and extensive sampling and analysis of groundwater, river water, surface and subsurface soil, and river sediments.

The results of these site investigations indicated that the highest concentrations of MGP constituents were limited to a 0.5-acre area near the center of the former MGP facility and consisted of volatile organic compounds (VOCs), primarily benzene, ethylbenzene, toluene, and xylenes (BTEX); semivolatile organic compounds (SVOCs), predominantly methylated phenols and polycyclic aromatic hydrocarbons (PAHs); and metals and cyanide. Due to its commercial use, in accordance with HSRA, non-residential Type 4 RRS were developed for the Site. The Type 4 RRS were approved by EPD in a letter dated September 16, 1996. Comparison of soil and groundwater constituents detected during investigative activities to the Type 4 RRS indicated that certain PAHs and metals exceeded the applicable RRS in soil, and BTEX, methylphenols, naphthalene, certain metals, and cyanide exceeded the applicable RRS in groundwater. Additionally, evidence of impacts to river sediments was noted near the shoreline adjacent to the Site. Action levels for sediments were developed based on the results of human and ecological risk assessments and approved by the EPD. Only PAHs (total PAHs) exceeded the action level of 2.7 milligrams per kilogram (mg/Kg) in sediments. No VOCs or PAHs were detected in the surface water samples taken downstream of the Site. Barium was detected in downstream samples but at levels at or below the background (upstream) concentration. Historical soil and current groundwater data for the Site are presented in Tables 2-2 through 2-4, respectively.

In February 1999, the Site was divided into four Operable Units (OUs):

- OU#1 – unsaturated soil in 7 parcels, the former Central of Georgia (COG) Railroad ROW, and West 1st Street
- OU#2 – Oostanaula River
- OU#3 – unsaturated soil in the basements of the River Place building and under the attached office building
- OU#4 – Site groundwater

Subsequent to remedial actions at OU#1 and OU#2 in 1999 and 2000 (discussed below), a groundwater monitoring network was installed and post-remediation groundwater monitoring initiated in June 2000. Additional sediment sampling was performed by Williams Environmental and a Sediment Delineation Report was prepared indicating horizontal delineation of COI (MGP constituents of interest) in river sediment.

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 2007) 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 annual groundwater monitoring report submitted in December 2010 (ERM 2010).

In response to EPD's concern regarding the time frame calculated for COIs in groundwater to reach RRS through natural attenuation processes, additional site investigation activities were conducted in May and June 2007 as part of the FFS to identify and delineate soil impacts that may be acting as a continuing source of COI in groundwater. A total of 40 soil borings (SB-400 through SB439) were advanced in the saturated zone below soil removal areas in the vicinity of wells MW-404R and MW-504, and through the unsaturated zone within the utility corridor in the ROW and beneath West 1st Street. The investigation documented occasional observations of isolated, discontinuous instances of highly weathered BPLM in saturated zone soils beneath former excavation area adjacent to MW-404R and MW-504, and in unsaturated zone soils adjacent to West 1st Street. Residual impacts in the upper clayey units of the unsaturated zone were observed in a limited area (approximately 45 feet by 100 feet) at the southwest corner of the Site. These impacts were encountered as shallow as 7.5 feet below ground surface (bgs) and as deep as 18 feet bgs. The horizontal limits of these visual impacts are shown on Figure 2-2 (checklist item #5.a.). The vertical limits of residual impacts are indicated in cross sections (Figures 2-3 through 2-5 – checklist item #5.a.) and in the 2009 FFS report.

2.3 History of Remedial Actions

Under the direction of USEPA , the first remedial actions were conducted at the Site after discovery of the gas holder in 1985. Remedial actions included the removal of the coal tar sludge contained in the holder to the extent practicable, solidification of the remaining sludge with Pozzalime, and backfilling of the excavation.

2.3.1 Soil Remediation

Data from the RI/CSR, previous site investigations, and additional investigations conducted along the river bank were used to develop the lateral and vertical extent of soil impacts exceeding Type 4 RRS in the unsaturated zone of OU#1. The extent of excavation to the south-southeast of the Site was physically limited by the presence of West 1st Street and adjacent utility corridor. A CAP (ThermoRetec 1999) recommending excavation of impacts in unsaturated zone soils was submitted and approved by EPD in 1999. Soil removal activities were initiated in 1999 and completed in 2000. Impacted soils were excavated at depths ranging from 2 feet bgs to the groundwater table (>24 feet bgs) within the central portion of the Site. A total of 55,175 tons of non-hazardous soil and debris were excavated and disposed in an approved Subtitle D landfill. This remedial action successfully removed residual source material in the unsaturated zone consisting of tar-like material (TLM) and byproduct-like material (BPLM). A total of 90,000 gallons of groundwater and storm water runoff which had accumulated in the excavated areas were stored on-site, treated, and discharged to the City of Rome publicly owned treatment works (POTW). Soil confirmation samples were collected and results compared to the Type 4 RRS, and areas were over-excavated where required to meet RRS. Confirmation samples verified that all impacted soils in the unsaturated zone of OU#1 were removed and remaining soils were in compliance with the Type 4 RRS. Confirmation sample results for OU#1 are presented in Table 2-4 and final excavation areas/depths and sample locations are shown on Figure 2-6. A Soil Removal Completion Report for OU#1 (ThermoRetec 1999) was submitted to the EPD.

As indicated previously, unsaturated zone soils beneath the basement of the River Place Building were designated as OU#3. A CAP for OU#3 (ThermoRetec 2000b) was submitted and approved by EPD. Remedial actions were implemented in 2000 and consisted of demolition of the office building attached to River Place Building to provide access to impacted soils, and excavation and disposal of 1,520 tons of non-hazardous soil and 1,300 tons of debris, and confirmation sampling. Soil confirmation samples indicated that all areas of OU#3 were in compliance with Type 4 RRS. Confirmation sample results for OU#3 are presented in Table 2-4 and sample locations are shown on Figure 2-6. Remedial actions for OU#3 were documented in a Soil Removal Completion Report for OU#3 (ThermoRetec 2000c) and approved by the EPD on April 30, 2001. The September 2001 CSR concluded that “as a result of soil removal activities in July – September 1999, and August 2000, soil in parcels 1, 2, 3, 4, 5, 6, 7, and 8 are in compliance with the Type 4 RRS for soil (RETEC 2001).

During 2003 supplemental soil investigations, one Type 4 RRS exceedance was detected on the western portion of the COG ROW. Approximately 4 tons of soil and debris were excavated from the impacted area. A Soil Removal Completion Report for Soil Under the 2nd Avenue Bridge (RETEC 2004) was submitted and approved by EPD. Following these remedial actions, all portions of OU#1 were determined to be in compliance with the Type 4 RRS. OU#1 excavated areas and associated depths are shown in Figure 2-6.

2.3.2 Sedi ment Remediation

Sediment removal from the Oostanaula River was performed in October and November 2001. Suction dredging was used to remove 6 inches of impacted sediments from the river bed over an area measuring 140 feet by 25 feet. Dredging of the river bottom resulted in the removal of 142.82 tons of dredged sediment and impacted debris and 3,214 gallons of impacted solidified water. The approved CAP for River Sediments OU2 (ThermoRetec 2000) allowed impacts buried deeper within the sediment to remain in place. Laboratory analytical data from river water samples collected after the completion of sediment dredging and backfilling did not exhibit detectable concentrations of VOCs, SVOCs, PCBs, or pesticides. A Sediment Remediation Completion Report was submitted in August 2002 (RETEC 2002).

In 2008, approximately 114 tons of Grade 3 stone was placed to cap the river sediment in order to protect the current sediment cap from scouring. River water samples collected before, during, and after the completion of armoring activities were all non-detect for VOCs, SVOCs, PCBs, and pesticides. The Oostanaula River Scour Protection Placement Completion Report (ENSR 2008) was submitted and a survey of the capped sediment area was conducted in 2009, which showed that scouring since placement of the stone was insignificant (less than 0.5 foot). Consequently, the next survey will be conducted in 2012. If scouring is again shown to be less than 0.5 foot, then sediment remediation will be considered complete. In the event that unacceptable scouring of the sediment cap is detected and requires additional armoring, surface water quality monitoring will be conducted in conjunction with the armoring activities. This monitoring will consist of the following:

- Baseline sampling of the river will be conducted prior to initiation of armoring activities. Surface water samples will be collected from locations upstream of the sediment cap, within the capped area, and downstream of the capped area. Samples will be analyzed for VOCs, SVOCs, and target analyte list (TAL) metals.
- Samples will be collected from the same locations during armoring, and following the completion of armoring, and submitted for analyses of the same constituents analyzed during baseline.

The area of sediment dredging and capping is shown in Figure 2-1.

2.3.3 Grou ndwater Remediation

Groundwater at the Rome MGP site was defined as OU#4. A number of remedial strategies were evaluated for groundwater corrective action. Based on the small size of the plume exceeding Type 4 RRS, the lack of groundwater receptors for drinking water use, the existence of institutional controls, and geochemical parameters which indicate the occurrence of intrinsic attenuation processes, MNA was considered the appropriate corrective action for site groundwater. This strategy was presented to the EPD in the September 2000 Groundwater CAP (ThermoRetec 2000c). EPD rejected the use of MNA as the remedial strategy, based on the likelihood of more rapid remediation at a nominally higher cost using air sparging/soil vapor extraction (AS/SVE). The CAP was revised to recommend AS/SVE, re-submitted, and approved by EPD in December of 2000. However, a pilot study performed in 2001 indicated that due to a thinner than anticipated saturated zone, which resulted in a significantly decreased radius of influence of the AS wells, AS/SVE was not a practical remedial option for the Site. Additionally, the imminent construction of a parking garage directly over a significant portion of the plume presented logistical and engineering constraints on the installation and operation of the AS/SVE system. Based on these factors and a review of additional post-excavation groundwater monitoring data presented in the First Annual Groundwater Monitoring Report (ThermoRetec 2001a), MNA was again recommended and a CAP Addendum (ThermoRetec 2001b) was submitted and approved by EPD in June 2001.

Subsequent to the additional soil boring investigation conducted in 2007, remedial alternatives were again evaluated to address EPD's concerns regarding the time for to COI in groundwater to reach RRS. Evaluated remedial alternatives included *in situ* chemical oxidation (ISCO) using persulfate or permanganate, enhancing the rate of biodegradation via the delivery of oxygen using oxygen release compounds or diffusers, and continued MNA. The evaluation concluded that MNA was still the best remedial option for the Rome site under the HSRA program based on the limited probability of remediating all source material (since the locations of all source materials could not be precisely known, and portions of source material were likely to be inaccessible) and over seven years of monitoring data showing MNA to be effective in limiting COI migration and being protective of human health and the environment. The results of the evaluation were reported in the 2007 Annual Groundwater Report. EPD rejected the MNA recommendation in a letter dated December 14, 2007. Therefore, an alternative recommendation was made to conduct a 6-month pilot study evaluating the technical feasibility of enhancing bioremediation through the use of *in situ* oxygen curtain (iSOC®) technology. EPD agreed with this recommendation and AGLC submitted a pilot test work plan to EPD in May 2008 (ENSR 2008). The Pilot Test Completion Report submitted to EPD in April 2009 (AECOM 2009a) stated that while the data provided some evidence of successful DO transport and establishment of more favorable geochemical conditions, the effect on COI concentrations was not consistent, and the results did not conclusively demonstrate the effectiveness of the iSOC® approach for reducing the time to reach groundwater RRS.

EPD responded to the Pilot Test Completion Report in its letter dated July 21, 2009, which recommended the evaluation of *in situ* ozonation as a potentially applicable remedial approach. In response to this letter and subsequent meetings between EPD and AGLC, AECOM developed the FFS letter report dated December 11, 2009 (AECOM 2009b). This feasibility study evaluated a set of remedial alternatives, which included:

- MNA
- ISCO using ozone injection
- Enhanced aerobic biodegradation with oxygen sparging
- Hydraulic/pneumatic fracturing with ISCO
- Deep soil mixing with solidification
- Saturated zone excavation with sloping/shoring and dewatering

The FFS concluded that aggressive *in situ* remedial approaches were very unlikely to be more effective than MNA due to the complexity of subsurface geologic conditions and the discontinuous distributions of MGP residuals. Remedial approaches based on physical removal or mechanical mixing were determined to be highly disruptive to adjacent structures, utilities, and roadways and would be unacceptable to the surrounding community. The nine-year history of post-remediation groundwater monitoring data demonstrated that the plume of dissolved COI is stable, affecting only two monitoring wells, with evidence of declining concentration trends, and is limited to a small area (less than 3,000 square feet) beneath the southern portion of the Parcel 3 parking lot and West 1st Street posing no risk to human or ecological receptors. On the basis of the evaluations presented in the FFS, it was concluded that MNA provides appropriate and cost-effective protection of human health and the environment, and that technically feasible, more aggressive remedial alternatives are unlikely to achieve Type 4 RRS within a significantly shorter time frame.

In its March 15, 2010 letter responding to the FFS, EPD indicated that it did not concur with the continued implementation of MNA as the sole groundwater remedy, but recommended selection of one of three alternative courses of action, which included proposing site-specific RRS in an application to the Voluntary Remediation Program. Consequently, that is the path elected to follow through submission of this VRP and application. The HHRA and calculation of site-specific RRS are presented in Section 2.5.

2.4 Conceptual Site Model

A conceptual site model (CSM) provides a framework for understanding the site-specific characteristics that will be integral to developing appropriate strategies for site remediation and management (checklist item #5.a.). These characteristics typically include the types of environmental media impacted by such releases; the geologic, hydrogeologic, chemical, and biological factors influencing the fate and transport of the released chemical MGP constituents within the environment; and the human and ecological receptors potentially affected by the releases. Since contaminants may migrate vertically as well as horizontally from the location of the release(s), it is important to characterize site conditions in three dimensions. The CSM also helps to identify the relative significance of site conditions that must be considered in evaluating potentially applicable remedial solutions. This section summarizes the information developed from the phases of investigations and remediation at the former Rome MGP site and which collectively constitute the CSM. Identification of potential receptors is discussed in Section 2.5, Human and Ecological Risk Assessment.

2.4.1 Surficial Site Setting

The Site is generally flat and occupied by buildings, paved parking lots, and a parking garage (Figure 2-7 – checklist item #5.c.). The Site is bounded by 2nd Avenue to the west, 3rd Avenue to the east, West 1st Street to the south, and the Oostanaula River to the north. A Hawthorne Suites hotel occupies the westernmost portion of the Site (Parcel 5), while commercial/retail buildings and paved parking lots are located immediately south of West 1st Street. The area of historical MGP operations is completely covered with asphalt paving.

2.4.2 Geology and Hydrogeology

2.4.2.1 Summary of Regional and Site Geologic Conditions

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 and both are located within a mile of the Site (Cressler 1970). The fault zones appear to be healed, and probably either offer no avenue for groundwater movement or act as a barrier to it (Cressler 1970).

Formations present in the Rome area include (Cressler 1970 and USGS 1992):

- Lavender Shale member of the Fort Payne Chert (Mississippian-age) consisting of massively bedded mudstone, shale, and impure limestone
- Fort Payne Chert (Mississippian-age) consisting of thinly bedded chert with thin accumulations of silt and clay
- Armuchee Chert (Devonian-age) consisting of sandy, ferruginous, thinly bedded chert
- Knox Group (Cambrian and Ordivician-age) consisting of a thickly- to massively-bedded cherty dolomite bedrock with some limestone and a thick chert and clay residuum

- Conasauga Formation (Eastern Belt) consisting of thickly bedded limestone and shale
- Conasauga Formation (Western Belt) consisting 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
- Rome Formation (Cambrian-age) consisting of 500 to 1,000 feet of interbedded shale, siltstone, sandstone, and quartzite

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 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. 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.

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 2-2 presents the location map for cross sections A-A', B-B', and C-C'. Geologic cross sections depicting the current Site geology and hydrogeological conditions beneath the Site are presented in Figures 2-3 through 2-5, respectively.

2.4.2.2 Summary of Regional and Site Hydrogeologic Conditions

Regionally, formations present in the Rome area provide storage capacity for groundwater within bedrock fractures and joints. Groundwater within the Lavender Shale occurs mainly in joints and generally yields less than 10 gallons per minute (gpm), though no well depth information is available since the Lavender Shale member is not widely used as an aquifer. The Fort Payne Chert and the Armuchee Chert constitute one hydrologic unit in west-central Floyd County. Wells in this unit commonly derive water from both formations and yields range from 5 to 50 gpm in wells usually less than 150 feet deep, with yields of up to 100 gpm possible (Cressler 1970). Bedrock wells in the Knox Group are usually approximately 160 feet deep and yield 5 to 80 gpm. Wells completed in the residuum of this formation yield from 1 to 15 gpm. The Knox Group overlies the Eastern and Western Belts of the Conasauga Formation (Cressler 1970). The average well depth in the Eastern Belt is 120 feet and yields range from 2 to 25 gpm. Well depths in the Western Belt range from 100 to 175 feet with similar yields ranging from 3 to 20 gpm (Cressler 1970). Groundwater wells in the Rome Formation range from 80 to 140 feet deep, and well yields average 5 to 10 gpm (Cressler 1970).

Shallow groundwater beneath the Rome former MGP site exists under water table conditions. 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 and additional investigations indicate that, as would be expected, wells located closest to the river respond 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 general direction of shallow groundwater flow at the Site is shown on Figure 2-8 and Figure 2-9.

The siltstone unit located beneath the siliceous gravel layer is believed to act as a semi-confining unit, inhibiting but not preventing vertical groundwater flow. A limestone bedrock unit underlies the siltstone and groundwater has been observed to exist within both of these lithologic formations. Fracturing, jointing, and iron staining were observed in the rock cores retrieved from the Site, indicating the potential for movement of groundwater within the bedrock underlying the Site. During the RI/CSR, downward vertical gradients of 0.09 to 0.23 feet per foot (ft/ft) were measured between the uppermost and deeper water bearing zones at well pair MW-9A/MW-9B and former wells PZ-01/MW-6A. Groundwater elevations recorded during sampling events performed in April 2010 and October 2010 were used to confirm the vertical gradients using existing site wells (MW-9A/MW-9B, MW-402A/MW-402B, MW-403A/MW-403B, and MW-406A/MW-406B). Vertical gradients calculated at existing well pairs were very similar, ranging from 0.06 ft/ft at MW-406A/B adjacent to the river to 0.27 ft/ft in the deepest well pair MW-403A/B. 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.

In general, the horizontal gradient within the shallow aquifer averages approximately 0.0142 ft/ft across the Site and steepens toward the river. Slug tests conducted during the RI indicate hydraulic conductivity in this uppermost hydrogeologic zone generally ranges from approximately $7x10^{-5}$ to $4x10^{-6}$ centimeters per second (cm/sec). Assuming an average hydraulic conductivity of $3.9x10^{-5}$ cm/sec (0.11 ft/day) and an effective porosity of 0.25, the groundwater seepage velocity of the shallow aquifer is calculated at approximately 2.3 feet per year (ft/yr). According to the CSR (RETEC 2004), a slug test performed on shallow well MW-404 (which was replaced by MW-404R in October 2002) indicated a much higher hydraulic conductivity estimated at $1x10^{-3}$ cm/sec. The deeper water-bearing zones located beneath the siltstone also exhibit a higher hydraulic conductivity ranging from approximately $2x10^{-3}$ to $2x10^{-4}$ cm/sec.

2.4.3 Existing Contaminant Distributions in Soils

Table 2-5 provides a list of regulated constituents detected in existing soil during the completed investigation activities at the Site. Soil in the vadose zone containing concentrations of these constituents above the remediation cleanup standard (Type 4 RRS) have been removed, where feasible, and data from confirmation sampling have demonstrated that the horizontal and vertical extent of soil impacts appear to be delineated. Qualifying parcels containing unsaturated zone soils below the Type 4 RRS include historical Parcel IDs 1, 2, 3, 3A, 4, 5, 6, 7, and 8.

The results of additional post-remediation soil investigation activities indicated limited instances of MGP process residuals in the saturated zone beneath former excavation areas of the Site and in unsaturated soils adjacent to and below West 1st Street. These residuals appear to exist as discontinuous stringers and staining in saturated soils in the vicinity of impacted wells MW-404R and MW504 and are likely contributing to the dissolved COI concentrations at these locations. These impacts will be addressed as part of the selected and approved groundwater remedy for the Site. Residual impacts above the Type 4 RRS in the unsaturated zone soil located beneath West 1st Street and adjacent utility corridor will remain in place due to inaccessibility associated with the proximity of sensitive utilities and the roadway. These soil impacts (designated as Type 5 RRS) will be incorporated into the VRP as part of the qualifying parcel for the City of Rome ROW (West 1st Street ROW and the utility corridor).

Table 2-5 (checklist item #5.b.) identifies detected regulated constituents and the current COI for both soil and groundwater at the Site as well as applicable Delineation Standards for non-restrictive use. Constituents identified in existing soil samples at concentrations above the 12-8-108(B) Notification Concentrations are also identified in Table 2-5; however, these concentrations may be below the applicable cleanup standard.

2.4.4 Existing Contaminant Distributions in Groundwater

Post-remediation groundwater monitoring was initiated in June 2000. In 2001, HSRA Type 4 RRS exceedances were reported for benzene, toluene, naphthalene, 2-methylphenol, 4-methylphenol, 2,4-dimethylphenol, arsenic, lead, and thallium. By 2007, only benzene and naphthalene exceed the Type 4 RRS in two wells located on the former MGP facility (wells MW-404R and MW-504). Cyanide has been sporadically detected in some of the wells at concentrations well below the Type 4 (and Type 1) RRS. However, April 2010 data show cyanide concentrations reported for well MW-504 above the Type 1 RRS. At well MW-404R, benzene concentrations have ranged from 11,500 micrograms per liter (µg/L) (October 3, 2003) to 19.2 µg/L (October 15, 2008). Naphthalene concentrations at MW-404R have ranged from 1,900 µg/L (April 4, 2004) to 5 µg/L (October 15, 2008). At MW-504, benzene concentrations have ranged from 4,100 µg/L (October 3, 2003) to 44 µg/L (October 1, 2009), while naphthalene concentrations have ranged from 1,800 µg/L (October 3, 2003) to 18 µg/L (October 1, 2009). Despite these fluctuations, the plume geometry has been very consistent during the monitoring period and there has been no evidence of off-site migration, or migration to downgradient wells. Recent, representative groundwater data are provided in Table 2-3, and Figures 2-10 and 2-11 show the extent of the dissolved benzene and naphthalene plumes, respectively, as determined from the April 2010 groundwater monitoring data (it is noted that a semiannual groundwater sampling event was conducted in October 2010, after submission of the original VRP application; however, the data are comparable to the April 2010 data, and therefore the April 2010 are representative of current groundwater conditions). These data demonstrate that dissolved COI in groundwater have been delineated relative to the Delineation Standards summarized in Table 2-5.

Groundwater geochemical parameters have consistently shown strong evidence of intrinsic biodegradation of organics via iron reduction and methanogenesis. A statistical trend analysis was completed for benzene and naphthalene at MW-404R and MW-504. Since groundwater monitoring data commonly show considerable fluctuation over time, the objective of the trend analysis is to evaluate whether the data exhibit statistically significant upward or downward trends in COI concentrations. In addition, groundwater levels at these wells for each monitoring event were also evaluated to determine if there is evidence that changes in groundwater elevations correspond to changes in COI concentrations. Statistical analysis of the monitoring data from these wells indicates a significant decreasing concentration trend for benzene and naphthalene in MW-404R and in MW-504 during the period from April 2003 through October 2009 (AECOM 2009b). Figures 2-12 and 2-13 show the trends in benzene and naphthalene concentrations during the period of post-remediation groundwater monitoring.

2.4.5 Existing Contaminant Distributions in Sediment

As discussed in Section 2.3.2, dredging of contaminated sediments in the Oostanaula River was performed in the fall of 2001. In accordance with the approved CAP for River Sediments OU2 (ThermoRetec 2000), sediment impacts above cleanup criteria located beneath the dredged depth were allowed to remain in place and are currently designated as Type 5 RRS areas. The area of sediment dredging and capping is shown in Figure 2-1. A sand cap was placed over the impacted sediments, and in 2008 the cap was armored with stone to prevent scouring of the cap. Periodic surveys of the river bottom are performed to ensure that scouring of the river bottom is not eroding the sediment cap. The next survey will be conducted in 2012.

2.4.6 Existing Contaminant Distributions in Surface Water

Surface water samples from the Oostanaula River have been collected for laboratory analyses on several occasions. prior to, and during, the dredging of river sediments in 2001, and during the armoring of the sediment cap in 2008. None of the samples exhibited detectable concentrations of regulated constituents. Consequently, there is no evidence that residual MGP-related impacts in the capped sediments are affecting surface water quality.

2.4.7 Contaminant Fate and Transport Mechanisms

Potentially significant fate and transport mechanisms for impacted soil and groundwater at the Site were reviewed to determine those that are likely to influence contaminant migration and exposure to potential receptors during future Site use based on existing site conditions. The mechanisms affecting the fate and transport of contaminants present in soil and groundwater are summarized below.

2.4.7.1 Contaminant Fate and Transport Mechanisms in Soil

MGP constituents present in soil may be subject to several fate and transport processes which include: (1) intrinsic biodegradation (for organic constituents); (2) movement with soil particles by wind and water; (3) volatilization; and (4) leaching to groundwater through infiltration. Since the completed remedial actions have addressed impacted unsaturated zone soils with COI exceeding the previously calculated Type 4 RRS, the potential for the spread of contaminants due to erosion by wind or water is insignificant. Leaching of residual contaminants to groundwater may potentially occur and will be affected by: (1) intrinsic biodegradation processes for organic constituents; (2) rate of precipitation infiltration as affected by the soil type and any soil cover such as asphalt; (3) the chemical and physical nature of the soils and contaminants; (4) the potential for fluctuations in the water table to access MGP constituents generally in the unsaturated zone; and (5) concentration of COIs in the soil. The removal of impacted soils and subsequent paving of most of the impacted area has significantly reduced the potential for leaching to groundwater and for direct contact with residual contamination. It is evident that isolated zones of MGP residuals are present within the ROW of West 1st Street and associated utility corridor which apparently result in the elevated concentrations of benzene and naphthalene that are detected in the groundwater at monitoring wells MW-404R and MW-504.

Nevertheless, the combined effect of the removal of most of the contaminant mass and natural biodegradation processes is resulting in decreasing concentration trends and is limiting dissolved constituent migration. However, benzene and naphthalene are relatively volatile and the migration of contaminant vapors and their potential intrusion into enclosed indoor air spaces is a possible transport mechanism that will be considered in subsequent risk evaluation.

2.4.7.2 Contaminant Fate and Transport Mechanisms in Groundwater

The fate and transport of MGP constituents in groundwater are primarily functions of the chemical characteristics of the specific COI, groundwater flow direction, depth to groundwater, and groundwater flow rates. Advective transport (i.e., transport due to groundwater flow) is influenced by several factors such as: (1) hydraulic gradient (horizontal and vertical); (2) hydraulic conductivity; (3) porosity of the formation materials; (4) potential fracturing or preferential flow pathways; and (5) intrinsic biodegradation processes. The organic constituents associated with MGP residuals are susceptible to aerobic and anaerobic biodegradation processes that can act to reduce contaminant mass and limit dissolved constituent transport. VOCs such as benzene are relatively water soluble and therefore may migrate further from source areas compared to PAHs, which are much less soluble and tend to adsorb tightly to soil particles. As documented in previous groundwater monitoring events and reported in the April 2010 Semi-Annual Groundwater Monitoring Report (ERM 2010), and summarized in the 2009 FFS (AECOM 2009b), analysis of MNA indicator parameters suggests that naturally occurring anaerobic biodegradation processes, specifically iron reduction and methanogenesis, are contributing to observed decreases in organic MGP constituents and continued plume stability. These data provide a compelling demonstration that natural biodegradation processes combined with a low groundwater seepage velocity are effectively preventing the downgradient migration of dissolved COI.

As described in this section and previously in Section 2.4.4, the existing post-remediation groundwater monitoring data has shown the dissolved COI plume to be stable or shrinking with no evidence of downgradient migration. In order to further evaluate the stability of the plume, a publically-available, predictive fate and transport model, Natural Attenuation Software (NAS), Version 2.3.3 (http://www.nas.cee.vt.edu/index.php) was utilized to model the characteristics of the plume in the future. A detailed description of the model, the input parameters, and the results, are provided in Appendix D. In brief, the downgradient extent of the dissolved constituent plume estimated by the model is diminishing over time and will not migrate to the Point of Demonstration (POD) wells (identified subsequently in Section 2.8) at any point in the future.

In addition to advective transport, volatile MGP constituents in groundwater may partition into the air-filled pore space of vadose zone soils and migrate in the vapor phase. Consequently, this is a transport mechanism that may potentially result in the intrusion of contaminant vapors into enclosed indoor air space, and which will be considered in the risk evaluation.

2.5 Human Health and Exposure Pathway Analysis

The HHRA was conducted to determine exposure pathways of concern and identify analytes requiring quantitative evaluation in order to determine site-specific Type 4 RRS protective of all complete exposure pathways in accordance with the Georgia EPD's guidance *Comparison of Existing Contamination to Risk Reduction Standards. 391-3-19-.07* (EPD 2010). The first step in the HHRA is the analysis of all potential exposure pathways by which receptors present at or near the Site may be exposed to site-related impacts. Therefore, the following section presents an exposure pathway analysis to determine complete exposure pathways which require quantitative evaluation in the HHRA.

2.5.1 Exp osure Pathway Analysis

The exposure pathway analysis is described in this section and presented using a risk assessment CSM for the Site (Figure 2-14). This CSM is used in the risk assessment process to link potential on-site contaminant sources with populations that may be exposed to the chemicals. Contaminant sources typically result from historical releases (through site operations), to exposure media. Evaluation of site sources is necessary to determine:

- The type of MGP constituents released and the location(s) of the release(s);
- The media that are potentially contaminated;
- The COI; and
- The distribution and concentrations of COI in each medium.

Therefore, the purpose of this CSM is to identify potential sources of COI in environmental media, migration routes for these COI, and potential human receptors and their associated potential exposure pathways. Once all complete exposure pathways are identified, Type 4 RRS values are calculated for each COI. The specific components of the CSM are discussed in greater detail below.

2.5.1.1 Potential Sources and Migration Pathways

Based on previous investigations at the Site, potentially impacted media at or near the Site include:

- Surface soils, 0-2 feet bgs;
- Unsaturated subsurface soils, 2-20 feet bgs;
- Groundwater; and
- Surface Water / Sediment of the Oostanaula River.

Potential migration routes associated with the impacted media discussed above include:

- Leaching from soil to groundwater through infiltration;
- Wind erosion/volatilization of soil particulates/volatiles into ambient air;
- Volatilization of subsurface soil and groundwater impacts into indoor air; and
- Lateral transport and discharge of groundwater impacts into surface water and sediment of the Oostanaula River.

2.5.1.2 Potential Receptors and Exposure Pathways

The Site is currently zoned for commercial/industrial purposes. Extensive soil remediation/ excavation was conducted from 1999 to 2003, which successfully removed MGP-related source material from the surface and subsurface where feasible, with the replacement of 20 to 25 feet of clean fill material. Discontinuous soil impacts remain beneath West 1st Street and within the adjacent on-site utility corridor to the north. Currently, the Site consists of several parcels, which are paved or occupied by building structures (e.g., retail buildings, hotel, parking structure, etc). Groundwater at the Site is not used as a drinking water source and future use of groundwater for drinking water is prohibited through the Site deed restriction.

Recreationalists may contact surface water and sediments at the Oostanaula River; however, as discussed in Section 2.7, historical analyses of river water samples has demonstrated that surface water quality has not been adversely affected by former MGP constituents. Impacted groundwater is contained on site and groundwater evaluation shows strong evidence of intrinsic biodegradation. Downgradient groundwater wells do not indicate any evidence of off-site migration toward the Oostanaula River, and the outer boundary of the dissolved constituent plume is more than 200 feet from the river; therefore, river media are not affected by potential discharge of groundwater constituents. In addition, former impacted sediments have been removed and remaining sediments have been capped.

Based on the Site conditions, the following potential receptors and exposure pathways have been identified for the Site:

- **Current / Future On-Site and Off-Site Construction/Excavation worker**.
  Construction/excavation workers could be exposed to surface and subsurface soil in the unsaturated zone while working in the utility corridors or beneath West 1st Street. This exposure pathway assumes that the worker would be directly exposed to soils via ingestion and inhalation of soil volatiles and particulates in accordance with the EPD (2010).

- **Current / Future On-Site and Off-Site Commercial/Industrial worker**.
  Indoor workers are exposed via inhalation of subsurface soil and groundwater volatiles emanating up through cracks in a building's foundation. Note, although current/future utility/excavation work may occur at the Site, short-term exposure to subsurface soil and/or groundwater during construction work would be insignificant due to the limited exposure frequency and duration associated with reasonably anticipated construction/excavation activities that are likely to occur. Therefore, long-term exposure (25 years) to vapors from subsurface soil and groundwater by the indoor worker was identified as the maximally-exposed receptor and is quantitatively evaluated in this report.

An exposure pathway analysis is presented in Table 2-6, which details exposure pathways for each receptor and provides justification for inclusion or exclusion from quantitative evaluation in the HHRA.

2.5.1.3 Exposure Pathways Eliminated from Further Consideration

Available site data and experience with risk assessment provide evidence that certain exposure pathways do not contribute significantly to risk at the Site. These pathways are identified and described in detail in Table 2-6. Elimination of these pathways does not significantly reduce the protectiveness of the risk assessment, as their contribution to cumulative risk, if any, is a minor component.

2.5.2 Selection of Human Health Constituents of Interest

The objective of defining COIs is to focus the HHRA on those chemicals of greatest concern for protection of human health under current and reasonably anticipated future uses. By using a screening process to eliminate chemicals that do not exceed safe levels, risk evaluations are focused, and further remedial evaluations are streamlined (USEPA 1989). Selection of a chemical as a COI does not necessarily mean that the chemical poses a concern to human health, but only that inclusion in the risk assessment is appropriate. However, the selection process is designed to be protective of human health, such that chemicals that are not retained as COI are not present at concentrations that present a threat to human health.

2.5.2.1 Screening Levels

EPD and USEPA screening levels for each media were used in the COI selection process. All screening values assume a cancer target risk level (TRL) of 1E-05 and a noncancer hazard quotient (HQ) of 1.0. All subsurface soil and groundwater screening values used in the COI selection process are described below.

- **Unsaturated Surface and Subsurface Soil – Direct Contact**. Type 1 RRS soil screening levels, as presented in EPD's *Comparison of Existing Contamination to Risk Reduction Standards. 391-3-19-.07* (EPD 2010) were compared against a subset of surface and subsurface soil data 0 to 20 feet bgs from sampling locations in the vicinity of existing utility corridors and West 1st Street. These soil sampling locations are summarized in Table 2-7 and were chosen if they were within 20 feet of either West 1st Street or any existing utility corridor in the area.
- **Unsaturated Subsurface Soil – Vapor Intrusion**. Soil screening levels protective of indoor air are not available in EPD guidance (EPD 2010) or USEPA's 2002 *Draft Guidance for Evaluating Vapor Intrusion from Subsurface Soil and Groundwater* (USEPA 2002). Therefore, all subsurface soil analytes that are detected and are considered volatile were identified as vapor intrusion COI.
- **Groundwater – Vapor Intrusion.** Groundwater screening levels protective of indoor air are available in USEPA's 2002 *Draft Guidance for Evaluating Vapor Intrusion from Subsurface Soil and Groundwater* (USEPA 2002). Although direct contact with groundwater is not considered a complete exposure pathway, EPD Type 3 RRS values, as presented in EPD's *Comparison of Existing Contamination to Risk Reduction Standards. 391-3-19-.07* (EPD 2010)*, were included in the scree*ning process for comparative purposes.

2.5.2.2 Comparison to Screening Levels

In accordance with EPD's *Comparison of Existing Contamination to Risk Reduction Standards.391-3-19-.07* (EPD 2010)*, the maximum detected concentration (MDC*) of MGP constituents in unsaturated soil and groundwater were compared to screening criteria described above and those chemicals detected at concentrations in excess of the screening criteria were retained as COI in the HHRA. Subsequently, MGP constituents present at concentrations below screening levels were eliminated from further evaluation. In addition, MGP constituents that were not detected were eliminated as COI. The results of the COI screening process are as follows:

- The selection process for construction/excavation worker surface and subsurface soil COI exposure by direct contact is presented in Table 2-8. A total of 20 chemicals were retained as COI for the construction/excavation worker direct contact exposure pathway to soils from 0 to 20 feet bgs in or near utility corridors and West 1st Street. As a result, site-specific Type 4 RRS values will be calculated for these 20 COI.
- The selection process for the indoor worker subsurface soil COI for vapor intrusion is presented in Table 2-9. A total of 19 chemicals were identified as unsaturated subsurface soil COI for soil from 2 to 20 feet bgs. As a result, a vapor intrusion evaluation of these COI will be conducted as part of this HHRA.
- The selection process for groundwater COI is presented in Table 2-10. A total of four chemicals (benzene, cyanide, methane, and naphthalene) were retained as groundwater COI for the vapor intrusion pathway, while four chemicals (benzene, cyanide, 2,4-dimethylphenol, and naphthalene) were identified as groundwater COI exceeding Type 1/3 RRS values. The

vapor intrusion groundwater COI will be further evaluated in the vapor intrusion evaluation, while the groundwater COI exceeding Type 1/3 RRS will be discussed further in the Risk Reduction Standards section.

2.5.2.3 Toxic ity Assessment

Toxic effects for non-carcinogenic chemicals are based on the reference dose (RfD). The oral RfD, in units of milligrams per kilogram per day (mg/kg/day), is an estimated daily dose of a chemical where no appreciable risk of chronic effects is expected to occur. Toxic effects for carcinogenic chemicals are based on the cancer slope factor (CSF). The oral CSF, in units of $(mg/kg/day)^{-1}$, is used to estimate an upper-bound lifetime probability of an individual developing cancer as a result of exposure to a particular chemical, and assumes that if any dose of a toxic substance increases one's risk for cancer, then every dose can increase the cancer risk in equal proportion. Because of the differing approaches, the risks associated with carcinogenic effects are generally much higher than those associated with the non-carcinogenic effects.

For inhalation exposure, USEPA defines the acceptable concentration for noncarcinogens as the verified RfC in units of mg/m^3. RfCs can be calculated for inhalation exposure by multiplying the inhalation RfDs by the average adult body weight (70 kg) and then dividing by the adult inhalation rate (20 m^3/day). For carcinogens, USEPA defines the acceptable concentration for inhalation exposure as the unit risk factor (URF) in units of micrograms per cubic meter $(\mu g/m^3)^{-1}$. In a process similar to RfCs, URFs can be calculated for inhalation exposure by multiplying the inhalation CSFs by the adult inhalation rate (20 m^3/day) and then dividing by average adult body weight (70 kg) and the conversion factor of 1,000 micrograms per milligram (µg/mg).

Recent guidance from USEPA (USEPA 2003) has reviewed and modified the preferred sources for toxicity data. This updated hierarchy has been incorporated into the risk assessment. It should be mentioned that the May 2010 update to the USEPA *Regional Screening Level (RSL) Table* (USEPA 2010a) has also adopted this hierarchy, and was used as the primary source for obtaining current toxicity values.

Toxicity data for HHRA now follows the following hierarchy:

1. USEPA Integrated Risk Information System (IRIS) (USEPA 2010b).

2. USEPA Provisional Peer Reviewed Toxicity Values (PPRTVs) developed by USEPA Office of Research and Development (ORD) and National Center for Environmental Assessment (NCEA). Current values for PPRTVs are not readily available. However, the current (November 2010) USEPA RSL table has incorporated these where appropriate, and was used as the source for this HHRA.

3. Other toxicity values: Agency for Toxic Substances and Disease Registry (ATSDR) minimal risk levels (MRLs), California Environmental Protection Agency / Office of Environmental Health Hazard Assessment peer reviewed toxicity data, and non-discontinued Health Effects Assessment Summary Table (HEAST) values.

Toxicity values for carcinogenic and non-carcinogenic COI are provided in Table 2-11 for COI specific to the construction/excavation worker, while Table 2-12 for COI specific to the vapor intrusion pathway.

2.5.2.4 COI without Available Toxicity Information

Toxicity information for many chemicals is often limited. Because quantitative toxicity data are one of the parameters required for risk calculation, risks cannot be calculated for those COI for which numerical toxicity data are not available, such as anthracene. This uncertainty may result in a slight to moderate underestimate of risk and will be discussed qualitatively in the uncertainty section of the risk assessment.

2.5.2.5 Current/Future On-Site and Off-Site Construction/Excavation Worker

Due to potential land disturbing activities in the utility corridors and beneath West 1st Street, a construction/excavation worker may be exposed to surface and subsurface soils down to 20 feet bgs via incidental ingestion and inhalation of soil particulates/volatiles generated from construction or excavation activities. Exposure assumptions related to this current/future construction/excavation worker are presented in Table 2-13.

One of the COI for the construction/excavation worker is lead. The EPA Technical Review Workgroup for Lead developed a biokinetic model for non-residential adult exposure to lead in soil (USEPA 2003a). This Adult Lead Model (ALM) was developed to address adults exposed to lead in soil and dust, assuming a minimum exposure frequency of 1 day per week for at least 3 to 4 months in duration (USEPA 2003b). These situations include adults working on a daily basis in occupations that involve lead exposures, or adults involved in construction or remediation activities at lead-contaminated sites. The model was developed to be protective of the most sensitive non-residential scenario, namely women of child-bearing age. This recommended approach for assessing nonresidential adult risk utilizes a methodology to relate soil and dust lead intake to blood lead concentrations in women of child-bearing age and is conceptually similar to a slope factor approach for deriving preliminary remediation goals (PRGs) proposed by Bowers et al. (1994) (USEPA 2003a). For the Site, the ALM was used to estimate Type 4 soil RRS values from lead exposure to construction/excavation workers. The ALM inputs and output, as well as EPA's algorithm to calculate a Type 4 RRS value for lead are presented in Table 2-14.

2.5.2.6 Current/Future On-Site and Off-Site Commercial/Industrial Worker

Several businesses are located immediately adjacent and within the Site, as presented in the Site Layout, Figure 2-1, including:

- the Hawthorne Suites hotel, a locally-owned franchise in a historic building;
- the parking garage located to the west of the Forum Civic Center; and
- several commercial and retail businesses located on Broad Street.

Therefore, current and future commercial/industrial workers who work indoors and may be exposed via inhalation of subsurface soil and groundwater volatiles emanating up through cracks in a building's foundation have been identified as receptors of concern.

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. The J&E model was used to calculate subsurface soil and groundwater Type 4 RRS that are protective of a current/future commercial/industrial worker breathing indoor air during the workday for a period of 25 years. It is generally recognized that the J&E model yields a highly conservative estimate of VOC migration into indoor air. The J&E model incorporates both site-specific and default input parameters. A detailed discussion of the J&E model, including the input parameters applied, is presented in Appendix E.

To evaluate this vapor intrusion pathway, two categories of indoor workers were identified, those who work at the hotel and those who work in the commercial/retail businesses on Broad Street. Exposure assumptions related to this current/future indoor worker are presented in Table 2-15. For vapor intrusion modeling purposes, an adjusted exposure frequency (EF) was calculated to account for a worker's inhalation rate and exposure time, which cannot be entered into USEPA's version of the J&E model. The USEPA version of the J&E model is designed to evaluate continuous exposure by a resident who spends 24 hours per day indoors and is assumed to breathe 20 m^3 of air per day. Therefore, to adjust the EF to account for the indoor worker's non-continuous exposure, the following equation was used:

$$EF_{adjusted\,C} = \frac{IR_{worker} \times ET_{worker}}{20m^3/day} \times EF_{worker} \qquad [1]$$

where:

$EF_{adjustedC}$ = Adjusted exposure frequency, days/yr (calculated)

IR_{worker} = Indoor worker inhalation rate, 0.83 m^3/hr (equivalent of 20 m^3/day)

ET_{worker} = Exposure time, 8 hr/day

EF_{worker} = Exposure frequency, 250 days/yr

Based on Equation [1], **an adjusted EF of 83.3 days per year** was calculated and input into the J&E model. This value is also presented in Table 2-15.

2.5.3 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 2009b). Site soils consist of shallow sand layer from the surface down to 8 feet 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 2004) as presented in Table 2-16.

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 centimeters (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 feet (ft) (488 cm), which encompasses all of Stratum A and a portion of Stratum B.

2.5.4 Bui Iding Parameters

As mentioned in Section 2.5.2.6, 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 (2,526 cm) and height of 36 ft (1,097 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 (1,981 cm), and height of 24 ft (731 cm), based on dimension presented in the Site Layout, Figure 2-1.

The Broad Street retail building assumes USEPA's default floor-wall seam crack width of 0.1 cm, as slab covers the entire basement floor; however, the hotel basement is approximately 25% dirt floor and 75% slab floor. The floor-wall seam crack width (r_{crack}) was estimated to account for this variation per Equation 16 of USEPA's *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings* (USEPA 2004) assuming a crack to total area ratio (η) of 0.25. The floor-wall seam crack width was adjusted over the entire building footprint to account for the area of open floor, where r_{crack} = 0.25 (total building area / total building perimeter) = 220 cm.

Where site-specific building information is not available, building properties were based on USEPA default values (USEPA 2004), including building enclosed space floor thickness, soil-building soil pressure differential, and soil vapor flux (Qsoil) values as shown in Table 2-16.

2.5.5 Calculation of Type 4 RRS Values

Risk characterization provides an integrated endpoint of the risk assessment process, identifying the nature and magnitude of a receptor's potential risk. Here, the toxicity information presented in the toxicity assessment is used with the relevant parameters of the exposure assessment to calculate Type 4 RRS values protective of human health effects associated with the applicable intake. Once calculated, Type 4 RRS values are compared against Site data to help identify which areas of the Site may require remedial action. It is noted that Type 4 RRS have been calculated since construction of residential dwellings on the Site is prohibited by the deed restriction, and the area surrounding the Site is zoned commercial/industrial. Establishment of site-specific, non-residential cleanup standards is allowable under the Voluntary Remediation Program Act, 12-8-108(5), (6).

Two categories of Type 4 RRS values were calculated: carcinogenic and non-carcinogenic. For carcinogens, current EPD guidelines for evaluating risk specify that a TRL of 1E-05 is acceptable (EPD 2010). Therefore, an individual cancer TRL of 1E-05 was selected for the Site. The carcinogenic target risk level is defined as the probability of developing cancer due to an exposure to a site COI and corresponds to an increase of 1 out of 100,000 (1E-05). For non-carcinogens, a target hazard index (THI) of 1.0 was identified for each COI (EPD 2010).

2.5.5.1 Calculation of Type 4 RRS Values for the Construction/Excavation Worker

In accordance with current EPD guidelines, Type 4 RRS values for the Construction/Excavation Worker are based on the following equations for carcinogens and noncarcinogens:

Construction Worker Soil, Type 4 RRS Cancer Value:

[2]

$$\llbracket RRS \rrbracket \_(soil,c) = TRL/\{\lfloor EF \times ED \times \left(IRs \times SFo \times (\tfrac{1}{BW}) \times CF1\right) + (IRa \times IUR \times CF2 \times PEF\ or\ VF)/(ATc \times 365\ d/yr)\}$$

$RRS_{soil,C}$	=	Subsurface Soil Type 4 Risk Reduction Standard, calculated (mg/kg)
TRL	=	Target Risk Level,1E-05 (unitless)
EF	=	Exposure frequency (250 d/yr)
ED	=	Exposure duration (1 yr)
IRs	=	Soil ingestion rate (50 mg/day)
SFo	=	Oral slope factor $(mg/kg\text{-}d)^{-1}$
BW	=	Body Weight (70 kg)
CF1	=	Conversion Factor (1E-06 kg/mg)
IRa	=	Inhalation rate (m3/day) / 20 m^3/day (unitless)
IUR	=	Inhalation Unit Risk factor $(ug/m^3)^{-1}$
CF2	=	Conversion Factor (1,000 ug/mg)
PEF	=	Particulate emission factor, soil to ambient air (kg/m^3)
VF	=	Volatilization factor, soil to ambient air (kg/m^3)
AT_c	=	Averaging time for carcinogens (70 yr)

Construction Worker Soil, Type 4 RRS Noncancer Value:

[3]

$$\llbracket RRS \rrbracket \_(soil,nc) = THI/\{\lfloor EF \times ED \times \left(IRs \times SFo \times \left(\frac{1}{BW\ x\ RfDo}\right) \times CF1\right) + (IRa \times \left(\frac{1}{RfCi}\right) \times PEF\ or\ VF)/(ATnc \times 365\ d/yr)\}$$

$RRS_{soil,C}$	=	Subsurface Soil Type 4 Risk Reduction Standard, calculated (mg/kg)
THI	=	Target Hazard Index,1.0 (unitless)
EF	=	Exposure frequency (250 d/yr)
ED	=	Exposure duration (1 yr)
IRs	=	Soil ingestion rate (50 mg/day)

BW	=	Body Weight (70 kg)
RfDo	=	Oral reference dose (mg/kg-d)
CF1	=	Conversion Factor (1E-06 kg/mg)
IRa	=	Inhalation rate (m^3/day) / 20 m^3/day (unitless)
RfC	=	Inhalation Reference Concentration (mg/m^3)
PEF	=	Particulate emission factor, soil to ambient air (kg/m^3)
VF	=	Volatilization factor, soil to ambient air (kg/m^3)
ATn_c	=	Averaging time for noncarcinogens (1 yr)

2.5.5.2 Calculation of Type 4 RRS Values for the Indoor Hotel/Retail Worker

As mentioned in Section 2.5.2.6, Type 4 RRS values based on vapor intrusion from subsurface soil and groundwater are calculated using the J&E model and the following equations for carcinogens and noncarcinogens:

Subsurface Soil, Type 4 RRS Cancer Value:

[4]

$$〚RRS〛\_(soil,c) = TRL/\lfloor(EFadj \times ED \times IUR \times CF \times VF)/(ATc \times 365\ d/yr)\rfloor$$

Groundwater, Type 4 RRS Cancer Value:

[5]

$$〚RRS〛\_(gw,c) = TRL/\lfloor(EFadj \times ED \times IUR \times CF \times VF)/(ATc \times 365\ d/yr)\rfloor$$

$RRS_{soil,C}$	=	Subsurface Soil Type 4 Risk Reduction Standard, calculated (mg/kg)
$RRS_{gw,C}$	=	Groundwater Type 4 Risk Reduction Standard, calculated (milligrams per liter (mg/L))
TRL	=	Target Risk Level,1E-05 (unitless)
EF_{adj}	=	Adjusted exposure frequency, calculated (83.3 d/yr)
ED	=	Exposure duration (25 yr)
IUR	=	Inhalation Unit Risk factor (ug/m^3)$^{-1}$
CF	=	Conversion Factor (1,000 ug/mg)
VF	=	Volatilization factor from soil to building, J&E calculated (kg/m^3)
VF	=	Volatilization factor from groundwater to building, J&E calculated (L/m^3)
AT_c	=	Averaging time for carcinogens (70 yr)

Similarly, the calculation of Type 4 RRS values for noncarcinogenic chemicals takes the form of Equations [4] and [5]:

Subsurface Soil, Type 4 RRS Noncancer Value:

[6]

$$〚RRS〛\_(soil,nc) = THI/\lfloor(EFadj \times ED \times VF)/(RfCi \times ATnc \times 365\ d/yr)\rfloor$$

Groundwater, Type 4 RRS Noncancer Value:

[7]

$$〚RRS〛\_(gw,nc) = THI/\lfloor(EFadj \times ED \times VF)/(RfCi \times ATnc \times 365\ d/yr)\rfloor$$

where:

$RRS_{soil,nC}$	=	Subsurface Soil Type 4 Risk Reduction Standard, calculated (mg/kg)
$RRS_{gw,nC}$	=	Groundwater Type 4 Risk Reduction Standard, calculated (mg/L)
THI	=	Target Hazard Index,1.0 (unitless)
EF_{adj}	=	Adjusted exposure frequency, calculated (83.3 d/yr)
ED	=	Exposure duration (25 yr)
RfC	=	Inhalation Reference Concentration (mg/m^3)
VF	=	Volatilization factor from soil to building, J&E calculated (kg/m^3) (L/m^3)
AT_c	=	Averaging time for carcinogens (25 yr)

2.5.5.3 Type 4 Soil RRS Values Protective of Construction/Excavation Worker

Table 2-17 presents the calculated Type 4 soil RRS values protective of a construction/excavation worker. Phenthracene does not have toxicity information available; therefore, a Type 4 RRS could not be calculated. For the remaining soil COI, Type 4 soil RRS values were calculated for carcinogenic and noncarcinogenic effects; however, the minimum RRS among the carcinogenic and noncarcinogenic values was chosen to compare against soil data. As shown in Table 2-17, the calculated Type 4 RRS values for each COI were compared against the maximum detected concentration among the soil dataset used in the construction/excavation worker COI screening process (Table 2-8). The comparison of Type 4 RRS values to the maximum detected soil concentration shows that there are no exceedances of the Type 4 RRS values, indicating that potential construction/excavation worker contact with soil down to 20 feet in the vicinity of utility corridors and West 1st Street is not a human health concern.

2.5.5.4 Type 4 Subsurface Soil RRS Values Protective of Indoor Air

Table 2-18 presents the calculated Type 4 subsurface soil RRS values protective of indoor air. Anthracene does not have inhalation toxicity information available; therefore, a Type 4 RRS could not be calculated. For the remaining subsurface soil COI, Type 4 subsurface soil RRS values could be calculated for carcinogenic and noncarcinogenic effects; however, the minimum RRS among the carcinogenic and noncarcinogenic values was chosen to compare against subsurface soil data.

2.5.5.5 Type 4 Groundwater RRS Values Protective of Indoor Air

Table 2-19 presents the calculated Type 4 groundwater RRS values protective of indoor air for groundwater COI; however, both Type 4 RRS values could not be calculated for cyanide and methane as they lack inhalation toxicity information For the remaining groundwater COI (benzene and naphthalene), Type 4 groundwater RRS values could be calculated based on carcinogenic and noncarcinogenic effects; however, the minimum RRS value is based on carcinogenic effects for both the hotel worker and Broad Street retail worker, as presented below:

- Benzene: Type 4 groundwater RRS, hotel worker: 36.5 mg/L
- Benzene: Type 4 groundwater RRS, Broad Street retail worker: 24.9 mg/L
- Naphthalene: Type 4 groundwater RRS, hotel worker: 29 mg/L
- Naphthalene: Type 4 groundwater RRS, Broad Street retail worker: 24.2 mg/L

The Type 4 groundwater RRS values identified above will be compared against recent (April 2010) groundwater data to identify whether there are any vapor intrusion concerns to indoor workers at the hotel or retail buildings from groundwater and which areas of the Site may require remedial action.

A summary of subsurface soil and groundwater Type 4 RRS values protective of indoor air is presented in Table 2-20.

2.6 Comparison of Site Data to Risk Reduction Standards

As discussed in Section 2.5.5.3 and presented in Table 2-17, the comparison of Type 4 RRS values to the maximum detected soil concentration shows no exceedances of the Type 4 RRS values, indicating 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. However, the remainder of this section compares Type 4 RRS values protective of vapor intrusion to appropriate Site data to identify whether vapor intrusion could be a human health concern.

As a result of the remedial activities undertaken to address soil impacts, the Site has met the originally calculated Type 4 RRS values for soil, as documented in the CSR (RETEC 2001). However, COIs in groundwater, specifically benzene and naphthalene at monitoring wells MW-404R and MW-504, have continued to exceed the originally calculated Type 4 RRS. The originally calculated Type 4 RRS included assumed direct contact with soil and ingestion of groundwater (1 liter per day) as potentially complete exposure pathways. As presented in the HHRA section of this document, the only remaining potentially complete exposure pathway for maximally exposed populations under current and future Site conditions involves the vapor intrusion of subsurface soil and groundwater volatiles up through the soil column through cracks in a building's foundation into indoor air. Therefore, a vapor intrusion evaluation was conducted previously in this report and calculated site-specific Type 4 RRS values for commercial/industrial workers who spend their workday inside the hotel or one of the nearby buildings on Broad Street.

The soil comparison to appropriate Type 4 RRS depends on the vicinity of the sampling location to either the hotel or Broad Street retail buildings. Per USEPA's 2002 Draft Subsurface Vapor Intrusion Guidance (USEPA 2002), only those samples located within 100 feet of a building are considered a vapor intrusion concern and included in the subsurface soil dataset for each building of concern (e.g., hotel and Broad Street retail building). All subsurface soil sample locations within 100 feet of either the hotel or Broad Street retail building are presented in Table 2-21. Note, there are some soil samples that overlap and are within 100 feet of both buildings, as shown in Table 2-21**.**

Subsurface soil datasets identified for each building of concern were statistically evaluated to determine an exposure point concentration (EPC) for each subsurface soil COI. The EPC traditionally represents soil concentrations when conducting HHRAs. Building-specific subsurface soil data for each COI were analyzed using EPA statistical software, ***ProUCL version 4.1*** (available online at http://www.epa.gov/nerlesd1/tsc/form.htm). ProUCL inputs and outputs are provided in Appendix F.

The statistical analysis includes determination of the 95 percent upper confidence limit (UCL) for each subsurface soil COI and building using the current dataset for subsurface soils collected from 2 feet bgs down to the average depth to groundwater (20 feet bgs). Results of the statistical analysis are summarized in Tables 2-22 and 2-23 for the hotel and Broad Street retail building, respectively.

A comparison of subsurface soil Type 4 RRS values to EPCs is presented in Table 2-24 and indicate no Type 4 RRS exceedances for the Broad Street retail buildings; however, both benzene and naphthalene's EPCs exceed their respective Type 4 RRS values (benzene = 0.02 mg/kg; naphthalene = 2.26 mg/kg) protective of the hotel worker.

As shown in Table 2-25 and Figure 2-6, there are 10 locations within 100 feet of the hotel where either benzene or naphthalene concentrations exceed the Type 4 RRS value for the hotel worker:

- GP-319: benzene (0.022 mg/kg)
- GP-321: benzene (0.08 mg/kg) and naphthalene (47 mg/kg)
- HA-102: naphthalene (8.1 mg/kg)
- MW-10: naphthalene (5.1 mg/kg)
- SC-0113: benzene (7.1 mg/kg)
- SC-0119: benzene (0.16 mg/kg)
- SC-0127: benzene (0.022 mg/kg)
- SC-0152: naphthalene (3.2 mg/kg)
- SC-0178: benzene (0.028 mg/kg) and naphthalene (3.3 mg/kg)
- SC-0181: benzene (0.048 mg/kg) and naphthalene (74 mg/kg)

It should be recognized that the benzene and naphthalene concentrations identified above are unlikely to represent current concentrations. Significant reductions in concentrations due to natural attenuation processes (principally biodegradation and volatilization) are expected to have occurred since the samples were collected during the period of investigation and remediation from 1992 to 2000. Consequently, use of historic subsurface soil data for the purposes of characterizing current and future vapor intrusion concerns at the Site introduces significant uncertainty. Therefore, it is recommended that vapor intrusion concerns primarily focus on groundwater conditions, while historic soil conditions should be used for qualitative comparison only.

It is also noted that the use of bulk soil data to characterize indoor air conditions based on vapor intrusion is not recommended by USEPA as stated in the 2002 *Draft Subsurface Vapor Intrusion Guidance*: "*Soil (as opposed to soil gas) sampling and analysis is not currently recommended for assessing whether or not the vapor intrusion pathway is complete. This is because of the large uncertainties associated with measuring concentrations of volatile contaminants introduced during soil sampling, preservation, and chemical analysis, as well as the uncertainties associated with soil partitioning calculations. Thus, the use of bulk soil target concentration is not generally recommended.*" (USEPA 2002)

As presented in Table 2-26, comparison of the most recent (April 2010) groundwater monitoring data to Type 4 groundwater RRS values protective of the hotel worker and Broad Street retail worker do not indicate any exceedances of benzene or naphthalene Type 4 RRS values. Therefore, the groundwater at the Site does not pose a vapor intrusion risk to human health assuming the land use restrictions prohibiting groundwater use are maintained.

2.7 Ecological Risk Evaluation

A qualitative habitat assessment was performed to first determine the potential presence of habitat and ecological receptors and subsequently determine a need to conduct an ecological risk assessment (ERA) in accordance with USEPA guidance (USEPA 1997); comprehensive ERA guidance is not available from the State of Georgia. The qualitative assessment is focused on current and likely future land uses, habitats and expected and/or observed receptors, and potential migration pathways.

2.7.1 Land Use

Specific details regarding the Site location, property boundaries and surrounding land ownership was presented previously. Briefly, the Site is located in an urban-industrial area and is directly adjacent to a highway (State Highway 101), North 2nd Avenue, and the urban center of Rome. Land use at the Site is commercial/industrial and is expected to remain the same under future conditions. Surrounding land use is mixed and includes industrial/commercial, residential, and recreational. The Site is bordered to the northwest by the Oostanaula River (which flows north to south) that flows into the Etowah River (which flows to the west) about 350 feet downstream of the Site; the river segment downstream of this confluence is called the Coosa River (the junction of the Oostanaula and Etowah rivers form the Coosa River). To the southeast and northeast of the Site are commercial properties and to the southwest lies Highway 101. A riparian corridor is located adjacent to the Site along the river, which is traversed by a paved bicycle/pedestrian trail (Heritage Park Trail). The riparian corridor is narrow (ca. 30 feet wide) and dominated by grasses, low shrubs and medium to large trees.

2.7.2 Habitat

The majority of the Site is covered in pavement or occupied by building structures and is devoid of ecological habitat. The Hawthorne Suites Hotel is located at the western-most extent of the Site, and a parking garage associated with The Forum (arts and entertainment Center) is present at the eastern extent of the property (Figure 2-7). Limited areas of landscaped lawn and plantings (i.e., shrubs, grass, and trees) occur adjacent to the buildings and at some locations around the perimeter of the Site. These limited areas do not represent significant ecological habitat, although use by some urban-adapted species is expected. The riparian corridor is developed and includes a pedestrian/bicycle trail. Natural ecological habitat in the corridor is marginal and may attract urban adapted species and potentially serve as an occasional transit corridor for some larger mobile wildlife (e.g., deer). More attractive ecological habitat associated with the riparian river corridor is located upstream of this river segment.

The Oostanaula River flows through the urban center of Rome and terminates at the confluence with the Etowah River, which becomes the Coosa River downstream of this confluence. According to the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) (USFWS 2010), the Oostanaula River (and receiving Etowah River) is classified as a slow moving, permanently-flooded, lower perennial riverine system without tidal influence (see Figure 2-15). The substrate consists of primarily sand and mud. It is further characterized by the NWI as having an unconsolidated bottom with less than 30 percent (aquatic) vegetative cover. The stream segment from the confluence of Little Dry Creek (approximately 1 mile upstream of the Site, below the Rome Water Intake) to Coosa River is designated for fishing use (Georgia Administrative Code 391-3-6-.03 Water Use Classifications and Water Quality Standards; http://rules.sos.state.ga.us/docs/391/3/6/03.pdf).

2.7.3 Mi gration Pathways

Under current conditions surface and ecologically relevant subsurface soil (i.e., to approximately 4 feet bgs) is not impacted with former MGP contaminants. Extensive soil remediation/excavation conducted in 1999 and 2000 successfully removed the majority of MGP-related source material from the surface and shallow/intermediate depth subsurface zone. The Site is underlain by 20-25 ft of clean material; impacts are limited to the deep subsurface zone (greater than 20 feet bgs). No known overland or subsurface migration pathways from the Site to the river have been identified, as surface and intermediate depth subsurface soil is not impacted and soil migration via surface runoff is effectively eliminated by the presence of extensive pavement on site. While the shallow groundwater beneath the Site generally flows toward, and presumably discharges to, the Oostanaula River, the plume of dissolved COI is effectively contained through natural attenuation processes with the plume boundary more than 200 ft from the river. During more than 10 years of post-remediation groundwater monitoring, COI concentrations have generally exhibited a declining trend with no evidence of plume expansion or migration toward the Oostanaula River; therefore river media are not affected by potential discharge of groundwater constituents. Formerly impacted sediments in the river adjacent to the Site have been excavated and removed, and remaining sediments have been capped (RETEC 2002).

The potential for impacted Oostanaula River sediment (left in place below the cap) to equilibrate with overlying water is a potentially complete pathway; however, analyses of surface water samples collected prior to and during sediment remediation were non-detect for all COI, and concentrations of detected constituents were below USEPA Region 4 freshwater screening values (USEPA 2001) within and downstream of the work (remediation) zone. Additional surface water data were obtained following a cap inspection in 2008 (as part of the biannual inspection process, RETEC 2002). The inspection showed some evidence of scouring of the sediment armoring and additional armor was placed. Water samples were collected during this time and site-related constituents were not detected. Table 2-27 provides a compilation of all surface water data collected from the river during the history of investigation and remediation activities at the Site with comparison to USEPA Region 4 freshwater screening values for reference. Based on these results, potential impacts from equilibration of sediment residuals with overlying surface water is potentially complete but insignificant. Further review of cap integrity is planned for 2012 as part of the 10 year re-evaluation (RETEC 2002).

In August 2000, fish were collected from the Oostanaula River at locations adjacent to the Site, and upstream from the Site. Whole body fish tissue samples corresponding to the two locations were submitted for laboratory analyses of PAHs, metals, and total cyanide. The results were reported in the Corrective Action Plan for Sediments in the Oostanaula River (ThermoRetec 2000a) and are presented in Table 2-28. No organic constituents were detected in either sample. Low concentrations of barium, chromium, and zinc were detected in the tissue sample corresponding with the upstream location. Comparable concentrations of barium and zinc were detected in the tissue sample corresponding with location adjacent to the Site, and lead was also detected at a concentration 0.5 mg/Kg, compared to a detection limit of 0.45 mg/Kg. Cyanide was not detected in either sample. These results provide additional evidence that Site-related COI do not pose a significant risk to adjacent ecological receptors.

2.7.4 Con clusions

Further assessment of ecological risk at the Site is not warranted based on review of current data and ecological habitat associated with the Site and nearby Oostanaula River/riparian corridor. This conclusion is based on the following:

- The Site proper does not constitute important terrestrial ecological habitat based on its location within an urban center and the general absence of suitable habitat throughout the Site.
- Marginal upland ecological habitat is present in the riparian corridor adjacent to the Oostanaula River; however there is no known complete overland migration pathway to this area (or the Oostanaula River).
- Migration of subsurface impacts (via groundwater) to the Oostanaula River is incomplete based on area hydrogeology.
- Equilibration of chemical residuals in Oostanaula River sediment beneath the engineered cap represents a potentially complete but insignificant pathway, with no detectable concentrations of Site-related COI in numerous surface water samples, and limited fish tissue samples.

2.8 Poi nt of Demonstration Monitoring for Groundwater

Review of the data from the April 2010 groundwater monitoring event (ERM 2010) shows that the groundwater flow direction in the vicinity of MW-404R is generally to the north to northwest. Consequently, monitoring wells MW-401AR and MW-403A are located downgradient from MW-404R and are proposed as POD monitoring wells. These wells have not demonstrated detectable concentrations of benzene or naphthalene.

MW-504 is located near a groundwater ridge and, therefore, the groundwater flow direction in this area can fluctuate from southeast to northeast depending on local hydrogeologic conditions which have been observed to vary over time. Consequently, monitoring wells MW-507 and MW-402A are proposed as POD monitoring wells for this portion of the plume. These wells have not demonstrated detectable concentrations of benzene or naphthalene.

3.0 Proposed Remediation Plan

As outlined and summarized in the previous sections, active remediation activities were performed at the Site in 1999 and 2000. The remediation activities consisted of removal of more than 55,000 tons of source material in the unsaturated zone. This included all of the source material that was accessible, and therefore active remedial activities are considered complete.

The results of the exposure assessment conducted for the Site indicate that the only potentially complete exposure pathway resulting in excess risk is the intrusion of benzene and naphthalene vapors from subsurface soil to the hotel resulting in exposure to hotel workers. In addition to the indoor hotel workers, there are potentially complete exposure pathways at the Site for the construction/utility workers; however, the construction/utility worker is exposed to soils via direct contact, while the indoor hotel worker is exposed to soils indirectly via vapor intrusion. This conclusion is dependent on restricting uses of the Site for non-residential purposes and eliminating direct contact and ingestion of soil and/or groundwater through institutional controls. Institutional controls that currently prohibit the use of groundwater for human consumption include:

- Local municipal ordinances
- The deed restriction on parcels formerly associated with the former MGP site

The Proposed Remediation Plan therefore includes the implementation of instructional controls and an Operations and Maintenance (O&M) Plan to be implemented in the event of future land disturbing activities.

3.1 Institutional Controls

The following institutional controls will be applied to ensure that the conditions at the Site are managed accordingly to be protective of human health and the environment:

- Limiting the use of the property to industrial/commercial only and prohibition of the use of groundwater through compliance with the intent of EPD uniform environmental covenants for parcels 3, 3A, 4, 5, 7, and 8. In addition, an O&M Plan has been developed (Appendix G) to ensure the integrity of the Type 5 RRS area (area of West 1st Street and adjacent utility corridor) and restrict potential future exposure. This O&M Plan will be activated in the event of excavation activities within the Type 5 RRS area to specify health and safety requirements for workers, and to establish appropriate waste management procedures.
- Coordination with stakeholders regarding the completion of applicable institutional controls is being conducted concurrent with this VRP submittal. AGLC's existing environmental covenants with current owners of Site parcels will be revised to conform with the Uniform Environmental Covenants (UEC) Act. AGLC will submit title record reports and draft environmental covenants for all applicable parcels to EPD for review and approval, in accordance with the schedule provided in Section 4 and Figure 4-1.
- Armoring of Oostanaula River sediments adjacent to the Site was completed in 2008 under the requirements of the current CAP. The CAP specifies additional inspection for evidence of

scouring in 2012. The inspection and mitigation, if necessary, will be maintained as part of this Remediation O&M Plan.

- The current schedule of semi-annual groundwater monitoring and reporting will continue until this VRP application is accepted by EPD, the new RRS are approved, and the Remediation Plan is implemented. The post-remediation groundwater monitoring data described in Section 2.4.4 of this report, supported by the Fate and Transport modeling summarized in Section 2.4.5.2 and detailed in Appendix D, clearly demonstrate that the dissolved COI plume is stable or shrinking and, consequently, will not reach the POD wells at any point in the future.

3.2 Soil Gas Sampling

As discussed in Section 2.6, the existing soil data indicate the presence of 10 sample locations within 100 feet of the hotel where either naphthalene or benzene concentrations exceed the Type 4 RRS. Since these samples are more than 11 years old, it is likely that current concentrations at these locations have diminished due to natural attenuation processes, and, therefore use of these data may significantly overestimate the contribution of soil-phase COI to exposure by vapor intrusion. Consequently, soil gas sampling will be conducted in the vicinity of the hotel to better quantify vapor concentrations and calculate potential risks.

Proposed sample locations and collection methodology will be detailed in a Work Plan, which will be submitted to EPD for approval prior to initiating field activities. It is expected that multiple locations will be identified adjacent to the perimeter of the hotel foundation for advancing soil gas probes. Exact locations will depend on the presence of utilities and accessibility issues. Following collection, vapor samples will be submitted for laboratory analysis of VOCs, including naphthalene, using Method TO-15. Validated analytical data will be incorporated into the risk assessment calculations to determine whether any detected constituent concentrations pose a significant risk to hotel workers. Identification of potential risks based on soil gas data will be addressed through additional soil gas investigation, indoor air sampling, and/or evaluation of potential remedial measures.

4.0 Implementation Schedule

The anticipated schedule for implementation of the Remediation Plan as described in Section 3 is presented in Figure 4-1.

5.0 References

AECOM, 2009a. *In Situ Oxygen Curtain (iSOC®) Pilot Test Completion Report, Atlanta Gas Light Company Manufactured Gas Plant Site - Rome, Georgia*. April 29, 2009.

AECOM, 2009b. *Focused Feasibility Study, Atlanta Gas Light Company Manufactured Gas Plant Site - Rome, Georgia.* December 11, 2009.

CalEPA, 2005. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. Volume 1: Summary Tier 1 Lookup Tables. Appendix 1 Tables. Table E-1b. Soil Screening Levels for Evaluation of Potential Vapor Intrusion Concerns.

ENSR, 2008. Oostanaula River Scour Placement Completion Report – Revised. Atlanta Gas Light Company Manufactured Gas Plant Site – Rome, Georgia, November 2008.

EPD, 2010. Comparison of Existing Contamination to Risk Reduction Standards. 391-3-19-.07. Georgia Department of Natural Resources, Georgia Environmental Protection Division. Available online at: http://www.gaepd.org/Documents/hsraguideCSRRRS.html.

ERM, 2010. Semi-Annual Groundwater Monitoring Report: October 2010 Sampling Event, Atlanta Gas Light Company Former Manufactured Gas Plant Site - Rome, Georgia, December 31, 2010.

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.

Law, 1991. *Preliminary Assessment, Atlanta Gas Light Company Manufactured Gas Plant Site - Rome, Georgia*. December 1991.

Law, 1992. *Site Investigation, Atlanta Gas Light Company, Former Manufactured Gas Plant Site*. January 1992.

RETEC and Law, 1997. *Remedial Investigation/Compliance Status Report Manufactured Gas Plant Site, Rome, Georgia*, HSI Site Number 10109. March 1997.

RETEC, 2001. *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, 2002. *Sediment Remediation Completion Report, Oostanaula River, Former Manufactured Gas Plant Site, Rome, Georgia*. March 8, 2002, revised May 24, 2002, and August 1, 2002.

RETEC, 2004. *Soil Removal Completion Report for Soil under the 2nd Avenue Bridge, Former Manufactured Gas Plant Site, Rome, Georgia*. June 8, 2004.

RETEC, 2007. Annual Groundwater Monitoring Report: May 2006 through April 2007, Atlanta Gas Light Company, Former Manufactured Gas Plant Site, Rome, Georgia, HSI #10109. July 10, 2007.

ThermoRetec, 1999a. *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, 1999b. *Soil Removal Completion Report – OU1, Former Manufactured Gas Plant Site, Rome, Georgia*. November 1999, revised December 1999.

ThermoRetec, 2000a. *Corrective Action Plan for Sediments in the Oostanaula River, Former Manufactured Gas Plant Site, Rome, Georgia*. September 2000, revised December 2000.

ThermoRetec, 2000b. *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, 2000c. *Groundwater Corrective Action Plan – OU4, Former* Manufactured Gas Plant Site, Rome, Georgia. September 2000, revised December 2000.

ThermoRetec, 2000d. *Soil Removal Completion Report – Operable Unit 3 – Rivers Place Building, Former Manufactured Gas Plant Site, Rome, Georgia*. January 2001.

ThermoRetec, 2001a. *Annual Groundwater Monitoring Report – June 2000 to April 2001, Former Manufactured Gas Plant Site, Rome, Georgia*. June 2001.

ThermoRetec, 2001b. *Groundwater Corrective Action Plan Addendum – OU4, Former Manufactured Gas Plant Site, Rome, Georgia*. April 2001.

ThermoRetec, 2001c. *Results of October 2000 Groundwater Monitoring Event, Former Manufactured Gas Plant Site, Rome, Georgia*. December 2000.

ThermoRetec, 2001d. *Results of January 2001 Groundwater Monitoring Event, Former Manufactured Gas Plant Site, Rome, Georgia*. March 2001.

U.S. Environmental Protection Agency (USEPA), 1989. Risk Assessment Guidance for Superfund, Human Health Evaluation Manual, Volume I (Part A). Office of Emergency and Remedial Response, U.S. Environmental Protection Agency.

USEPA, 1997. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Interim Final. Environmental Response Team, U.S. Environmental Protection Agency. Edison, NJ.

USEPA, 2001. Supplemental Guidance to RAGS: Region 4 Bulletins, Ecological Risk Assessment. Originally published November 1995. Website version last updated November 30, 2001: http://www.epa.gov/region4/waste/ots/ecolbul.html.

USEPA, 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.

USEPA, 2003. Memorandum for Revised Hierarchy in Human Health Toxicity Values for Superfund Risk Assessments. OSWER Directive 9285.7-53. December 5, 2003.

USEPA, 2004. Users Guide for Evaluating Subsurface Vapor Intrusion into Buildings. Office of Emergency and Remedial Response, Toxics Integration Branch (5202G). Washington, D.C. Revised February 22, 2004.

USEPA, 2010a. Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites. May 2010 update. Available online at: http://epa.gov/region09/superfund/prg/index.html.

USEPA, 2010b. Integrated Risk Information System (IRIS). On-Line Database. Available online at: http://www.epa.gov/iris/index.html.

USFWS, 2010. National Wetland Inventory: Wetland Mapper. United States Fish and Wildlife Service (USFWS). Available online at: http://www.fws.gov/wetlands/index.html.

Tables

Table 2-1
Timeline of Investigations, Remedial Actions, and Key Project Documents
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Date		Description
1985	Remedial Action	Uncovered subsurface gas holder. EPA removed most sludge and solidified remaining sludge with Pozzalime.
1986	Investigation	**Preliminary site reconnaissance conducted by** Law - EPA said no further action - Did not include sampling and analysis.
Nov-91	Investigation	**Preliminary Assessment by Law** - Conducted under CERCLA - included a review of available file material, on and off site reconnaissance's, development of historical ownership, collection and analysis of soil samples (SS-01 through SS-06), and limited pathway survey.
Jun-92	Investigation	**Site Investigation by Law** - 30 soil samples from 17 exploratory soil borings (SB-01 through SB-15, SB-02II, and SB-04II) to delineate impacts, GW well installation of MW-01 through MW-05. Included hydraulic conductivity results, ambient air monitoring, and geophysical testing, review of geologic literature.
Jan - Apr-96	Investigation	**Field Investigation activities** for the Remedial Investigation (RI).
Mar-97	Investigation	**Remedial Investigation/CSR by Law and RETEC** - Type 4 RRS were developed. One piezomemter (PZ-01) and 12 groundwater monitoring wells (Type II - MW-07, MW-08, MW-09A, MW-09B, MW-12, MW-13, and MW-14A; Type III - MW-08B, MW-10, and MW-11; Type IV- MW-06A, MW-06B) were installed. 34 soil borings were advanced using direct push (GP-101 through GP-134), 5 borings were advanced using HSA (SB-102, SB02IIA, SB-02A, SB-05A, and SB-06A), and 8 hand auger borings (HA-101 through HA-108) were advanced. A reconnaissance of the Oostanaula River bank was conducted. Samples from HA-104 though HA-106 were collected from the river bank. Soil samples and GW samples were analyzed to delineate the overall extent of impacts. Impacts found were limited to onsite and a small area surrounding the site.
Jun-97	Plan	**CAP June 10, 1997**, revised May 27, 1998, February 26, 1999, and April 27, 1999.
Sep-97	Investigation	**Sept. 1997 Investigation**- Area along the slope of Oostanaula River Bank adjacent to AGLC MGP was sampled in anticipation of a construction project proposed by the City of Rome. Supplemental investigation included 17 hand augers (HA-200 to HA-214, HA-106A and HA-106B) and soil samples collected and analyzed (presented in CAP, May, 1998).
Mar-98	Investigation	**March 1998 Investigation** - 2 replacement monitoring wells (MW-01R and MW-04R) were installed in Parcel 1 to verify background concentrations of inorganics in groundwater detected during previous sampling events. Also, 4 subsurface soil samples and GW samples were collected and analyzed (presented in CAP, May, 1998).

Table 2-1
Timeline of Investigations, Remedial Actions, and Key Project Documents
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Date		Description
27-May-98	Plan	**Revised CAP** Submitted by ThermoRetec. Further revised February 26, 1999, and April 27, 1999. Preliminary Investigation report for Sept. 1997 and March 1998 investigations. The investigations have shown that the highest concentrations are limited to an area of about one-half acre near the center of the MGP site, and the overall extent of impacts is generally limited to the former plant site and a small area surrounding the MGP site. **Alternative remedial actions discussed for Parcels 3 and 4**. **SUMMARY**: PAH constituents were detected above Type 4 RRS in surface soil primarily in the central portion of the former MGP. Lead was detected in surface soil on Parcel 7, on the riverbank and on Parcel 5 at concentrations exceeding Type 4 RRS. Organic constituents were detected in subsurface soils above Type 4 RRS in the central portion of the site. Inorganic constituents in subsurface soils were detected above Type 4 RRS in Parcel 7.
Nov-98	Plan	**Draft Investigation Work Plan (IWP)** submitted by ThermoRetec**.** Scope included: 2 monitoring well installations, 44 borings at various locations around the site, 4 surface water and 16 sediment samples from Oostanaula River, 7 hand augers/direct push, and groundwater sampling from select monitoring wells.
Dec-98 - Jan-99	Investigation	**Additional Investigation** - In response to EPD's comments to May 1998 version of the CAP. Investigation included the installation of 2 additional wells and the collection and analysis of 6 groundwater samples, 18 sediment samples, 13 surface soil samples, and 90 subsurface soil samples. Data presented to EPD in a meeting on January 22, 1999.
Feb-99	Miscellaneous	**Site divided into four Operable Units (OU**). OU1 - Unsaturated soil in Parcels 1, 2, 3, 4, 6, 7, 8 CoG ROW and 1st Street, OU2 - Oostanaula River, OU3 - Unsaturated soil in the basements of the River Place Building and under the office building attached to River Place Building, OU#4 Site groundwater
Feb-99	Plan	**Revised CAP** Submitted by ThermoRetec. Further revised April 27, 1999. Describes the soil removal corrective action for the unsaturated soils in **OU1**.
27-Apr-99	Plan	**Revised CAP** submitted by ThermoRetec. Presented corrective action strategies for the four OU's. **The strategy for OU1 is detailed** in the report. The strategies for OU 2, 3 and 4 are conceptual worst-case scenarios and will be further evaluated. Strategy for OU1 includes excavation and confirmation sampling.
Jun-99 - Sep-99	Remediation Field Activities	**Soil Remediation - Excavation of soil in OU1.** 55,175 tons of soil and debris excavated and disposed in landfill.

Table 2-1
Timeline of Investigations, Remedial Actions, and Key Project Documents
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Date		Description
Dec-99	Remedial Action	**Soil Removal Completion Report - OU1** submitted by ThermoRetec. 55,175 tons of soil and debris excavated and disposed of. 90,000 gallons of groundwater and storm water stored and discharged to the City POTW. Soil confirmation samples SC-1 through SC-181 collected. As a result, soil in parcels 1, through 8 are in compliance with Type 4 RRS.
Jan-00	Plan	**CAP - OU3** submitted by ThermoRetec **-** Plan describes soil removal corrective actions to be performed in the apartment building and the office building.
Jan-00 and Jun-01	Letter	Letters from EPD approving certification that soil in Parcels 1 through 8 are in compliance with Type 4 RRS.
13-Mar-00	Plan	**CAP - OU3 Revised** submitted by ThermoRetec. Revised CAP submitted in response to EPD's NOD letter dated January 25, 2000.
26-Apr-00	Plan	**CAP - OU2** submitted by ThermoRetec. Plan discusses corrective action alternatives for OU2. Alternatives include institutional controls, engineered river bed, biological treatment, removal and offsite treatment/disposal.
4-May-00	Plan	**CAP - OU3 Revised** submitted by ThermoRetec. Revised CAP submitted in response to EPD's NOD letter dated January 25, 2000.
May-00	Investigation	Installation of MW-401A, MW-401B MW-402A, MW-402B, MW-403A, MW-403B, MW-404, Mw-405, MW-406A, and MW-406B.
July-00 - Aug-00	Remedial Action	**Soil Remediation - Excavation of soil in OU3 -** Office building was demolished, 1,520 tons of non-haz. Soil and 1,300 tons of debris was excavated and disposed in landfill. Many areas beyond the proposed excavation limits were excavated to remove subsurface debris and highly impacted soil.
21-Sep-00	Plan	**Groundwater CAP - OU4** submitted by ThermoRetec. The CAP recommended the evaluation of MNA as the preferred remedial approach for groundwater.
4-Dec-00	Plan	**Revised CAP for Groundwater (OU4)** by ThermoRETEC. CAP recommended air sparging coupled with soil vapor extraction (AS/SVE).
5-Dec-00	Plan	**CAP for River Sediments OU2** submitted by ThermoRetec. Revisions based on EPD's comments in their letters dated November 14 and 22, 2000.
12-Dec-00	Remedial Action	**Soil Removal Completion Report OU3** submitted by ThermoRetec - Rivers Place Building - Office building demolition followed by soil removal under the building and soil removal under the apartment buildings. 1,520 tons of non-Haz soil and 1,300 tons of debris were excavated. Soil confirmation samples (OSW-1 through OSW-5, OFL-1, and 4 apartment confirmation samples were collected to ensure compliance with Type 4 RRS.

Table 2-1
Timeline of Investigations, Remedial Actions, and Key Project Documents
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Date		Description
Feb-01	Investigation	**Sediment Delineation Report** by Williams Environmental Services. Work included horizontal delineation of COI within the Oostanaula River sediments. Investigation included 24 sediment borings with in the river and sediment surface sampling.
Mar-01	Investigation	**Well installation** - seven additional wells were installed. MW-501 through MW-503, MW-09C, MW-404B and MW-406C. MW-401AR was installed to replace abandoned MW-401A.
19-Apr-01	Plan	**Groundwater CAP Addendum - OU4** Because of site specific impracticality of AS/SVE, it is recommended that the remedial approach be changed to MNA.
22-Jun-01	Report	**Annual Groundwater Monitoring Report – June 2000 through April 2001**. Groundwater monitoring events were performed in June 2000, October 2000, January 2001, and April 2001. During the first three quarters, 12 wells were sampled, including MW-9A, MW-9B, MW-14A, MW-401B, MW-402A, MW-402B, MW-403A, MW-403B, MW-404, MW-405, MW-406A, and MW-406B. As specified in the CAP, seven additional wells were installed and two wells were abandoned before the April 2001 monitoring event. Wells MW-13 and MW-401A were abandoned because they consistently did not yield enough water to collect a sample. Well MW-401AR was installed to replace MW-401A to delineate the plume to the north, and well MW-503 was installed to the south-southwest to replace MW-13 and to delineate the plume in that direction. Additionally, wells MW-404B and MW-406C were installed to delineate impacts in groundwater in the lower aquifer. Wells MW-502 and MW-504 were installed to delineate shallow groundwater impacts to the south and southeast, respectiwere detected in subsurface soils above Type 4 RRS in the central portion of the site. Inorganic constituents in subsurface soils were detected above Type 4 RRS in Pa
2001	Investigation	**Pilot Study for AS/SVE**
2001	Remedial Action	Sediment remedial actions implemented

Date		Description
28-Sep-01	Report	**Updated CSR submitted** - Documented Site assessment and development of RRS. Documented activities since the submittal of 1997 Remedial Investigation/CSR. Investigation were performed in September 1997 and March 1998. **Sept. 1997 Investigation**- Area along the slope of Oostanaula River Bank was investigated. Supplemental investigation included 17 hand augers and 29 soil sampled collected and analyzed. **March 1998 Investigation** - 2 monitoring wells were installed in Parcel 1. Also, subsurface soil samples and GW samples were collected and analyzed (presented in CAP, May, 1998). **Impacted soil removal** was performed from June 1999 and completed in August 2000. Following excavation, groundwater samples were collected from 21 groundwater monitoring wells. **Type 4 RRS** were developed for 33 constituents detected in soil and 39 constituents detected in groundwater. Comparisons of detected concentrations indicated that 3 constituents exceeded Type 4 RRS soil and 11 constituents in groundwater exceeded Type 4 RRS. Soil remediation was completed on OU1 and OU3 in August 2000.
21-Dec-01	Letter	Comments from EPD on CSR
4-Dec-01	Remedial Action	**AGLC Sediment Removal Action Oostanaula River** Submitted by WRS Infrastructure and Environment, Inc. Report of sediment removal from Oostanaula River performed in October and November 2001. Using suction dredging, 6 inches of impacted sediments were removed and disposed of from the river bed over an area measuring 140 feet by 25 feet. The approved CAP allowed impacts buried deeper within the sediment to remain in place.
15-Feb-02	Report	**Updated CSR submitted** - Revised text and figures (or portions thereof) were sent, as replacement pages for subsequent approval of the CSR. RETEC revised delineation lines, contours and concentrations on figures, and revised the certification statement in the revised CSR submitted February 15, 2002. Portions of Section 4, Figure 4-2 through 4-11, and Figure 6-11 through 6-14 were revised. The revisions were based on EPD's December 21, 2001 comments of RETEC's CSR (September, 2001). RETEC responded to comments in a letter dated January 24, 2002.
30-Apr-02	Letter	EPD provided comments on updated CSR

Table 2-1
Timeline of Investigations, Remedial Actions, and Key Project Documents
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Date		Description
31-May-02	Report	**Updated CSR submitted -** Revised text, and figures (or portions thereof) were sent, as replacement pages for subsequent approval of the CSR. Portions of Section 4, 9, and 10, Figure 4-4, 4-5, 4-7, 8-1 and 9-1 were revised per EPD's request and as necessary to update the CSR per recent Site activities. The revisions were based on EPD's April 30, 2002 comments of RETEC's CSR (September, 2001) and revised February 15, 2002. RETEC responded to comments in a letter dated May 31, 2002. Recent Site activities that were updated in the May 2002 CSR included the sediment remediation that 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.
20-Jun-02	Report	**Annual Groundwater Monitoring Report July 2001 through April 2002**. Only six constituents were reported at concentrations above the Type 4 RRS for this site during the second year of post-remediation monitoring, including benzene, toluene, 2,4-dimethylphenol, 2-methylphenol, 4-methylphenol, and naphthalene. As proposed in the CAP, RETEC will now conduct groundwater monitoring events semiannually, with the first semiannual groundwater monitoring event scheduled for October 2002, upon EPD approval. Eight quarters of data have been collected at the Rome site, and many of the constituents on the current analyte list are consistently not detected or have consistently been detected below the Type 1 RRS.
Aug-02	Remedial Action	**Sediment Remediation Completion Report submitted by RETEC -** Removed 142.82 tons of dredged sediment and impacted debris, 3,214 gallons of impacted solidified water, 1.26 of Silt curtain (used, damaged)
10-Oct-02	Investigation	MW-404R well installation
3-Jul-03	Report	**Annual Groundwater Monitoring Report May 2002 through April 2003.** This is the third year of groundwater monitoring following on-site soil remediation in 1999 and 2000. During the past year, groundwater monitoring events were performed in October 2002 and April 2003.
Apr-03 and Oct-03	Investigation	**Investigation** - Six soil borings advanced for analysis of SVOCs in the City ROW under the 2nd Ave. Bridge and 2 soil borings advanced in Parcel 7 and 7 soil borings (SB-102, SB-102A, and SB-103 through SB-107) in Parcel 1 for background delineation
Dec-03	Remedial Action	**Soil remediation under 2nd Avenue Bridge**- A total of 4.09 tons of Non-haz. Soil and debris was excavated and disposed in landfill. Confirmation soil samples taken and compared to Type 4 RRS.

Table 2-1
Timeline of Investigations, Remedial Actions, and Key Project Documents
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Date		Description
7-Jun-04	Report	**Updated CSR submitted (RETEC)** - 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 August 2003, supplemental soil investigations were conducted in April and October 2003. Work included the following: 6 soil borings (HA-1 through HA-6) in City ROW under 2nd Ave. Bridge and 2 soil borings (SB-101 and SB-101A) advanced in Parcel 7 and 7 soil borings (SB-102, SB-102A, and SB-103 through SB-107) in Parcel 1 for background delineation.
Jun-04	Remedial Action	**Soil Removal Completion Letter Report** for Soil Under the 2nd Ave Bridge submitted by RETEC in a letter dated June 8, 2004. A total of 4.09 tons of non-hazardous soil and debris was excavated and properly disposed in a designated landfill. In April 2003, additional soil delineation samples were collected by RETEC under the 2nd Avenue Bridge and analyzed for semivolatile organic compounds (SVOCs). An exceedance of the Type 4 RRS for benzo(a)pyrene (BAP) was detected in HA-2. Per the approved plan in the September 2003 letter, a confirmation sample was only required at the bottom of the excavation and was only analyzed for BAP. In December 2003 this area was excavated to 3 feet and a confirmation sample was collected from the bottom of the excavation (SC300FL1). Since the concentration of BAP detected in this sample was below the Type 4 RRS, the excavation was considered to be complete.
18-Jun-04	Letter	**NOD for Revised CSR**. EPD does not concur with the parcel certifications as explained in the letter.
8-Jul-04	Report	**Annual Groundwater Monitoring Report: May 2003 through April 2004.** This is the second semiannual event of the fourth year of groundwater monitoring following on-site soil remediation in 1999 and 2000. During the fourth semiannual groundwater sampling event, select wells were sampled for selected volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), inorganic compounds, including cyanide, and chemical indicators of natural attenuation. On July 21, 2003, EPD approved a modified list of constituents of interest (Table 1-1) and the reduced monitoring well network proposed in the Annual Groundwater Monitoring Report dated July 3, 2003.
8-Jul-05	Report	**Annual Groundwater Monitoring Report: May 2004 through April 2005**
7-Jul-06	Report	**Annual Groundwater Monitoring Report: May 2005 through April 2006**
5-Jan-07	Report	**Annual Groundwater Monitoring Report: May 2005 through April 2006**

Table 2-1
Timeline of Investigations, Remedial Actions, and Key Project Documents
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Date		Description
May-07 - Jun-07	Investigation	**FFS investigation**. Additional site investigation activities to delineate soil impacts in the vicinity of MW-404R and MW-504 were performed in May through June of 2007. Forty new soil borings (SB-400 through SB-439) were advanced from the ground surface until refusal was met. The results of the FFS investigation work indicate that dispersed tar-like material or, more generally, byproduct-like material (BPLM), most of which is highly weathered or present as staining, stringers, or blebs, is present in an area roughly 100 feet by 45 feet, located in the southwest corner of the site. Soil borings in the vicinity of MW-404R and MW-504 show evidence of BPLM in the saturated zone below the limits of the previous excavation.
10-Jun-07	Reporting	**Annual Groundwater Monitoring Report: May 2006 through April 2007. Results of the FFS reported to EPD.** Soil borings in the vicinity of MW-404R and MW-504 show evidence of BPLM in the saturated zone below the limits of the previous excavation. GW report states MNA as remedial alternative.
Jan-08	Reporting	**GW Monitoring Report - Results of October 2007 Groundwater Monitoring Event**
18-Apr-08	Letter	**Results of Year 5 Annual Post-Remediation River Survey** - Year 5 annual survey conducted on November 2007. Remaining backfill thickness was reported. All survey points showed that any impacted sediments were covered.
15-May-08	Plan	**Enhanced Bioremediation Pilot Test Work Plan** submitted by ENSR. Report details pilot test objectives, well installation, oxygen delivery, performance monitoring and reporting. The pilot test is focused around MW-404R and MW-504.
19-May-08	Remedial Action	**Revised Results of Year 5 Annual Post-Remediation River Survey** submitted by ENSR - In response to EPD's comments, the November 20, 2007 survey data was revised to show difference in elevation as compared to the baseline survey. Year 5 annual survey conducted indicated a decrease in elevation greater than the 6-inch criterion at 3 survey points. AGLC will perform corrective measures to re-armor the river sediments, perform post-construction baseline survey.
19-May-08	Plan	**Work Plan for River Sediment Corrective Action** submitted by ENSR. Rearmoring scope detailed in report. AGLC eill perform a bi-annual river survey event in 2009. If no scouring (>6") has occurred, the next river survey event will be performed in 2012.
26-Jun-08	Report	**Annual Groundwater Monitoring Report: May 2007 through April 2008**
Aug-08	Remedial Action	**Oostanaula River Scour Protection Placement Completion Report** submitted by AECOM. 114.34 tons of Grade 3 stone was placed to cap the river sediment.
Sept-08 - Mar-09	Investigation	Implementation of the ISOC Pilot Test

Table 2-1
Timeline of Investigations, Remedial Actions, and Key Project Documents
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Date		Description
Mar-09	Investigation	AECOM submits **ISOC Pilot Test Completion Report** stating that site conditions are not conducive to ISOC remediation.
Jul-09	Reporting	**GW Monitoring Report - Results of January and April 2009 Groundwater Monitoring Event**
Nov-09	Remedial Action	**Results of 2009 Post Remediation River Survey of the Oostanaula River.** All points surveyed in 2009 have a higher elevation than the baseline survey points from 2001.
11-Dec-09	Investigation	**Focused Feasibilty Study** submitted by AECOM concluding that MNA is the best remedial action.
23-Dec-09	Reporting	**GW Monitoring Report - Results of July and October 2009 Groundwater Monitoring Event**
10-Jun	Reporting	**GW Monitoring Report - Results of April 2010 Groundwater Monitoring Event**

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location / Sample Date / Depth Interval (ft) / Units	GH-301 12/3/1998 (8-10)	GH-304 12/3/1998 (2-4)	GH-304 12/3/1998 (4-6)	GH-304 12/3/1998 (6-8)	GH-304 12/3/1998 (12-14)	GH-306 12/4/1998 (2-4)	GH-307 12/5/1998 (4-6)	GH-307 12/5/1998 (14-16)	GH-309 12/5/1998 (8-10)	GH-309 12/5/1998 (12-14)	GH-310 12/8/1998 (10-12)	GP-118 1/18/1996 (0-4)	GP-125 1/22/1996 (0-5)	GP-125 1/22/1996 (5-9)	GP-126 1/22/1996 (0-5)	GP-126 1/22/1996 (5-9)	GP-127 1/24/1996 (0-5)	GP-127 1/24/1996 (5-9)	GP-128 1/25/1996 (0-5)	GP-128 1/25/1996 (5-9)	GP-128 1/25/1996 (13-16)	GP-128 1/25/1996 (16-19)	GP-129 1/25/1996 (0-5)
Volatile Organic Compounds																								
1,1,1-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
1,1,2,2-Tetrachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
1,1,2-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
1,1-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
1,1-Dichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
1,2,4-Trichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
1,2-Dichloroethene, total	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
1,2-Dichloropropane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
2-Butanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 3.3	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
2-Hexanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
4-Methyl-2-Pentanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Acetone	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 6.6	**0.004**	< 0.012	**0.057**	< 0.012	< 0.012	< 0.013	**0.021**	**0.007**	**0.003**	< 0.013	< 0.012	**0.009**
Benzene	mg/Kg	< 0.0064	< 0.0048	< 0.0051	< 0.0058	< 0.0056	< 0.0046	**0.024**	< 6	**0.023**	**0.012**	**1.2**	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Bromodichloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Bromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Carbon Disulfide	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.66	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Carbon tetrachloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Chlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Chlorodibromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Chloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Chloroform	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Chloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
cis-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Ethylbenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**0.73**	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	**0.032**	< 0.012	< 0.012
Methylene Chloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.66	< 0.012	< 0.012	< 0.048	< 0.017	**0.079**	< 0.013	< 0.013	< 0.012	< 0.012	< 0.016	< 0.012	< 0.012
Styrene	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.66	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Tetrachloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.66	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Toluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**3.3**	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	**0.044**	< 0.012	< 0.012
trans-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Trichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Vinyl Acetate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Xylenes, total	mg/Kg	--	--	--	--	--	--	--	--	--	--	**9.9**	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	**0.29**	< 0.012	< 0.012
Semivolatile Organic Compounds																								
1,2-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.43	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location	GH-301	GH-304	GH-304	GH-304	GH-304	GH-306	GH-307	GH-307	GH-309	GH-309	GH-310	GP-118	GP-125	GP-125	GP-126	GP-126	GP-127	GP-127	GP-128	GP-128	GP-128	GP-128	GP-129
	Sample Date	12/3/1998	12/3/1998	12/3/1998	12/3/1998	12/3/1998	12/4/1998	12/5/1998	12/5/1998	12/5/1998	12/5/1998	12/8/1998	1/18/1996	1/22/1996	1/22/1996	1/22/1996	1/22/1996	1/24/1996	1/24/1996	1/25/1996	1/25/1996	1/25/1996	1/25/1996	1/25/1996
	Depth Interval (ft)	(8-10)	(2-4)	(4-6)	(6-8)	(12-14)	(2-4)	(4-6)	(14-16)	(8-10)	(12-14)	(10-12)	(0-4)	(0-5)	(5-9)	(0-5)	(5-9)	(0-5)	(5-9)	(0-5)	(5-9)	(13-16)	(16-19)	(0-5)
	Units																							
2-Chloronaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.41	< 0.41	< 0.4	< 0.41	< 0.41	< 0.44	< 0.42	< 0.4	< 0.41	< 4.2	< 0.4	< 0.39
2-Chlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.41	< 0.41	< 0.4	< 0.41	< 0.41	< 0.44	< 0.42	< 0.4	< 0.41	**20**	< 0.4	< 0.39
2-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.43	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Cresol)	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.43	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1-one	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**1.4**	< 0.41	< 0.41	< 0.4	< 0.41	< 0.41	< 0.44	< 0.42	< 0.4	< 0.41	**2**	< 0.4	< 0.39
Acenaphthylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**5.5**	< 0.41	< 0.41	< 0.4	< 0.41	< 0.41	< 0.44	< 0.42	< 0.4	< 0.41	**4.9**	< 0.4	< 0.39
Anthracene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**5.4**	< 0.41	< 0.41	< 0.4	< 0.41	< 0.41	< 0.44	< 0.42	< 0.4	< 0.41	**7.6**	< 0.4	< 0.39
Benzo(a)anthracene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**5.2**	< 0.41	< 0.41	**0.34**	< 0.41	< 0.41	**0.24**	< 0.42	< 0.4	< 0.41	**7**	< 0.4	**0.046**
Benzo(a)pyrene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**4.4**	< 0.41	< 0.41	**0.42**	< 0.41	< 0.41	**0.24**	< 0.42	< 0.4	< 0.41	**6**	< 0.4	< 0.39
Benzo(b)fluoranthene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**5.3**	< 0.41	< 0.41	**0.55**	< 0.41	< 0.41	**0.43**	< 0.42	< 0.4	< 0.41	**8.7**	< 0.4	< 0.39
Benzo(g,h,i)perylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**1.4**	< 0.41	< 0.41	**0.18**	< 0.41	< 0.41	**0.12**	< 0.42	< 0.4	< 0.41	**1.4**	< 0.4	< 0.39
Benzo(k)fluoranthene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**3.7**	< 0.41	< 0.41	**0.54**	< 0.41	< 0.41	**0.43**	< 0.42	< 0.4	< 0.41	**8.5**	< 0.4	< 0.39
Benzoic Acid	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.43	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**4.4**	< 0.41	< 0.41	**0.34**	< 0.41	< 0.41	**0.33**	< 0.42	< 0.4	< 0.41	**5.8**	< 0.4	< 0.39
Dibenzo(a,h)anthracene	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.43	< 0.41	< 0.41	< 0.4	< 0.41	< 0.41	< 0.44	< 0.42	< 0.4	< 0.41	**0.48**	< 0.4	< 0.39
Dibenzofuran	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.41	< 0.41	< 0.4	< 0.41	< 0.41	**0.066**	< 0.42	< 0.4	< 0.41	**8.5**	< 0.4	< 0.39
Diethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**12**	< 0.41	< 0.41	**0.33**	< 0.41	< 0.41	**0.67**	< 0.42	< 0.4	< 0.41	**14**	< 0.4	**0.068**
Fluorene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**4.9**	< 0.41	< 0.41	< 0.4	< 0.41	< 0.41	< 0.44	< 0.42	< 0.4	< 0.41	**10**	< 0.4	< 0.39
Heptachlor	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloro-1,3-butadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location	GH-301	GH-304	GH-304	GH-304	GH-304	GH-306	GH-307	GH-307	GH-309	GH-309	GH-310	GP-118	GP-125	GP-125	GP-126	GP-126	GP-127	GP-127	GP-128	GP-128	GP-128	GP-128	GP-129
	Sample Date	12/3/1998	12/3/1998	12/3/1998	12/3/1998	12/3/1998	12/4/1998	12/5/1998	12/5/1998	12/5/1998	12/5/1998	12/8/1998	1/18/1996	1/22/1996	1/22/1996	1/22/1996	1/22/1996	1/24/1996	1/24/1996	1/25/1996	1/25/1996	1/25/1996	1/25/1996	1/25/1996
	Depth Interval (ft)	(8-10)	(2-4)	(4-6)	(6-8)	(12-14)	(2-4)	(4-6)	(14-16)	(8-10)	(12-14)	(10-12)	(0-4)	(0-5)	(5-9)	(0-5)	(5-9)	(0-5)	(5-9)	(0-5)	(5-9)	(13-16)	(16-19)	(0-5)
	Units																							
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**0.48**	< 0.41	< 0.41	**0.21**	< 0.41	< 0.41	**0.14**	< 0.42	< 0.4	< 0.41	**1.7**	< 0.4	< 0.39
m-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**21**	< 0.41	< 0.41	< 0.4	< 0.41	< 0.41	**0.045**	< 0.42	< 0.4	< 0.41	**24**	< 0.4	< 0.39
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**17**	< 0.41	< 0.41	**0.17**	< 0.41	< 0.41	**0.69**	< 0.42	< 0.4	< 0.41	**20**	< 0.4	**0.045**
Phenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.43	--	--	--	--	--	--	--	--	--	--	--	--
P-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	mg/Kg	--	--	--	--	--	--	--	--	--	--	**11**	< 0.41	< 0.41	**0.46**	< 0.41	< 0.41	**0.66**	< 0.42	< 0.4	< 0.41	**15**	< 0.4	**0.067**
Tribromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.012
Inorganic Compounds																								
Aluminum (fume or dust)	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	**18600**	**8730**	**11300**	**23800**	**20000**	**11400**	**36400**	**17700**	**20800**	**26900**	**26200**	**7630**
Antimony	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 2.6	**0.57**	**1.7**	**1.7**	< 0.45	< 0.45	**1.9**	< 0.45	**0.67**	**0.46**	**0.62**	**0.51**	**0.62**
Arsenic	mg/Kg	--	--	--	--	--	--	--	--	--	--	**3.7**	**5.5**	**80.8**	**62.7**	**4**	**3.2**	**17.8**	**4.8**	**5.3**	**7.3**	**4.2**	**1.8**	**15.4**
Barium	mg/Kg	--	--	--	--	--	--	--	--	--	--	**42**	**51**	**26.8**	**129**	**109**	**53.6**	**248**	**193**	**241**	**218**	**90.4**	**77.9**	**73.3**
Beryllium	mg/Kg	--	--	--	--	--	--	--	--	--	--	**1.5**	**0.49**	**0.59**	**0.84**	**0.62**	**0.65**	**0.77**	**0.85**	**0.97**	**1.1**	**1.1**	**1**	**0.58**
Cadmium	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.66	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Calcium metal	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	**1400**	**49**	**1340**	**1350**	**576**	**23000**	**2380**	**3590**	**1040**	**779**	**640**	**26700**
Chromium	mg/Kg	--	--	--	--	--	--	--	--	--	--	**37**	**42.3**	**114**	**124**	**31.6**	**29.5**	**24.6**	**32.7**	**29**	**30.8**	**32**	**24.1**	**11.4**
Cobalt	mg/Kg	--	--	--	--	--	--	--	--	--	--	**17**	**8.8**	< 0.12	**3.8**	**4.1**	**5.3**	**11.1**	**8.1**	**12**	**12.3**	**25.6**	**13.4**	**7.1**
Copper	mg/Kg	--	--	--	--	--	--	--	--	--	--	**32**	**6.9**	**42.2**	**41.6**	**21.3**	**18.1**	**139**	**27.1**	**22.4**	**15.3**	**20.3**	**18.3**	**20.5**
Cyanide	mg/Kg	--	--	--	--	--	--	--	--	--	--	**29**	< 0.62	< 0.61	< 0.62	< 0.62	< 0.63	< 0.67	< 0.64	< 0.58	< 0.55	< 0.61	< 0.59	< 0.59
Iron	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	**21100**	**32000**	**40600**	**40600**	**37400**	**50000**	**36100**	**24900**	**35900**	**43700**	**29300**	**19900**
Lead	mg/Kg	--	--	--	--	--	--	--	--	--	--	**13**	**13.8**	**14.3**	**58.6**	**12.7**	**15.8**	**204**	**28.1**	**17.4**	**27.3**	**18.2**	**10.2**	**31**
Magnesium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	**1120**	**213**	**879**	**1010**	**960**	**2420**	**1250**	**1280**	**793**	**1610**	**2170**	**3560**
Manganese	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	**264**	**3**	**334**	**185**	**279**	**741**	**263**	**2010**	**660**	**509**	**370**	**747**
Mercury	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.12	< 0.12	**0.32**	< 0.12	< 0.13	**1**	**0.13**	**0.26**	**0.12**	< 0.13	< 0.12	< 0.11
Nickel	mg/Kg	--	--	--	--	--	--	--	--	--	--	**34**	**13.9**	**3**	**6.6**	**10.3**	**10.1**	**17.9**	**17.7**	**9.8**	**9.2**	**13.3**	**13.8**	**13.8**
Potassium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	**861**	**1080**	**1340**	**1500**	**1190**	**1100**	**2090**	**1330**	**1220**	**1770**	**2070**	**1000**
Selenium	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 1.3	< 0.65	**15**	**7.7**	**1.5**	**0.9**	**1.9**	**0.66**	< 0.63	**1.4**	**1.2**	**1.2**	**0.79**
Silver	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 1.3	< 0.18	**0.51**	**3.9**	< 0.17	< 0.18	**1.7**	< 0.18	< 0.17	< 0.17	< 0.18	< 0.18	< 0.16
Sodium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	**330**	**384**	**463**	**609**	**511**	**565**	**576**	**453**	**447**	**553**	**681**	**455**
Thallium	mg/Kg	--	--	--	--	--	--	--	--	--	--	< 1.3	< 0.88	< 0.85	< 0.87	< 0.87	< 0.88	< 0.91	< 0.88	< 0.85	< 0.87	< 0.88	< 0.9	< 0.81
Vanadium	mg/Kg	--	--	--	--	--	--	--	--	--	--	**28**	**37.1**	**80.2**	**47.2**	**50.4**	**36.7**	**23.3**	**56.2**	**41.8**	**52.4**	**55**	**49.4**	**22.6**
Zinc	mg/Kg	--	--	--	--	--	--	--	--	--	--	**64**	**78.8**	**8.9**	**40.7**	**44.8**	**49.3**	**250**	**85.7**	**39.8**	**40.3**	**66.1**	**51.7**	**58.7**

Notes:
mg/Kg - milligrams per kilogram
ft - feet below ground surface
bold - analyte detected

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location	GP-129	GP-129	GP-129	GP-130	GP-130	GP-130	GP-130	GP-131	GP-132	GP-132	GP-133	GP-133
	Sample Date	1/25/1996	1/25/1996	1/25/1996	1/26/1996	1/26/1996	1/26/1996	1/26/1996	2/10/1996	2/9/1996	2/9/1996	2/8/1996	2/8/1996
	Depth Interval (ft)	(5-9)	(13-17)	(21-26)	(2-6)	(6-11)	(14-17)	(17-21)	(0-5)	(1-5)	(5-9)	(2-6)	(6-10)
	Units												
Volatile Organic Compounds													
1,1,1-Trichloroethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
1,1,2,2-Tetrachloroethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
1,1,2-Trichloroethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
1,1-Dichloroethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
1,1-Dichloroethylene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
1,2,4-Trichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
1,2-Dichloroethene, total	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
1,2-Dichloropropane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
2-Butanone	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
2-Hexanone	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
4-Methyl-2-Pentanone	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Acetone	mg/Kg	**0.12**	**0.024**	< 0.012	**0.009**	**0.007**	**0.002**	< 0.012	< 0.012	< 0.017	< 0.012	< 0.041	**0.092**
Benzene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Bromodichloromethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Bromomethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Carbon Disulfide	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Carbon tetrachloride	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Chlorobenzene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Chlorodibromomethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Chloroethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Chloroform	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Chloromethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
cis-1,3-Dichloropropene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Ethylbenzene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Methylene Chloride	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	**0.054**	< 0.012	< 0.012	< 0.012	< 0.013	< 0.018
Styrene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Tetrachloroethylene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Toluene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
trans-1,3-Dichloropropene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Trichloroethylene	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Vinyl Acetate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Xylenes, total	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Semivolatile Organic Compounds													
1,2-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--

Parameter	Location	GP-303	GP-303	GP-304	GP-304	GP-305	GP-305	GP-306	GP-307	GP-307	GP-307	GP-308	GP-309	GP-309	GP-309
	Sample Date	12/5/1998	12/5/1998	12/4/1998	12/4/1998	12/6/1998	12/6/1998	12/6/1998	12/7/1998	12/7/1998	12/7/1998	12/7/1998	12/9/1998	12/9/1998	12/9/1998
	Depth Interval (ft)	(16-18)	(20-22)	(14-16)	(22-24)	(16-18)	(20-22)	(12-14.5)	(6-7)	(14-16)	(20-22)	(10-12)	(0-2)	(6-8)	(14-16)
	Units														
Volatile Organic Compounds															
1,1,1-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	mg/Kg	< 0.022	< 0.023	< 1	< 0.022	< 0.022	< 0.022	< 0.03	< 0.089	< 0.029	< 0.03	< 0.03	**0.047**	< 0.028	**0.026**
2-Hexanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	mg/Kg	< 0.043	< 0.046	< 2.1	< 0.043	< 0.044	< 0.043	< 0.059	**0.67**	**0.092**	**0.093**	< 0.06	**0.27**	**0.07**	**0.13**
Benzene	mg/Kg	< 0.0043	< 0.0046	**0.66**	< 0.2	< 0.0044	< 0.0043	< 0.0059	**0.054**	< 0.0057	**0.016**	< 0.006	< 0.0077	**0.015**	**0.017**
Bromodichloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	mg/Kg	< 0.0043	< 0.0046	< 0.21	**0.012**	< 0.0044	**0.0061**	< 0.0059	< 0.018	< 0.0057	**0.016**	< 0.006	**0.0095**	**0.023**	**0.064**
Carbon tetrachloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	mg/Kg	< 0.0043	< 0.0046	**1.2**	**0.037**	< 0.0044	< 0.0043	< 0.0059	**0.018**	< 0.0057	< 0.006	< 0.006	< 0.0077	< 0.0056	**0.0076**
Methylene Chloride	mg/Kg	< 0.0043	< 0.0046	< 0.21	< 0.0043	< 0.0044	< 0.0043	< 0.0059	< 0.018	< 0.0057	< 0.006	< 0.006	**0.0089**	< 0.0056	< 0.0051
Styrene	mg/Kg	< 0.0043	< 0.0046	**0.36**	< 0.0043	< 0.0044	< 0.0043	< 0.0059	< 0.018	< 0.0057	< 0.006	< 0.006	< 0.0077	< 0.0056	< 0.0051
Tetrachloroethylene	mg/Kg	< 0.0043	< 0.0046	< 0.21	< 0.0043	< 0.0044	< 0.0043	< 0.0059	< 0.018	< 0.0057	< 0.006	< 0.006	< 0.0077	< 0.0056	< 0.0051
Toluene	mg/Kg	< 0.0043	< 0.0046	**1.8**	**0.05**	< 0.0044	< 0.0043	< 0.0059	**0.13**	< 0.0057	< 0.006	< 0.006	**0.008**	**0.017**	**0.0085**
trans-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	mg/Kg	< 0.0043	< 0.0046	**6.6**	**0.079**	< 0.0044	< 0.0043	< 0.0059	**0.16**	< 0.0057	< 0.006	< 0.006	**0.014**	**0.0097**	**0.19**
Semivolatile Organic Compounds															
1,2-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	mg/Kg	< 0.42	< 0.43	< 17	< 1.6	< 0.41	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	< 2.3	< 0.4	< 0.4
2,4-Dinitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location / Sample Date / Depth Interval (ft) / Units	GP-129 1/25/1996 (5-9)	GP-129 1/25/1996 (13-17)	GP-129 1/25/1996 (21-26)	GP-130 1/26/1996 (2-6)	GP-130 1/26/1996 (6-11)	GP-130 1/26/1996 (14-17)	GP-130 1/26/1996 (17-21)	GP-131 2/10/1996 (0-5)	GP-132 2/9/1996 (1-5)	GP-132 2/9/1996 (5-9)	GP-133 2/8/1996 (2-6)	GP-133 2/8/1996 (6-10)
2-Chloronaphthalene	mg/Kg	< 0.42	< 0.41	< 0.41	< 0.42	< 0.42	< 0.42	< 0.43	< 0.41	< 0.4	< 0.4	< 0.42	< 0.44
2-Chlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/Kg	< 0.42	< 0.41	< 0.41	< 0.42	< 0.42	< 0.42	< 0.43	< 0.41	< 0.4	< 0.4	< 0.42	< 0.44
2-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Cresol)	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1-one	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	mg/Kg	< 0.42	< 0.41	< 0.41	< 0.42	< 0.42	< 0.42	< 0.43	< 0.41	< 0.4	< 0.4	< 0.42	< 0.44
Acenaphthylene	mg/Kg	< 0.42	< 0.41	< 0.41	< 0.42	< 0.42	< 0.42	< 0.43	< 0.41	< 0.4	< 0.4	< 0.42	< 0.44
Anthracene	mg/Kg	< 0.42	< 0.41	< 0.41	< 0.42	< 0.42	< 0.42	< 0.43	< 0.41	< 0.4	< 0.4	< 0.42	< 0.44
Benzo(a)anthracene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.091**	< 0.42	< 0.42	< 0.43	**0.39**	< 0.4	< 0.4	< 0.42	**0.35**
Benzo(a)pyrene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.16**	< 0.42	< 0.42	< 0.43	**0.46**	< 0.4	< 0.4	< 0.42	**0.3**
Benzo(b)fluoranthene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.26**	< 0.42	< 0.42	< 0.43	**0.84**	< 0.4	< 0.4	< 0.42	**0.49**
Benzo(g,h,i)perylene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.091**	< 0.42	< 0.42	< 0.43	**0.41**	< 0.4	< 0.4	< 0.42	**0.12**
Benzo(k)fluoranthene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.25**	< 0.42	< 0.42	< 0.43	**0.87**	< 0.4	< 0.4	< 0.42	**0.51**
Benzoic Acid	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.099**	< 0.42	< 0.42	< 0.43	**0.34**	< 0.4	< 0.4	< 0.42	**0.35**
Dibenzo(a,h)anthracene	mg/Kg	< 0.42	< 0.41	< 0.41	< 0.42	< 0.42	< 0.42	< 0.43	< 0.41	< 0.4	< 0.4	< 0.42	< 0.44
Dibenzofuran	mg/Kg	< 0.42	< 0.41	< 0.41	< 0.42	< 0.42	< 0.42	< 0.43	< 0.41	< 0.4	< 0.4	< 0.42	< 0.44
Diethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.09**	< 0.42	< 0.42	< 0.43	**0.49**	< 0.4	< 0.4	< 0.42	**0.47**
Fluorene	mg/Kg	< 0.42	< 0.41	< 0.41	< 0.42	< 0.42	< 0.42	< 0.43	< 0.41	< 0.4	< 0.4	< 0.42	< 0.44
Heptachlor	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloro-1,3-butadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--

Parameter	Location / Sample Date / Depth Interval (ft) / Units	GP-303 12/5/1998 (16-18)	GP-303 12/5/1998 (20-22)	GP-304 12/4/1998 (14-16)	GP-304 12/4/1998 (22-24)	GP-305 12/6/1998 (16-18)	GP-305 12/6/1998 (20-22)	GP-306 12/6/1998 (12-14.5)	GP-307 12/7/1998 (6-7)	GP-307 12/7/1998 (14-16)	GP-307 12/7/1998 (20-22)	GP-308 12/7/1998 (10-12)	GP-309 12/9/1998 (0-2)	GP-309 12/9/1998 (6-8)	GP-309 12/9/1998 (14-16)
2-Chloronaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	mg/Kg	< 0.42	< 0.43	< 17	< 1.6	< 0.41	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	< 2.3	< 0.4	< 0.4
2-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Cresol)	mg/Kg	< 0.42	< 0.43	< 17	< 1.6	< 0.41	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	< 2.3	< 0.4	< 0.4
3,3`-Dichlorobenzidine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1-one	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	mg/Kg	< 0.42	< 0.43	< 17	**2.4**	**0.77**	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	< 2.3	< 0.4	< 0.4
Acenaphthylene	mg/Kg	< 0.42	**0.57**	**30**	**1.9**	**1.1**	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	< 2.3	< 0.4	< 0.4
Anthracene	mg/Kg	< 0.42	**1.1**	**30**	**3.1**	**7.4**	**0.9**	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	**4.5**	< 0.4	< 0.4
Benzo(a)anthracene	mg/Kg	< 0.42	**5.4**	**26**	**2.6**	**22**	**3.5**	< 0.42	< 6.3	< 0.39	< 0.41	**0.6**	**15**	< 0.4	< 0.4
Benzo(a)pyrene	mg/Kg	< 0.42	**6**	**25**	**2.5**	**22**	**3.5**	< 0.42	< 6.3	< 0.39	< 0.41	**0.84**	**22**	< 0.4	< 0.4
Benzo(b)fluoranthene	mg/Kg	< 0.42	**8.4**	**24**	**2.5**	**27**	**4.9**	< 0.42	< 6.3	< 0.39	< 0.41	**0.92**	**24**	< 0.4	< 0.4
Benzo(g,h,i)perylene	mg/Kg	< 0.42	**2.5**	< 17	< 1.6	**7**	**0.71**	< 0.42	< 6.3	< 0.39	< 0.41	**0.65**	**8.3**	< 0.4	< 0.4
Benzo(k)fluoranthene	mg/Kg	< 0.42	**4.5**	< 17	< 1.6	**13**	**2.5**	< 0.42	< 6.3	< 0.39	< 0.41	**0.46**	**12**	< 0.4	< 0.4
Benzoic Acid	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	< 0.42	< 0.43	< 17	< 1.6	< 0.41	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	< 2.3	< 0.4	< 0.4
Chrysene	mg/Kg	**0.45**	**4.8**	**24**	**2.4**	**22**	**3.5**	< 0.42	< 6.3	< 0.39	< 0.41	**0.64**	**16**	< 0.4	< 0.4
Dibenzo(a,h)anthracene	mg/Kg	< 0.42	**0.62**	< 17	< 1.6	**0.81**	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	**3**	< 0.4	< 0.4
Dibenzofuran	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	mg/Kg	**0.49**	**9**	**66**	**6.7**	**35**	**3.6**	< 0.42	< 6.3	< 0.39	< 0.41	**0.58**	**19**	< 0.4	< 0.4
Fluorene	mg/Kg	< 0.42	< 0.43	**28**	**2.9**	**1.1**	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	**2.4**	< 0.4	< 0.4
Heptachlor	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloro-1,3-butadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location	GP-129	GP-129	GP-129	GP-130	GP-130	GP-130	GP-130	GP-131	GP-132	GP-132	GP-133	GP-133
	Sample Date	1/25/1996	1/25/1996	1/25/1996	1/26/1996	1/26/1996	1/26/1996	1/26/1996	2/10/1996	2/9/1996	2/9/1996	2/8/1996	2/8/1996
	Depth Interval (ft)	(5-9)	(13-17)	(21-26)	(2-6)	(6-11)	(14-17)	(17-21)	(0-5)	(1-5)	(5-9)	(2-6)	(6-10)
	Units												
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.11**	< 0.42	< 0.42	< 0.43	**0.14**	< 0.4	< 0.4	< 0.42	**0.15**
m-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/Kg	< 0.42	< 0.41	< 0.41	< 0.42	< 0.42	< 0.42	< 0.43	< 0.41	< 0.4	< 0.4	< 0.42	< 0.44
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.046**	< 0.42	< 0.42	< 0.43	**0.24**	< 0.4	< 0.4	< 0.42	**0.16**
Phenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
P-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	mg/Kg	< 0.42	< 0.41	< 0.41	**0.099**	< 0.42	< 0.42	< 0.43	**0.33**	< 0.4	< 0.4	< 0.42	**0.6**
Tribromomethane	mg/Kg	< 0.013	< 0.012	< 0.012	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.012	< 0.013	< 0.013
Inorganic Compounds													
Aluminum (fume or dust)	mg/Kg	**17800**	**27000**	**25200**	**18500**	**17900**	**20500**	**15300**	**10000**	**13100**	**11800**	**5620**	**17900**
Antimony	mg/Kg	< 0.46	< 0.46	**1**	**2.1**	**0.5**	< 0.46	< 0.44	**1.3**	**1.2**	< 0.42	**4.1**	**4.1**
Arsenic	mg/Kg	**3.5**	**3.1**	**3.6**	**9.5**	**4.3**	**5.1**	**1.8**	**10.2**	**49.8**	**3.7**	**39.9**	**6.2**
Barium	mg/Kg	**132**	**161**	**118**	**328**	**81.7**	**89.3**	**70.2**	**282**	**39.5**	**230**	**21.1**	**190**
Beryllium	mg/Kg	**0.52**	**1.3**	**1.2**	**0.94**	**0.87**	**1.2**	**1.5**	**0.47**	**0.73**	**0.78**	**0.4**	**1**
Cadmium	mg/Kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	**0.24**	< 0.05	< 0.05	< 0.05	< 0.05
Calcium metal	mg/Kg	**7460**	**839**	**925**	**7770**	**1250**	**1450**	**764**	**54700**	**185**	**2370**	**197**	**2190**
Chromium	mg/Kg	**24.2**	**30.3**	**28.5**	**67.9**	**36.7**	**25.6**	**14.4**	**36**	**179**	**17.2**	**326**	**22.1**
Cobalt	mg/Kg	**9.8**	**14**	**12.1**	**9**	**3.4**	**39.9**	**15.4**	**4.9**	**0.29**	**14.8**	< 0.12	**10.1**
Copper	mg/Kg	**13.8**	**22.2**	**21.7**	**63.4**	**16.8**	**19.5**	**14.1**	**38**	**39.2**	**18.7**	**30.5**	**210**
Cyanide	mg/Kg	< 0.63	< 0.62	< 0.58	< 0.57	< 0.64	< 0.59	< 0.6	**3.8**	< 0.6	< 0.61	< 0.64	**1**
Iron	mg/Kg	**25600**	**31900**	**32000**	**29800**	**37700**	**43500**	**23200**	**26100**	**32500**	**19900**	**14700**	**26500**
Lead	mg/Kg	**69.7**	**15.6**	**14.3**	**95.2**	**12.5**	**20**	**11**	**360**	**18.3**	**399**	**27.1**	**182**
Magnesium	mg/Kg	**1160**	**3010**	**3000**	**1850**	**937**	**1580**	**1750**	**11200**	**503**	**695**	**267**	**1930**
Manganese	mg/Kg	**988**	**616**	**559**	**1320**	**72.8**	**1610**	**304**	**480**	**11.3**	**1570**	**4.4**	**919**
Mercury	mg/Kg	**0.46**	< 0.12	< 0.12	**4.5**	< 0.1	< 0.13	< 0.12	**0.96**	< 0.12	**1.1**	< 0.64	**0.15**
Nickel	mg/Kg	**10.2**	**16.8**	**15.5**	**11.1**	**7.9**	**12.4**	**9.5**	**9.8**	**5.9**	**7.6**	**2.4**	**13.3**
Potassium	mg/Kg	**1970**	**2420**	**2060**	**1440**	**1240**	**1680**	**1620**	**1040**	**1340**	**938**	**675**	**1450**
Selenium	mg/Kg	< 0.66	**1.2**	**1.3**	**1.3**	**0.79**	< 0.67	< 0.63	**1.8**	**13.1**	< 0.61	**9.6**	**1.2**
Silver	mg/Kg	< 0.18	< 0.18	**3.4**	< 0.18	< 0.18	< 0.18	< 0.17	**0.82**	**0.43**	< 0.16	**0.26**	< 0.19
Sodium	mg/Kg	**512**	**617**	**677**	**530**	**403**	**515**	**525**	**544**	**277**	**318**	**295**	**458**
Thallium	mg/Kg	< 0.89	< 0.89	< 0.87	< 0.89	< 0.88	< 0.9	< 0.85	< 0.86	< 0.85	< 0.82	< 0.85	< 0.93
Vanadium	mg/Kg	**28.1**	**48.3**	**48.6**	**41.2**	**47.9**	**54.1**	**40.7**	**24.5**	**99.9**	**28.4**	**128**	**30.3**
Zinc	mg/Kg	**107**	**73.4**	**63.2**	**84.2**	**35**	**53.1**	**41**	**296**	**19**	**40.5**	**9.9**	**145**

Parameter	Location	GP-303	GP-303	GP-304	GP-304	GP-305	GP-305	GP-306	GP-307	GP-307	GP-307	GP-308	GP-309	GP-309	GP-309
	Sample Date	12/5/1998	12/5/1998	12/4/1998	12/4/1998	12/6/1998	12/6/1998	12/6/1998	12/7/1998	12/7/1998	12/7/1998	12/7/1998	12/9/1998	12/9/1998	12/9/1998
	Depth Interval (ft)	(16-18)	(20-22)	(14-16)	(22-24)	(16-18)	(20-22)	(12-14.5)	(6-7)	(14-16)	(20-22)	(10-12)	(0-2)	(6-8)	(14-16)
	Units														
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	< 0.42	**0.94**	< 17	< 1.6	**2.4**	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	**0.58**	**6.4**	< 0.4	< 0.4
m-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/Kg	< 0.42	< 0.43	**140**	**11**	**0.63**	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	**2.8**	< 0.4	< 0.4
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	< 0.42	**1.6**	**99**	**10**	**20**	**2.6**	< 0.42	**7.1**	< 0.39	< 0.41	**0.45**	**12**	< 0.4	< 0.4
Phenol	mg/Kg	< 0.42	< 0.43	< 17	< 1.6	< 0.41	< 0.45	< 0.42	< 6.3	< 0.39	< 0.41	< 0.43	< 2.3	< 0.4	< 0.4
P-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	mg/Kg	**0.64**	**8.5**	**58**	**5.9**	**29**	**4.3**	< 0.42	< 6.3	< 0.39	< 0.41	**0.64**	**18**	< 0.4	< 0.4
Tribromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Compounds															
Aluminum (fume or dust)	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	mg/Kg	< 2.5	< 2.2	< 2.4	< 2.2	< 2.5	< 2.8	< 2.6	< 3.8	< 2.4	< 2.3	< 2.6	< 2.5	< 2.2	< 2.2
Arsenic	mg/Kg	**12**	**3.6**	**5.7**	< 1.1	**17**	**5.9**	**18**	**3.3**	**3.6**	**3.3**	**4.4**	**12**	**3.8**	**3**
Barium	mg/Kg	**43**	**110**	**100**	**18**	**180**	**150**	**160**	**86**	**79**	**81**	**300**	**120**	**120**	**74**
Beryllium	mg/Kg	**0.74**	**0.9**	**0.92**	< 0.56	**1.1**	**1.2**	**1.9**	< 0.96	**0.65**	**0.57**	**1.6**	< 0.63	**0.84**	**0.68**
Cadmium	mg/Kg	< 0.63	< 0.56	< 0.59	< 0.56	< 0.63	< 0.69	< 0.64	< 0.96	< 0.6	< 0.57	< 0.66	< 0.63	< 0.55	< 0.55
Calcium metal	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	mg/Kg	**62**	**24**	**23**	**9.3**	**17**	**24**	**21**	**10**	**23**	**25**	**28**	**9.8**	**21**	**22**
Cobalt	mg/Kg	**10**	**7.2**	**14**	**4.1**	**8.6**	**16**	**14**	**3.2**	**14**	**7.7**	**14**	**3.9**	**10**	**11**
Copper	mg/Kg	**6.2**	**15**	**19**	< 2.8	**37**	**15**	**100**	**11**	**15**	**14**	**20**	**19**	**15**	**16**
Cyanide	mg/Kg	< 1.3	**6.7**	**2.2**	< 1.2	**62**	**13**	**2.2**	**2.4**	< 1.2	**1.7**	< 1.3	**87**	**1.6**	**6.2**
Iron	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	mg/Kg	**18**	**11**	**24**	**2.7**	**36**	**39**	**34**	**150**	**12**	**12**	**19**	**60**	**12**	**13**
Magnesium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	mg/Kg	**0.11**	**31**	**0.052**	< 0.012	**0.14**	**0.053**	< 0.013	**0.23**	**0.046**	**0.038**	**0.15**	**0.31**	**0.039**	**0.043**
Nickel	mg/Kg	**13**	**15**	**16**	**5**	**12**	**16**	**20**	< 7.7	**11**	**13**	**18**	**5.9**	**8.9**	**13**
Potassium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	mg/Kg	< 1.3	< 1.1	< 1.2	< 1.1	< 1.3	< 1.4	< 1.3	< 1.9	< 1.2	< 1.1	< 1.3	< 1.3	< 1.1	< 1.1
Silver	mg/Kg	< 1.3	< 1.1	< 1.2	< 1.1	< 1.3	< 1.4	< 1.3	< 1.9	< 1.2	< 1.1	< 1.3	< 1.3	< 1.1	< 1.1
Sodium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	mg/Kg	< 1.3	< 1.1	< 1.2	< 1.1	< 1.3	< 1.4	< 1.3	< 1.9	< 1.2	< 1.1	< 1.3	< 1.3	< 1.1	< 1.1
Vanadium	mg/Kg	**61**	**45**	**42**	**18**	**30**	**36**	**38**	**12**	**40**	**41**	**38**	**21**	**39**	**46**
Zinc	mg/Kg	**70**	**51**	**67**	**17**	**15**	**70**	**54**	**56**	**38**	**36**	**82**	**42**	**37**	**60**

Notes:
mg/Kg - milligrams per kilogram
ft - feet below ground surface
bold - analyte detected

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location Sample Date Depth Interval (ft) Units	GP-309 12/9/1998 (22-24)	GP-310 12/9/1998 (10-12)	GP-310 12/9/1998 (16-18)	GP-311 12/14/1998 (8-10)	GP-311 12/14/1998 (18-20)	GP-311 12/14/1998 (24-26)	GP-312 12/14/1998 (8-11)	GP-312 12/14/1998 (11-13)	GP-313 12/15/1998 (8-10)	GP-314 12/15/1998 (0-2)	GP-314 12/15/1998 (6-8)	GP-315 12/16/1998 (0-2)	GP-315 12/16/1998 (6-8)	GP-316 12/16/1998 (0-2)	GP-316 12/16/1998 (8-10)	GP-317 12/16/1998 (0-2)	GP-317 12/16/1998 (3-5)	GP-317 12/16/1998 (5-7)	GP-318 12/16/1998 (8-10)	GP-320 12/17/1998 (5-7)	GP-327 12/20/1998 (0-2)	GP-327 12/20/1998 (6-8)	GP-330 12/21/1998 (10-12)	HA-104 2/8/1996 (1-3)
Volatile Organic Compounds																									
1,1,1-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
1,1,2,2-Tetrachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
1,1,2-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
1,1-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
1,1-Dichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
1,2,4-Trichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
1,2-Dichloroethene, total	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
1,2-Dichloropropane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
2-Butanone	mg/Kg	< 2.8	< 0.023	< 15	< 0.019	< 0.018	< 0.022	< 0.04	< 0.023	< 0.038	< 0.026	< 0.021	< 0.022	< 0.02	< 0.023	< 0.02	< 0.024	< 0.022	< 0.02	< 0.024	< 0.045	< 0.024	< 0.026	< 0.027	< 0.013
2-Hexanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
4-Methyl-2-Pentanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Acetone	mg/Kg	< 5.6	< 0.046	< 30	**0.075**	< 0.036	< 0.045	< 0.08	< 0.046	**0.12**	< 0.052	< 0.042	< 0.043	< 0.04	< 0.047	< 0.04	< 0.047	**0.078**	< 0.04	< 0.049	< 0.089	**0.084**	**0.072**	**0.099**	< 0.013
Benzene	mg/Kg	< 0.56	< 0.0046	< 3	**0.011**	< 0.2	**0.048**	< 0.008	< 0.0046	< 0.0075	< 0.0052	< 0.0042	< 0.0043	< 0.004	< 0.0047	< 0.004	< 0.0047	< 0.0044	< 0.004	**0.043**	< 0.0089	< 0.0047	**0.0066**	**0.022**	< 0.013
Bromodichloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Bromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Carbon Disulfide	mg/Kg	< 0.56	< 0.0046	< 3	**0.011**	**0.0036**	**0.0079**	< 0.008	< 0.0046	< 0.0075	< 0.0052	< 0.0042	< 0.0043	< 0.004	< 0.0047	< 0.004	< 0.0047	**0.026**	< 0.004	**0.0076**	< 0.0089	< 0.0047	< 0.0052	< 0.0054	< 0.013
Carbon tetrachloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Chlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Chlorodibromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Chloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Chloroform	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Chloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
cis-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Ethylbenzene	mg/Kg	< 0.56	< 0.0046	**17**	< 0.0037	**0.068**	**0.14**	< 0.008	< 0.0046	< 0.0075	< 0.0052	< 0.0042	< 0.0043	< 0.004	< 0.0047	< 0.004	< 0.0047	< 0.0044	< 0.004	**0.014**	< 0.0089	< 0.0047	< 0.0052	< 0.0054	< 0.013
Methylene Chloride	mg/Kg	< 0.56	< 0.0046	< 3	< 0.0037	< 0.0036	< 0.0045	< 0.008	< 0.0046	< 0.0075	< 0.0052	< 0.0042	< 0.0043	< 0.004	< 0.0047	< 0.004	< 0.0047	< 0.0044	< 0.004	< 0.0049	< 0.0089	< 0.0047	< 0.0052	< 0.0054	< 0.013
Styrene	mg/Kg	< 0.56	< 0.0046	< 3	< 0.0037	< 0.0036	< 0.0045	< 0.008	< 0.0046	< 0.0075	< 0.0052	< 0.0042	< 0.0043	< 0.004	< 0.0047	< 0.004	< 0.0047	< 0.0044	< 0.004	< 0.0049	< 0.0089	< 0.0047	< 0.0052	< 0.0054	< 0.013
Tetrachloroethylene	mg/Kg	< 0.56	< 0.0046	< 3	< 0.0037	< 0.0036	< 0.0045	< 0.008	< 0.0046	< 0.0075	< 0.0052	< 0.0042	< 0.0043	< 0.004	< 0.0047	< 0.004	< 0.0047	< 0.0044	< 0.004	< 0.0049	< 0.0089	< 0.0047	< 0.0052	< 0.0054	< 0.013
Toluene	mg/Kg	< 0.56	< 0.0046	< 3	< 0.0037	< 0.0036	**0.025**	< 0.008	< 0.0046	< 0.0075	< 0.0052	< 0.0042	< 0.0043	< 0.004	< 0.0047	< 0.004	< 0.0047	< 0.0044	< 0.004	**0.014**	< 0.0089	< 0.0047	< 0.0052	< 0.0054	< 0.013
trans-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Trichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Vinyl Acetate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Xylenes, total	mg/Kg	**0.7**	< 0.0046	**56**	< 0.0037	**0.26**	**0.19**	< 0.008	< 0.0046	< 0.0075	< 0.0052	< 0.0042	**0.0081**	< 0.004	< 0.0047	< 0.004	< 0.0047	< 0.0044	< 0.004	**0.027**	< 0.0089	< 0.0047	< 0.0052	< 0.0054	< 0.013
Semivolatile Organic Compounds																									
1,2-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	mg/Kg	< 15	< 0.41	< 80	< 0.41	< 0.4	< 0.43	< 0.46	< 0.42	< 0.46	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	**1.3**	< 0.39	< 0.39	< 0.4	< 0.44	< 0.41	< 3.9	< 0.42	< 0.44	--
2,4-Dinitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location / Sample Date / Depth Interval (ft) / Units	GP-309 12/9/1998 (22-24)	GP-310 12/9/1998 (10-12)	GP-310 12/9/1998 (16-18)	GP-311 12/14/1998 (8-10)	GP-311 12/14/1998 (18-20)	GP-311 12/14/1998 (24-26)	GP-312 12/14/1998 (8-11)	GP-312 12/14/1998 (11-13)	GP-313 12/15/1998 (8-10)	GP-314 12/15/1998 (0-2)	GP-314 12/15/1998 (6-8)	GP-315 12/16/1998 (0-2)	GP-315 12/16/1998 (6-8)	GP-316 12/16/1998 (0-2)	GP-316 12/16/1998 (8-10)	GP-317 12/16/1998 (0-2)	GP-317 12/16/1998 (3-5)	GP-317 12/16/1998 (5-7)	GP-318 12/16/1998 (8-10)	GP-320 12/17/1998 (5-7)	GP-327 12/20/1998 (0-2)	GP-327 12/20/1998 (6-8)	GP-330 12/21/1998 (10-12)	HA-104 2/8/1996 (1-3)
2-Chloronaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.43
2-Chlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.43
2-Methylphenol	mg/Kg	< 15	< 0.41	< 80	< 0.41	< 0.4	< 0.43	< 0.46	< 0.42	< 0.46	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	**0.9**	< 0.39	< 0.39	< 0.4	< 0.44	< 0.41	< 3.9	< 0.42	< 0.44	--
2-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Cresol)	mg/Kg	< 15	< 0.41	< 80	< 0.41	< 0.4	< 0.43	< 0.46	< 0.42	< 0.46	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	**2.7**	< 0.39	< 0.39	< 0.4	< 0.44	< 0.41	< 3.9	< 0.42	< 0.44	--
3,3`-Dichlorobenzidine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1-one	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	mg/Kg	< 15	< 0.41	**160**	**1**	< 0.4	< 0.43	< 0.46	< 0.42	< 0.46	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	**2.2**	< 0.39	< 0.39	< 0.4	**4.5**	< 0.41	**9**	< 0.42	**1.3**	< 0.43
Acenaphthylene	mg/Kg	**17**	< 0.41	< 80	**2.6**	< 0.4	< 0.43	< 0.46	< 0.42	< 0.46	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	**4.6**	< 0.39	< 0.39	< 0.4	**7.4**	< 0.41	< 3.9	< 0.42	< 0.44	< 0.43
Anthracene	mg/Kg	< 15	< 0.41	**130**	**4.5**	< 0.4	< 0.43	**2.7**	< 0.42	**0.57**	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	< 41	< 0.39	< 0.39	< 0.4	**16**	< 0.41	**20**	< 0.42	**4.3**	< 0.43
Benzo(a)anthracene	mg/Kg	< 15	< 0.41	**90**	**3**	< 0.4	< 0.43	**14**	< 0.42	**2**	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	**42**	< 0.39	< 0.39	< 0.4	**40**	< 0.41	**43**	**0.98**	**8.2**	< 0.43
Benzo(a)pyrene	mg/Kg	< 15	< 0.41	< 80	**2**	< 0.4	< 0.43	**14**	< 0.42	**2.5**	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	< 41	< 0.39	< 0.39	< 0.4	**21**	< 0.41	**36**	**0.91**	**8**	< 0.43
Benzo(b)fluoranthene	mg/Kg	< 15	< 0.41	**71**	**2.7**	< 0.4	< 0.43	**16**	< 0.42	**3.5**	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	**55**	< 0.39	< 0.39	< 0.4	**39**	< 0.41	**39**	**0.86**	**4.1**	< 0.43
Benzo(g,h,i)perylene	mg/Kg	< 15	< 0.41	< 80	**0.66**	< 0.4	< 0.43	**6.3**	< 0.42	**1.4**	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	< 0.41	< 0.39	< 0.39	< 0.4	< 0.44	< 0.41	**22**	**0.72**	**3.5**	< 0.43
Benzo(k)fluoranthene	mg/Kg	< 15	< 0.41	< 80	**0.52**	< 0.4	< 0.43	**5**	< 0.42	**0.5**	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	< 41	< 0.39	< 0.39	< 0.4	**15**	< 0.41	**28**	**0.82**	**4.4**	< 0.43
Benzoic Acid	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	< 15	< 0.41	< 80	< 0.41	< 0.4	< 0.43	< 0.46	< 0.42	< 0.46	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	< 0.41	< 0.39	< 0.39	< 0.4	< 0.44	< 0.41	< 3.9	< 0.42	< 0.44	--
Chrysene	mg/Kg	< 15	< 0.41	**82**	**2.7**	< 0.4	< 0.43	**11**	< 0.42	**1.9**	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	**45**	< 0.39	< 0.39	< 0.4	**33**	< 0.41	**46**	**1**	**9.3**	< 0.43
Dibenzo(a,h)anthracene	mg/Kg	< 15	< 0.41	< 80	< 0.41	< 0.4	< 0.43	**3.8**	< 0.42	< 0.46	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	< 41	< 0.39	< 0.39	< 0.4	**5.6**	< 0.41	**10**	< 0.42	**2**	< 0.43
Dibenzofuran	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.43
Diethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	mg/Kg	< 15	< 0.41	**200**	**5.5**	< 0.4	< 0.43	**12**	< 0.42	**1.9**	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	**65**	< 0.39	< 0.39	< 0.4	< 0.44	< 0.41	**90**	**2.2**	**15**	< 0.43
Fluorene	mg/Kg	< 15	< 0.41	**120**	**4.8**	< 0.4	< 0.43	< 0.46	< 0.42	< 0.46	< 0.39	< 0.37	< 0.37	< 0.38	< 0.44	< 41	< 0.39	< 0.39	< 0.4	**12**	< 0.41	**9.7**	< 0.42	**1.7**	< 0.43
Heptachlor	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloro-1,3-butadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location Sample Date Depth Interval (ft) Units	GP-309 12/9/1998 (22-24)	GP-310 12/9/1998 (10-12)	GP-310 12/9/1998 (16-18)	GP-311 12/14/1998 (8-10)	GP-311 12/14/1998 (18-20)	GP-311 12/14/1998 (24-26)	GP-312 12/14/1998 (8-11)	GP-312 12/14/1998 (11-13)	GP-313 12/15/1998 (8-10)	GP-314 12/15/1998 (0-2)
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	< 15	< 0.41	< 80	**0.63**	< 0.4	< 0.43	**6.7**	< 0.42	**1.2**	< 0.39
m-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/Kg	**100**	< 0.41	**430**	< 0.41	**2**	< 0.43	< 0.46	< 0.42	< 0.46	< 0.39
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	**33**	< 0.41	**330**	**12**	**0.75**	< 0.43	**6**	< 0.42	**1.9**	< 0.39
Phenol	mg/Kg	< 15	< 0.41	< 80	< 0.41	< 0.4	< 0.43	< 0.46	< 0.42	< 0.46	< 0.39
P-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--
Pyrene	mg/Kg	< 15	< 0.41	**160**	**5.8**	< 0.4	< 0.43	**12**	< 0.42	**2.6**	< 0.39
Tribromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--
Inorganic Compounds											
Aluminum (fume or dust)	mg/Kg	--	--	--	--	--	--	--	--	--	--
Antimony	mg/Kg	< 2	< 2.3	< 2.4	< 2.5	< 2.2	< 2.6	< 2.8	< 2.4	< 2.8	< 2.4
Arsenic	mg/Kg	< 1	**2.5**	**1.5**	**6.4**	**3.5**	< 1.3	**25**	**3**	**27**	**52**
Barium	mg/Kg	**29**	**63**	**72**	**120**	**69**	**36**	**88**	**250**	**160**	**55**
Beryllium	mg/Kg	< 0.51	**0.6**	< 0.61	**0.86**	**0.86**	< 0.66	**2.3**	**1.7**	**2.9**	**1**
Cadmium	mg/Kg	< 0.51	< 0.57	< 0.61	< 0.62	< 0.56	< 0.66	< 0.7	< 0.59	< 0.69	< 0.59
Calcium metal	mg/Kg	--	--	--	--	--	--	--	--	--	--
Chromium	mg/Kg	**11**	**20**	**24**	**38**	**20**	**11**	**11**	**27**	**12**	**180**
Cobalt	mg/Kg	**6.5**	**17**	**9**	**6.2**	**13**	**6.3**	**6.8**	**12**	**23**	**1.7**
Copper	mg/Kg	**4.3**	**13**	**13**	**22**	**13**	**4.8**	**77**	**16**	**73**	**39**
Cyanide	mg/Kg	< 1.1	< 1.2	**3.8**	**110**	**3.9**	**1.5**	**46**	**2.7**	**69**	**1.3**
Iron	mg/Kg	--	--	--	--	--	--	--	--	--	--
Lead	mg/Kg	**3.6**	**9.4**	**8.6**	**12**	**9**	**4.7**	**34**	**14**	**60**	**18**
Magnesium	mg/Kg	--	--	--	--	--	--	--	--	--	--
Manganese	mg/Kg	--	--	--	--	--	--	--	--	--	--
Mercury	mg/Kg	**0.014**	**0.044**	**0.021**	**0.061**	**0.044**	**0.038**	**0.066**	**0.058**	**0.76**	**0.051**
Nickel	mg/Kg	**6.2**	**12**	**10**	**15**	**14**	**5.7**	**27**	**18**	**41**	**9.2**
Potassium	mg/Kg	--	--	--	--	--	--	--	--	--	--
Selenium	mg/Kg	< 1	< 1.1	< 1.2	< 1.2	< 1.1	< 1.3	< 1.4	< 1.2	< 1.4	**15**
Silver	mg/Kg	< 1	< 1.1	< 1.2	< 1.2	< 1.1	< 1.3	< 1.4	< 1.2	< 1.4	< 1.2
Sodium	mg/Kg	--	--	--	--	--	--	--	--	--	--
Thallium	mg/Kg	< 1	< 1.1	< 1.2	< 1.2	**1.8**	< 1.3	< 1.4	< 1.2	< 1.4	< 1.2
Vanadium	mg/Kg	**24**	**39**	**46**	**67**	**42**	**29**	**21**	**34**	**31**	**110**
Zinc	mg/Kg	**19**	**48**	**42**	**60**	**61**	**20**	**62**	**82**	**120**	**64**

Parameter	Location Sample Date Depth Interval (ft) Units	GP-314 12/15/1998 (6-8)	GP-315 12/16/1998 (0-2)	GP-315 12/16/1998 (6-8)	GP-316 12/16/1998 (0-2)	GP-316 12/16/1998 (8-10)	GP-317 12/16/1998 (0-2)	GP-317 12/16/1998 (3-5)	GP-317 12/16/1998 (5-7)	GP-318 12/16/1998 (8-10)	GP-320 12/17/1998 (5-7)	GP-327 12/20/1998 (0-2)	GP-327 12/20/1998 (6-8)	GP-330 12/21/1998 (10-12)	HA-104 2/8/1996 (1-3)
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	< 0.37	< 0.37	< 0.38	< 0.44	< 41	< 0.39	< 0.39	< 0.4	**24**	< 0.41	**21**	**0.64**	**4**	< 0.43
m-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/Kg	< 0.37	< 0.37	< 0.38	< 0.44	< 41	< 0.39	< 0.39	< 0.4	**23**	< 0.41	**22**	< 0.42	**3**	< 0.43
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	< 0.37	< 0.37	< 0.38	< 0.44	**79**	< 0.39	< 0.39	< 0.4	**46**	**0.48**	**91**	**1.8**	**17**	< 0.43
Phenol	mg/Kg	< 0.37	< 0.37	< 0.38	< 0.44	**1.4**	< 0.39	< 0.39	< 0.4	< 0.44	< 0.41	< 3.9	< 0.42	< 0.44	--
P-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	mg/Kg	< 0.37	< 0.37	< 0.38	< 0.44	**71**	< 0.39	< 0.39	< 0.4	**56**	**0.43**	**95**	**2**	**19**	< 0.43
Tribromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013
Inorganic Compounds															
Aluminum (fume or dust)	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	**11300**
Antimony	mg/Kg	< 2.2	< 2.2	< 2.3	< 2.4	< 2.5	< 2.4	< 2.4	< 2.4	< 2.7	**45**	**74**	**2.8**	< 2.4	**0.72**
Arsenic	mg/Kg	**21**	**9.6**	**17**	**27**	**63**	**57**	**34**	**6.4**	**17**	**6.5**	**26**	**7.7**	**4**	**10.3**
Barium	mg/Kg	**39**	**33**	**100**	**26**	**440**	**47**	**51**	**80**	**240**	**380**	**150**	**360**	**250**	**62.3**
Beryllium	mg/Kg	< 0.56	< 0.56	< 0.57	**1.4**	< 0.62	**0.9**	< 0.6	**0.69**	< 0.67	**0.82**	**0.89**	**1.3**	**1.5**	**0.79**
Cadmium	mg/Kg	< 0.56	< 0.56	< 0.57	< 0.61	< 0.62	< 0.59	< 0.6	< 0.61	**0.94**	< 0.62	**0.74**	< 0.65	< 0.61	< 0.05
Calcium metal	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	**4650**
Chromium	mg/Kg	**85**	**36**	**89**	**8.2**	**13**	**210**	**150**	**40**	**14**	**22**	**54**	**26**	**27**	**29.5**
Cobalt	mg/Kg	< 1.1	**1.6**	**2.7**	**6.8**	**7.7**	< 1.2	< 1.2	**5.6**	**8.1**	**15**	**13**	**14**	**13**	**6.6**
Copper	mg/Kg	**28**	**16**	**29**	**14**	**54**	**44**	**29**	**22**	**37**	**32**	**120**	**24**	**21**	**11.8**
Cyanide	mg/Kg	< 1.1	< 1.1	< 1.1	< 1.3	**46**	< 1.2	< 1.2	< 1.2	**3300**	**1.5**	**9.1**	**1.4**	**37**	**0.66**
Iron	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	**34100**
Lead	mg/Kg	**16**	**8.4**	**50**	**6.8**	**88**	**17**	**22**	**14**	**200**	**1500**	**1400**	**180**	**27**	**14.3**
Magnesium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	**600**
Manganese	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	**117**
Mercury	mg/Kg	**0.026**	**0.011**	**0.35**	**0.025**	**0.099**	**0.049**	**0.75**	**0.065**	**0.3**	**2.7**	**0.23**	**0.11**	**0.09**	< 0.12
Nickel	mg/Kg	**6.4**	**22**	**6.5**	**30**	**18**	< 4.7	**5.2**	**14**	**15**	**11**	**22**	**17**	**17**	**16.6**
Potassium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	**630**
Selenium	mg/Kg	**9.3**	**2.1**	**7.7**	< 1.2	**1.3**	**12**	**12**	< 1.2	< 1.3	< 1.2	< 1.2	< 1.3	< 1.2	**0.74**
Silver	mg/Kg	< 1.1	< 1.1	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.3	< 1.2	< 1.2	< 1.3	< 1.2	< 0.18
Sodium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	**315**
Thallium	mg/Kg	< 1.1	< 1.1	**1.2**	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.3	< 1.2	< 1.2	< 1.3	< 1.2	< 0.92
Vanadium	mg/Kg	**48**	**45**	**51**	**26**	**60**	**110**	**89**	**63**	**21**	**36**	**58**	**45**	**36**	**30.6**
Zinc	mg/Kg	**16**	**80**	**41**	**140**	**40**	**25**	**16**	**58**	**220**	**97**	**300**	**180**	**93**	**56.1**

Notes:
mg/Kg - milligrams per kilogram
ft - feet below ground surface
bold - analyte detected

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location	HA-104	HA-106	HA-106A	HA-200	HA-208	HA-209	HA-209	HA-300	HA-300	HA-300	HA-301	HA-301
	Sample Date	2/8/1996	2/9/1996	9/10/1997	9/8/1997	9/9/1997	9/9/1997	9/9/1997	12/8/1998	12/8/1998	12/8/1998	12/8/1998	12/8/1998
	Depth Interval (ft)	(5-7)	(1-3)	(0-2)	(0-2)	(0-2)	(0-2)	(2-5)	(0-2)	(2-4)	(4-8)	(0-2)	(2-4)
	Units												
Volatile Organic Compounds													
1,1,1-Trichloroethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
2-Butanone	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	< 0.037	< 0.029	< 0.032	< 0.028	< 0.028
2-Hexanone	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	mg/Kg	< 0.014	--	--	--	--	--	--	--	--	--	--	--
Acetone	mg/Kg	< 0.064	< 0.013	--	--	--	--	--	< 0.074	< 0.057	< 0.063	**0.082**	< 0.056
Benzene	mg/Kg	< 0.014	< 0.013	--	< 0.0058	< 0.0057	< 0.0056	< 0.006	< 0.0074	< 0.0057	< 0.0063	< 0.0056	< 0.0056
Bromodichloromethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Bromomethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	< 0.0074	< 0.0057	< 0.0063	< 0.0056	< 0.0056
Carbon tetrachloride	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Chloroethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Chloroform	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Chloromethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	mg/Kg	< 0.014	< 0.013	--	< 0.0058	< 0.0057	< 0.0056	< 0.006	< 0.0074	< 0.0057	< 0.0063	< 0.0056	< 0.0056
Methylene Chloride	mg/Kg	< 0.014	< 0.017	--	--	--	--	--	< 0.0074	< 0.0057	< 0.0063	< 0.0056	< 0.0056
Styrene	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	< 0.0074	< 0.0057	< 0.0063	< 0.0056	< 0.0056
Tetrachloroethylene	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	< 0.0074	< 0.0057	< 0.0063	< 0.0056	< 0.0056
Toluene	mg/Kg	< 0.014	< 0.013	--	< 0.0058	< 0.0057	< 0.0056	< 0.006	< 0.0074	< 0.0057	< 0.0063	< 0.0056	< 0.0056
trans-1,3-Dichloropropene	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--
Xylenes, total	mg/Kg	< 0.014	< 0.013	--	< 0.0058	< 0.0057	< 0.0056	< 0.006	< 0.0074	< 0.0057	< 0.0063	< 0.0056	< 0.0056
Semivolatile Organic Compounds													
1,2-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	mg/Kg	--	--	--	--	--	--	--	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36
2,4-Dinitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--

Parameter	Location	SB-02A	SB-02B	SB-02C	SB-02IIA	SB-02IIB	SB-05A	SB-06A	SB-06B	SB-07A	SB-07B	SB-08A	SB-08B	SB-102/MW-106A	SC-0004	SC-0005
	Sample Date	2/26/1992	2/26/1992	2/26/1992	3/5/1992	3/5/1992	3/4/1992	3/4/1992	3/4/1992	3/3/1992	3/3/1992	3/3/1992	3/3/1992	1/18/1996	6/28/1999	6/28/1999
	Depth Interval (ft)	(14.5-16.5)	(18.5-20.5)	(22.5-24.5)	(12.5-14.5)	(14.5-16.5)	(6.5-8.5)	(10.5-12.5)	(20.5-22.5)	(4.5-6.5)	(24.5-26.5)	(4.5-6.5)	(6.5-8.5)	(14-16)	(2.5, wall)	(5, floor)
	Units															
Volatile Organic Compounds																
1,1,1-Trichloroethane	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
1,1,2,2-Tetrachloroethane	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
1,1,2-Trichloroethane	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
1,1-Dichloroethane	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
1,1-Dichloroethylene	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	**0.007**	< 0.006	**0.002**	**0.003**	< 0.014	--	--
1,2,4-Trichlorobenzene	mg/Kg	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
1,2-Dichloroethane	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
1,2-Dichloroethene, total	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
1,2-Dichloropropane	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
2-Butanone	mg/Kg	< 7.6	< 31	< 1.4	< 1.6	< 0.025	< 0.012	< 0.012	< 0.011	< 0.016	< 0.011	< 0.012	< 0.016	**0.01**	< 0.019	< 0.025
2-Hexanone	mg/Kg	< 7.6	< 31	< 1.4	< 1.6	< 0.025	< 0.012	< 0.012	< 0.011	< 0.016	< 0.011	< 0.012	< 0.016	< 0.014	--	--
4-Methyl-2-Pentanone	mg/Kg	< 7.6	< 31	< 1.4	< 1.6	< 0.025	< 0.012	< 0.012	< 0.011	< 0.016	< 0.011	< 0.012	< 0.016	< 0.014	--	--
Acetone	mg/Kg	< 7.6	**20**	< 1.4	< 1.6	**0.18**	**1.2**	**0.76**	< 0.011	**0.68**	**0.32**	**0.19**	**0.12**	**0.14**	< 0.038	< 0.051
Benzene	mg/Kg	**65**	**150**	**0.75**	**2.2**	**0.092**	< 0.006	< 0.006	< 0.005	**0.003**	**0.005**	**0.002**	**0.003**	< 0.014	< 0.0038	< 0.0051
Bromodichloromethane	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
Bromomethane	mg/Kg	< 7.6	< 31	< 1.4	< 1.6	< 0.025	< 0.012	< 0.012	< 0.011	< 0.016	< 0.011	< 0.012	< 0.016	< 0.014	--	--
Carbon Disulfide	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	**0.005**	< 0.006	**0.17**	< 0.005	**0.013**	**0.002**	< 0.006	< 0.008	< 0.014	< 0.0038	**0.01200**
Carbon tetrachloride	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
Chlorobenzene	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
Chlorodibromomethane	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
Chloroethane	mg/Kg	< 7.6	< 31	< 1.4	< 1.6	< 0.025	< 0.012	< 0.012	< 0.011	< 0.016	< 0.011	< 0.012	< 0.016	< 0.014	--	--
Chloroform	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
Chloromethane	mg/Kg	< 7.6	< 31	< 1.4	< 1.6	< 0.025	< 0.012	< 0.012	< 0.011	< 0.016	< 0.011	< 0.012	< 0.016	< 0.014	--	--
cis-1,3-Dichloropropene	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
Ethylbenzene	mg/Kg	**18**	**97**	**0.62**	**22**	**0.19**	< 0.006	< 0.006	< 0.005	< 0.008	**0.003**	< 0.006	< 0.008	**0.009**	< 0.0038	< 0.0051
Methylene Chloride	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.012	< 0.0038	< 0.0051
Styrene	mg/Kg	**33**	**150**	**1**	**4.4**	**0.014**	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	< 0.0038	< 0.0051
Tetrachloroethylene	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	< 0.0038	< 0.0051
Toluene	mg/Kg	**94**	**450**	**2.2**	**5.2**	**0.06**	< 0.006	< 0.006	< 0.005	**0.005**	**0.005**	**0.003**	< 0.008	< 0.014	< 0.0038	< 0.0051
trans-1,3-Dichloropropene	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
Trichloroethylene	mg/Kg	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
Vinyl Acetate	mg/Kg	< 7.6	< 31	< 1.4	< 1.6	< 0.025	< 0.012	< 0.012	< 0.011	< 0.016	< 0.011	< 0.012	< 0.016	--	--	--
Vinyl Chloride	mg/Kg	< 7.6	< 31	< 1.4	< 1.6	< 0.025	< 0.012	< 0.012	< 0.011	< 0.016	< 0.011	< 0.012	< 0.016	< 0.014	--	--
Xylenes, total	mg/Kg	**180**	**1000**	**6.1**	**110**	**0.5**	< 0.006	**0.027**	< 0.005	**0.011**	**0.014**	**0.004**	< 0.008	**0.009**	< 0.0076	< 0.01
Semivolatile Organic Compounds																
1,2-Dichlorobenzene	mg/Kg	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
1,4-Dichlorobenzene	mg/Kg	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
2,4,5-Trichlorophenol	mg/Kg	< 120	< 120	< 1.8	< 120	< 2	< 2	< 1.9	< 1.7	< 160	< 1.8	< 3.7	< 5.1	--	--	--
2,4,6-Trichlorophenol	mg/Kg	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
2,4-Dichlorophenol	mg/Kg	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
2,4-Dimethylphenol	mg/Kg	**57**	**20**	**0.54**	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	< 0.4	< 0.4
2,4-Dinitrophenol	mg/Kg	< 120	< 120	< 1.8	< 120	< 2	< 2	< 1.9	< 1.7	< 160	< 1.8	< 3.7	< 5.1	--	--	--
2,4-Dinitrotoluene	mg/Kg	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
2,6-Dinitrotoluene	mg/Kg	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location / Sample Date / Depth Interval (ft)	HA-104 2/8/1996 (5-7)	HA-106 2/9/1996 (1-3)	HA-106A 9/10/1997 (0-2)	HA-200 9/8/1997 (0-2)	HA-208 9/9/1997 (0-2)	HA-209 9/9/1997 (0-2)	HA-209 9/9/1997 (2-5)	HA-300 12/8/1998 (0-2)	HA-300 12/8/1998 (2-4)	HA-300 12/8/1998 (4-8)	HA-301 12/8/1998 (0-2)	HA-301 12/8/1998 (2-4)	SB-02A 2/26/1992 (14.5-16.5)	SB-02B 2/26/1992 (18.5-20.5)	SB-02C 2/26/1992 (22.5-24.5)	SB-02IIA 3/5/1992 (12.5-14.5)	SB-02IIB 3/5/1992 (14.5-16.5)	SB-05A 3/4/1992 (6.5-8.5)	SB-06A 3/4/1992 (10.5-12.5)	SB-06B 3/4/1992 (20.5-22.5)	SB-07A 3/3/1992 (4.5-6.5)	SB-07B 3/3/1992 (24.5-26.5)	SB-08A 3/3/1992 (4.5-6.5)	SB-08B 3/3/1992 (6.5-8.5)	SB-102/MW-106A 1/18/1996 (14-16)	SC-0004 6/28/1999 (2.5, wall)	SC-0005 6/28/1999 (5, floor)
	Units																											
2-Chloronaphthalene	mg/Kg	< 1.8	< 0.43	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	< 4.4	--	--
2-Chlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
2-Methylnaphthalene	mg/Kg	< 1.8	< 0.43	--	1.9	< 0.38	< 0.37	< 0.39	--	--	--	--	--	230	110	1.4	360	0.091	< 0.41	0.092	< 0.35	17	0.087	0.78	0.31	6.8	--	--
2-Methylphenol	mg/Kg	--	--	--	--	--	--	--	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	24	11	0.53	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	< 0.4	< 0.4
2-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 120	< 120	< 1.8	< 120	< 2	< 2	< 1.9	< 1.7	< 160	< 1.8	< 3.7	< 5.1	--	--	--
2-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
3&4-Methylphenol (M&P-Cresol)	mg/Kg	--	--	--	--	--	--	--	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 48	< 49	< 0.73	< 50	< 0.83	< 0.82	< 0.79	< 0.7	< 64	< 0.74	< 1.5	< 2.1	--	--	--
3,5,5-trimethyl-2-cyclohexene-1-one	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
3-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 120	< 120	< 1.8	< 120	< 2	< 2	< 1.9	< 1.7	< 160	< 1.8	< 3.7	< 5.1	--	--	--
4,6-Dinitro-2-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 120	< 120	< 1.8	< 120	< 2	< 2	< 1.9	< 1.7	< 160	< 1.8	< 3.7	< 5.1	--	--	--
4-Bromophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
4-Chloro-3-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
4-Chlorophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
4-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	49	18	0.81	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
4-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 120	< 120	< 1.8	< 120	< 2	< 2	< 1.9	< 1.7	< 160	< 1.8	< 3.7	< 5.1	--	--	--
Acenaphthene	mg/Kg	< 1.8	< 0.43	--	3.2	< 0.38	< 0.37	< 0.39	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	34	27	0.42	180	0.18	< 0.41	4.8	< 0.35	6.6	0.15	0.23	< 1	3.5	< 0.4	< 0.4
Acenaphthylene	mg/Kg	< 1.8	< 0.43	--	< 0.38	< 0.38	< 0.37	< 0.39	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	130	51	0.98	140	< 0.42	< 0.41	3.2	< 0.35	10	< 0.37	2.1	< 1	0.5	< 0.4	< 0.4
Anthracene	mg/Kg	0.23	< 0.43	--	9.5D	< 0.38	1.2	< 0.39	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	69	20	0.54	70	< 0.42	< 0.41	2.5	0.11	37	< 0.37	1.6	1.2	2.6	< 0.4	2.00000
Benzo(a)anthracene	mg/Kg	2.3	0.1	--	13D	< 0.38	3.5	0.88	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	43	8.5	0.3	30	< 0.42	< 0.41	1.5	< 0.35	44	< 0.37	9	6.7	4.8	< 0.4	4.90000
Benzo(a)pyrene	mg/Kg	1.8	0.093	--	12D	< 0.38	2.8	0.94	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	43	< 24	0.29	22	< 0.42	< 0.41	1.3	< 0.35	40	< 0.37	9.5	7.6	4.8	< 0.4	1.30000
Benzo(b)fluoranthene	mg/Kg	5.4	0.2	--	11D	< 0.38	2.8	0.81	< 0.41	< 0.39	< 0.38	0.46	< 0.36	26	< 24	0.17	11	< 0.42	< 0.41	0.68999	< 0.35	34	< 0.37	9.6	6.5	7.3	< 0.4	3.20000
Benzo(g,h,i)perylene	mg/Kg	0.89	0.06	--	6	< 0.38	1.4	0.46	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	25	< 24	< 0.37	< 25	< 0.42	< 0.41	0.8	< 0.35	23	< 0.37	1	0.71	2.1	< 0.4	2.10000
Benzo(k)fluoranthene	mg/Kg	5.6	0.21	--	12D	< 0.38	3	1.1	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	30	< 24	0.25	14	< 0.42	< 0.41	1.2	< 0.35	28	< 0.37	9.9	7.6	7.2	< 0.4	3.80000
Benzoic Acid	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 120	< 120	< 1.8	< 120	< 2	< 2	< 1.9	< 1.7	< 160	< 1.8	< 3.7	< 5.1	--	--	--
Benzyl Alcohol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Benzyl butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Bis(2-Chloroethoxy)methane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Bis(2-Chloroethyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Bis(2-chloroisopropyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	--	--	--	--	--	--	--	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	< 24	< 24	0.063	< 25	0.066	0.14	0.2	0.08699	< 32	< 0.37	1.7	0.35	--	< 0.4	< 0.4
Chrysene	mg/Kg	2.3	0.12	--	11D	< 0.38	3.1	0.8	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	41	10	0.33	34	< 0.42	< 0.41	1.4	< 0.35	39	< 0.37	9.2	6.9	4.4	< 0.4	4.90000
Dibenzo(a,h)anthracene	mg/Kg	0.26	< 0.43	--	< 0.38	< 0.38	< 0.37	< 0.39	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	0.21	< 0.35	9.5	< 0.37	3.1	1.8	< 4.4	< 0.4	0.56000
Dibenzofuran	mg/Kg	< 1.8	< 0.43	--	--	--	--	--	--	--	--	--	--	56	20	0.42	55	< 0.42	< 0.41	0.71	< 0.35	19	0.08699	0.73	0.28	2.2	--	--
Diethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	0.055	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Dimethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Di-n-butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Endrin ketone	mg/Kg	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Fluoranthene	mg/Kg	2.7	0.18	--	25D	0.52	4.7	1.9	0.49	< 0.39	< 0.38	0.57	< 0.36	110	14	0.82	49	0.05	< 0.41	4.1	0.073	100	< 0.37	10	5.3	8.6	< 0.4	7.80000
Fluorene	mg/Kg	< 1.8	< 0.43	--	4.9	< 0.38	0.52	< 0.39	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	87	30	0.72	130	0.085	< 0.41	2.7	0.078	28	0.12	0.98	0.29	3.1	< 0.4	0.45000
Heptachlor	mg/Kg	--		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Hexachloro-1,3-butadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Hexachlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location	HA-104	HA-106	HA-106A	HA-200	HA-208	HA-209	HA-209	HA-300	HA-300	HA-300	HA-301	HA-301	SB-02A	SB-02B	SB-02C	SB-02IIA	SB-02IIB	SB-05A	SB-06A	SB-06B	SB-07A	SB-07B	SB-08A	SB-08B	SB-102/MW-106A	SC-0004	SC-0005
	Sample Date	2/8/1996	2/9/1996	9/10/1997	9/8/1997	9/9/1997	9/9/1997	9/9/1997	12/8/1998	12/8/1998	12/8/1998	12/8/1998	12/8/1998	2/26/1992	2/26/1992	2/26/1992	3/5/1992	3/5/1992	3/4/1992	3/4/1992	3/4/1992	3/3/1992	3/3/1992	3/3/1992	3/3/1992	1/18/1996	6/28/1999	6/28/1999
	Depth Interval (ft)	(5-7)	(1-3)	(0-2)	(0-2)	(0-2)	(0-2)	(2-5)	(0-2)	(2-4)	(4-8)	(0-2)	(2-4)	(14.5-16.5)	(18.5-20.5)	(22.5-24.5)	(12.5-14.5)	(14.5-16.5)	(6.5-8.5)	(10.5-12.5)	(20.5-22.5)	(4.5-6.5)	(24.5-26.5)	(4.5-6.5)	(6.5-8.5)	(14-16)	(2.5, wall)	(5, floor)
	Units																											
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	**1.2**	**0.071**	--	**5.8**	< 0.38	**1.3**	**0.42**	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	**27**	< 24	< 0.37	< 25	< 0.42	< 0.41	**0.76**	< 0.35	**22**	< 0.37	**7.7**	**4.6**	**1.9**	< 0.4	**2.20000**
m-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Naphthalene	mg/Kg	< 1.8	< 0.43	--	**2.1**	< 0.38	**0.39**	< 0.39	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	**630**	**180**	**3.2**	**700**	**0.61**	< 0.41	**0.31**	< 0.35	**51**	**0.64**	**1.1**	**0.48**	**30**	< 0.4	< 0.4
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
n-Nitrosodi-n-propylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
n-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
P-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 24	< 24	< 0.37	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 120	< 120	< 1.8	< 120	< 2	< 2	< 1.9	< 1.7	< 160	< 1.8	< 3.7	< 5.1	--	--	--
Phenanthrene	mg/Kg	**0.95**	**0.094**	--	**22D**	< 0.38	**3.7**	**1**	< 0.41	< 0.39	< 0.38	**0.51**	< 0.36	**270**	**100**	**2.2**	**480**	**0.25**	< 0.41	**12**	**0.14**	**120**	**0.23**	**7.4**	**3.5**	**10**	< 0.4	**3.00000**
Phenol	mg/Kg	--	--	--	--	--	--	--	< 0.41	< 0.39	< 0.38	< 0.37	< 0.36	**21**	**13**	**0.96**	< 25	< 0.42	< 0.41	< 0.4	< 0.35	< 32	< 0.37	< 0.77	< 1	--	< 0.4	< 0.4
P-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	< 120	< 120	< 1.8	< 120	< 2	< 2	< 1.9	< 1.7	< 160	< 1.8	< 3.7	< 5.1	--	--	--
Pyrene	mg/Kg	**2.8**	**0.14**	--	**17D**	**0.5**	**4.2D**	**1.4**	< 0.41	< 0.39	< 0.38	**0.56**	< 0.36	**120**	**23**	**0.87**	**93**	**0.057**	< 0.41	**3.9**	**0.078**	**99**	< 0.37	**11**	**7.6**	**10**	< 0.4	**8.00000**
Tribromomethane	mg/Kg	< 0.014	< 0.013	--	--	--	--	--	--	--	--	--	--	< 3.8	< 16	< 0.68999	< 0.79	< 0.013	< 0.006	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.008	< 0.014	--	--
Inorganic Compounds																												
Aluminum (fume or dust)	mg/Kg	**13400**	**14200**	--	10400	**9140**	**6750**	--	--	--	--	--	--	**20000**	**29900**	**8190**	**28400**	**34500**	**11500**	**20500**	**6240**	**5420**	**7460**	**3550**	**6260**	**22800**	**11000.00**	**14000.00**
Antimony	mg/Kg	**0.9**	**12.4**	--	< 5.8	< 5.7	< 5.6	--	< 0.0025	< 0.0024	< 0.0023	< 0.002	< 0.0022	**6.6**	**5.8**	**6**	**7**	< 15.8	< 10.5	< 9.9	< 8.6	< 9	**5.5**	< 5.1	< 7.5	< 0.49	< 2.4	< 2.4
Arsenic	mg/Kg	**10.3**	**38.9**	--	**16.3**	**10**	**20.6**	--	**0.015**	**0.034**	**0.04**	**0.045**	**0.065**	**2**	**1.7**	**0.86**	**0.96**	**1.8**	**9.4**	**3**	**0.67**	**12.4**	**1**	**6.7**	**9.4**	**4.3**	**40.00**	**44.00**
Barium	mg/Kg	**66.4**	**114**	--	**237**	**111**	**369**	--	**0.063**	**0.099**	**0.078**	**0.027**	**0.02**	**77.8**	**79.6**	**22.1**	**177**	**160**	**61**	**147**	**14.3**	**44.3**	**17.8**	**82.8**	**171**	**222**	**36.00**	**140.00**
Beryllium	mg/Kg	**1.6**	**0.72**	--	**0.93**	**0.81**	**0.9**	--	**0.00073**	**0.001**	**0.00097**	**0.00053**	< 0.00055	**0.36**	**0.5**	< 0.22	**1**	**1**	< 0.53	**0.81**	< 0.43	< 0.45	**0.28**	< 0.22	**1.1**	**1.1**	**0.50**	**0.72**
Cadmium	mg/Kg	< 0.06	< 0.05	--	< 0.58	< 0.57	< 0.56	--	< 0.00063	< 0.0006	< 0.00058	< 0.00051	< 0.00055	**3.5**	**1.1**	< 0.86	**1.5**	**2.4**	< 1.3	**1.2**	< 1.1	< 1.1	**2**	**2.8**	< 1.3	< 0.05	< 0.61	< 0.61
Calcium metal	mg/Kg	**2450**	**1080**	--	--	**6860**	**23400**	--	--	--	--	--	--	**1020**	**641**	**678**	**2120**	**1250**	**1620**	**1570**	**991**	**44000**	**397**	**116000**	**15300**	**11500**	**780.00**	**10000.00**
Chromium	mg/Kg	**35.7**	**111**	--	**18.9**	**29.6**	**33.3**	--	**0.073**	**0.016**	**0.019**	**0.014**	**0.039**	**20.1**	**28.4**	**44.9**	**32.2**	**32.1**	**21.9**	**23.8**	**13**	**11.6**	**29**	**7.4**	**6.3**	**23.2**	**190.00**	**110.00**
Cobalt	mg/Kg	**6.3**	**19**	--	**14.1**	**12.6**	**14**	--	**0.0091**	**0.019**	**0.019**	**0.0061**	**0.0099**	**4.5**	**5.3**	**2.1**	**13.8**	**13.4**	**8.7**	**15.2**	**3.4**	**3.7**	**10.9**	**2.7**	**4.8**	**13.7**	< 1.2	**3.40**
Copper	mg/Kg	**18.2**	**3500**	--	**149**	**43.3**	**91.6**	--	**0.013**	**0.037**	**0.022**	**0.027**	**0.03**	**12.8**	**12.8**	< 0.65	**16.4**	**16.7**	**11.5**	**15.3**	**3.1**	**11.6**	< 0.64	**9.8**	**23.4**	**21.6**	**38.00**	**42.00**
Cyanide	mg/Kg	**72.7**	**1.5**	--	< 1.2	<1.1	< 1.1	--	< 0.0013	< 0.0012	< 0.0012	< 0.0011	< 0.0011	**0.86**	**0.77**	**0.76**	**1.2**	**1.6**	< 0.65	**1**	**0.61**	**12.5**	**0.76**	**1.5**	**1.1**	**1.8**	< 1.2	< 1.2
Iron	mg/Kg	**24500**	**242000**	--	--	**28900**	**28100**	--	--	--	--	--	--	**25900**	**34400**	**11100**	**34100**	**34000**	**28800**	**23600**	**5560**	**13000**	**11900**	**11700**	**15800**	**22100**	**26000.00**	**29000.00**
Lead	mg/Kg	**20.7**	**990**	**462**	**265**	**44.3**	**159**	--	**0.031**	**0.069**	**0.045**	**0.069**	**0.092**	**17.1**	**7.6**	**3.4**	**12.1**	**13.1**	**5.9**	**3.4**	**2.5**	**40.9**	**1.7**	**54**	**7.7**	**31.6**	**19.00**	**110.00**
Magnesium	mg/Kg	**786**	**1270**	--	--	**757**	**1850**	--	--	--	--	--	--	**1360**	**1420**	**288**	**3070**	**3550**	**163**	**1360**	**107**	**2780**	**151**	**3050**	**1180**	**1880**	**580.00**	**910.00**
Manganese	mg/Kg	**261**	**1430**	--	--	**620**	**757**	--	--	--	--	--	--	**129**	**132**	**63.7**	**992**	**344**	**301**	**539**	**116**	**103**	**550**	**109**	**158**	**516**	**10.00**	**290.00**
Mercury	mg/Kg	**0.15**	**0.12**	--	**0.19**	**0.04**	**0.29**	--	**0.00006**	**0.0001**	**0.000054**	**0.00002**	**0.000077**	**0.23**	< 0.12	**0.52**	**2**	**0.23**	**1.4**	**0.38**	**0.98**	**0.19**	**9.6**	**1.5**	**14.3**	**0.19**	**0.03**	**0.95**
Nickel	mg/Kg	**17.3**	**58.9**	--	**19.9**	**23.2**	**28.6**	--	**0.015**	**0.03**	**0.026**	**0.021**	**0.031**	**7**	**8.7**	< 1.7	**15.3**	**16.6**	< 5.3	**8**	< 4.3	**7.2**	**3**	**4.5**	**10.1**	**15.5**	**6.20**	**10.00**
Potassium	mg/Kg	**774**	**995**	--	--	**753**	**596**	--	--	--	--	--	--	**1550**	**1270**	**319**	**1900**	**2350**	**578**	**1360**	**194**	**817**	**108**	< 97.4	**342**	**1930**	**1100.00**	**1300.00**
Selenium	mg/Kg	< 0.72	**2.9**	--	< 1.2	< 1.1	< 1.1	--	< 0.0013	< 0.0012	< 0.0012	< 0.001	< 0.0011	< 0.25	< 0.24	< 0.22	< 0.25	< 0.25	< 0.79	< 0.74	< 0.65	< 0.68	< 0.21	**0.24**	**0.68**	**1.2**	**13.00**	**5.70**
Silver	mg/Kg	< 0.19	**0.19**	--	< 1.2	< 1.1	< 1.1	--	< 0.0013	< 0.0012	< 0.0012	< 0.001	< 0.0011	< 0.49	**0.61**	< 0.43	< 0.5	**0.6**	< 2.6	< 2.5	< 2.2	< 2.3	< 0.42	< 0.45	< 0.65	< 0.19	< 1.2	< 1.2
Sodium	mg/Kg	**301**	**149**	--	--	< 57.5	< 56.2	--	--	--	--	--	--	**311**	**323**	**252**	**316**	**345**	**69**	**67.8**	**19.6**	**74.2**	**223**	**405**	**561**	**538**	**73.00**	**110.00**
Thallium	mg/Kg	< 0.97	**3.7**	--	< 1.2	< 1.1	< 1.1	--	< 0.0013	< 0.0012	< 0.0012	< 0.001	< 0.0011	< 0.49	< 0.49	< 0.43	< 0.5	< 0.5	< 0.53	< 0.49	< 0.43	< 0.45	< 0.42	< 0.45	< 0.65	< 0.95	< 1.2	< 1.2
Vanadium	mg/Kg	**37.7**	**18.1**	--	**28.1**	**31.9**	**36.7**	--	**0.05**	**0.028**	**0.03**	**0.031**	**0.046**	**37.3**	**55**	**13**	**43.5**	**47**	**43.4**	**42**	**11.5**	**23.8**	**13.8**	**20.1**	**25.7**	**32.4**	**89.00**	**79.00**
Zinc	mg/Kg	**115**	**738**	--	**237**	**154**	**549**	--	**0.067**	**0.12**	**0.09**	**0.16**	**0.12**	**49.3**	**47**	**15.7**	**77.3**	**90.2**	**28.2**	**51.5**	**8.9**	**57.6**	**13.4**	**52.8**	**21.4**	**92.4**	**17.00**	**96.00**

Notes:
mg/Kg - milligrams per kilogram
ft - feet below ground surface
bold - analyte detected

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location Sample Date Depth Interval (ft) Units	SC-0007 6/28/1999 (2.5, wall)	SC-0009 6/29/1999 (2.5, wall)	SC-0010 6/29/1999 (2.5, wall)	SC-0015 6/29/1999 (2.5, wall)	SC-0017 6/29/1999 (10, floor)	SC-0018 6/29/1999 (2.5, wall)	SC-0023 6/29/1999 (2.5, wall)	SC-0030 6/30/1999 (2.5, wall)	SC-0031 6/30/1999 (7.5, wall)	SC-0034 7/1/1999 (2.5, wall)	SC-0035 7/1/1999 (7.5, wall)	SC-0036 7/1/1999 (2.5, wall)	SC-0037 7/1/1999 (7.5, wall)	SC-0039 7/1/1999 (7.5, wall)	SC-0041 7/1/1999 (2.5, wall)	SC-0043 7/1/1999 (2.5, wall)	SC-0044 7/1/1999 (7.5, wall)	SC-0045 7/1/1999 (4, floor)	SC-0046 7/1/1999 (2.5, wall)	SC-0047 7/1/1999 (2.5, wall)	SC-0048 7/1/1999 (7.5, wall)	SC-0050 7/6/1999 (3, wall)	SC-0053 7/8/1999 (4, floor)	SC-0058 7/8/1999 (2.5, wall)	SC-0059 7/8/1999 (7.5, wall)	SC-0061 7/8/1999 (2.5, wall)	SC-0069 7/13/1999 (3, wall)	SC-0070 7/13/1999 (2.5, wall)	SC-0071 7/14/1999 (3, floor)
Volatile Organic Compounds																														
1,1,1-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	mg/Kg	< 0.044	< 0.022	< 0.032	< 0.028	< 0.02	< 0.025	< 0.042	< 0.037	< 0.031	< 0.016	< 0.018	< 0.024	< 0.021	< 0.017	< 0.026	< 0.03	< 0.02	< 0.027	< 0.028	< 0.028	< 0.029	--	--	--	--	--	--	--	--
2-Hexanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	mg/Kg	< 0.089	< 0.044	**0.08900**	**0.06300**	< 0.04	< 0.049	< 0.084	< 0.074	< 0.061	**0.04100**	< 0.037	< 0.048	< 0.042	< 0.035	**0.09500**	< 0.06	< 0.04	< 0.055	< 0.056	< 0.056	< 0.057	--	--	--	--	--	--	--	--
Benzene	mg/Kg	< 0.0089	< 0.0044	< 0.0065	< 0.0056	< 0.004	< 0.0049	< 0.0084	< 0.0074	< 0.0061	< 0.0032	< 0.0037	< 0.0048	< 0.0042	< 0.0035	< 0.0052	< 0.006	< 0.004	< 0.0055	< 0.0056	< 0.0056	< 0.0057	--	--	--	--	--	< 0.0048	< 0.0031	< 0.0050
Bromodichloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	mg/Kg	< 0.0089	< 0.0044	< 0.0065	< 0.0056	< 0.004	< 0.0049	< 0.0084	< 0.0074	< 0.0061	< 0.0032	< 0.0037	< 0.0048	< 0.0042	< 0.0035	< 0.0052	< 0.006	< 0.004	< 0.0055	< 0.0056	< 0.0056	< 0.0057	--	--	--	--	--	--	--	--
Carbon tetrachloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	mg/Kg	< 0.0089	< 0.0044	< 0.0065	< 0.0056	< 0.004	< 0.0049	< 0.0084	< 0.0074	< 0.0061	< 0.0032	< 0.0037	< 0.0048	< 0.0042	< 0.0035	< 0.0052	< 0.006	< 0.004	< 0.0055	< 0.0056	< 0.0056	< 0.0057	--	--	--	--	--	< 0.0048	< 0.0031	< 0.0050
Methylene Chloride	mg/Kg	< 0.0089	< 0.0044	< 0.0065	< 0.0056	< 0.004	< 0.0049	< 0.0084	< 0.0074	< 0.0061	< 0.0032	< 0.0037	< 0.0048	< 0.0042	< 0.0035	< 0.0052	< 0.006	< 0.004	< 0.0055	< 0.0056	< 0.0056	< 0.0057	--	--	--	--	--	--	--	--
Styrene	mg/Kg	< 0.0089	**0.01300**	**0.00800**	< 0.0056	< 0.004	< 0.0049	< 0.0084	< 0.0074	< 0.0061	< 0.0032	< 0.0037	< 0.0048	< 0.0042	< 0.0035	< 0.0052	< 0.006	< 0.004	< 0.0055	< 0.0056	< 0.0056	< 0.0057	--	--	--	--	--	< 0.0048	< 0.0031	< 0.0050
Tetrachloroethylene	mg/Kg	< 0.0089	< 0.0044	< 0.0065	< 0.0056	< 0.004	< 0.0049	< 0.0084	< 0.0074	< 0.0061	< 0.0032	< 0.0037	< 0.0048	< 0.0042	< 0.0035	< 0.0052	< 0.006	< 0.004	< 0.0055	< 0.0056	< 0.0056	< 0.0057	--	--	--	--	--	--	--	--
Toluene	mg/Kg	< 0.0089	< 0.0044	< 0.0065	< 0.0056	< 0.004	< 0.0049	< 0.0084	< 0.0074	< 0.0061	< 0.0032	< 0.0037	< 0.0048	< 0.0042	< 0.0035	< 0.0052	< 0.006	< 0.004	< 0.0055	< 0.0056	< 0.0056	< 0.0057	--	--	--	--	--	< 0.0048	< 0.0031	< 0.0050
trans-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	mg/Kg	< 0.018	< 0.0088	< 0.013	< 0.011	< 0.008	< 0.0098	< 0.017	< 0.015	< 0.012	< 0.0064	< 0.0073	< 0.0097	< 0.0083	< 0.0069	< 0.01	< 0.012	< 0.0079	< 0.011	< 0.011	< 0.011	< 0.011	--	--	--	--	--	< 0.0096	< 0.0062	< 0.0099
Semivolatile Organic Compounds																														
1,2-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	< 0.43	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location Sample Date Depth Interval (ft) Units	SC-0007 6/28/1999 (2.5, wall)	SC-0009 6/29/1999 (2.5, wall)	SC-0010 6/29/1999 (2.5, wall)	SC-0015 6/29/1999 (2.5, wall)	SC-0017 6/29/1999 (10, floor)	SC-0018 6/29/1999 (2.5, wall)	SC-0023 6/29/1999 (2.5, wall)	SC-0030 6/30/1999 (2.5, wall)	SC-0031 6/30/1999 (7.5, wall)	SC-0034 7/1/1999 (2.5, wall)	SC-0035 7/1/1999 (7.5, wall)	SC-0036 7/1/1999 (2.5, wall)	SC-0037 7/1/1999 (7.5, wall)	SC-0039 7/1/1999 (7.5, wall)	SC-0041 7/1/1999 (2.5, wall)	SC-0043 7/1/1999 (2.5, wall)	SC-0044 7/1/1999 (7.5, wall)	SC-0045 7/1/1999 (4, floor)	SC-0046 7/1/1999 (2.5, wall)	SC-0047 7/1/1999 (2.5, wall)	SC-0048 7/1/1999 (7.5, wall)	SC-0050 7/6/1999 (3, wall)	SC-0053 7/8/1999 (4, floor)	SC-0058 7/8/1999 (2.5, wall)	SC-0059 7/8/1999 (7.5, wall)	SC-0061 7/8/1999 (2.5, wall)	SC-0069 7/13/1999 (3, wall)	SC-0070 7/13/1999 (2.5, wall)	SC-0071 7/14/1999 (3, floor)
2-Chloronaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	< 0.43	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	--	--	--
2-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Cresol)	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1-one	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.460	< 0.370	< 0.380
4-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	< 0.43	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	< 0.370	**0.41**
Acenaphthylene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	< 0.43	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	< 0.370	< 0.380
Anthracene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	< 0.43	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	< 0.370	**1.2**
Benzo(a)anthracene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**2.00000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	**0.68**	**3.9**
Benzo(a)pyrene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**2.60000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	**0.8**	**2.9**
Benzo(b)fluoranthene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**3.20000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	**1.1**	**3**
Benzo(g,h,i)perylene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**1.80000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	**0.57**	**1.9**
Benzo(k)fluoranthene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**2.90000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	**0.51**	**2.4**
Benzoic Acid	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	< 0.43	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	--	--	--
Chrysene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**4.00000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	**0.99**	**3.6**
Dibenzo(a,h)anthracene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	< 0.43	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	< 0.370	**0.78**
Dibenzofuran	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	mg/Kg																													
Fluoranthene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**10.00000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	**2.2**	**7.1**
Fluorene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**0.55000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	< 0.370	**0.54**
Heptachlor	mg/Kg																													
Hexachloro-1,3-butadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location Sample Date Depth Interval (ft) Units	SC-0007 6/28/1999 (2.5, wall)	SC-0009 6/29/1999 (2.5, wall)	SC-0010 6/29/1999 (2.5, wall)	SC-0015 6/29/1999 (2.5, wall)	SC-0017 6/29/1999 (10, floor)	SC-0018 6/29/1999 (2.5, wall)	SC-0023 6/29/1999 (2.5, wall)	SC-0030 6/30/1999 (2.5, wall)	SC-0031 6/30/1999 (7.5, wall)	SC-0034 7/1/1999 (2.5, wall)	SC-0035 7/1/1999 (7.5, wall)	SC-0036 7/1/1999 (2.5, wall)
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**2.30000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39
m-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	< 0.43	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**11.00000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39
Phenol	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	< 0.43	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39
P-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	mg/Kg	< 0.4	< 0.38	< 0.45	< 0.37	**7.30000**	< 0.37	< 0.37	< 0.38	< 0.38	< 0.38	< 0.39	< 0.39
Tribromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Compounds													
Aluminum (fume or dust)	mg/Kg	**14000.00**	**2200.00**	**6400.00**	**9100.00**	**12000.00**	**4400.00**	**5800.00**	**13000.00**	**10000.00**	**16000.00**	**13000.00**	**11000.00**
Antimony	mg/Kg	< 2.4	< 2.1	< 2.5	< 2.2	< 5.2	< 2.2	< 2.3	< 2.1	< 2.1	< 2.3	< 2.4	< 2.4
Arsenic	mg/Kg	**44.00**	**54.00**	**54.00**	**58.00**	**39.00**	**46.00**	**46.00**	**93.00**	**40.00**	**87.00**	**48.00**	**61.00**
Barium	mg/Kg	**41.00**	**7.90**	**27.00**	**35.00**	**1600.00**	**28.00**	**48.00**	**36.00**	**45.00**	**66.00**	**33.00**	**42.00**
Beryllium	mg/Kg	**0.64**	**0.65**	**1.10**	**0.82**	**1.10**	**0.70**	**1.00**	**0.72**	**0.50**	**0.73**	**0.50**	< 0.48
Cadmium	mg/Kg	< 0.6	< 0.53	< 0.62	< 0.56	**1.80**	**0.83**	< 0.57	< 0.53	< 0.53	< 0.58	< 0.6	< 0.6
Calcium metal	mg/Kg	**250.00**	**950.00**	**1200.00**	**260.00**	**8300.00**	**78000.00**	**7600.00**	**230.00**	**19000.00**	**560.00**	< 60	**110.00**
Chromium	mg/Kg	**170.00**	**5.00**	**21.00**	**13.00**	**24.00**	**20.00**	**18.00**	**500.00**	**130.00**	**350.00**	**140.00**	**120.00**
Cobalt	mg/Kg	< 1.2	**7.80**	**3.10**	**17.00**	**11.00**	**5.10**	**7.10**	< 1.1	< 1.1	< 1.2	< 1.2	< 1.2
Copper	mg/Kg	**34.00**	**26.00**	**22.00**	**38.00**	**53.00**	**17.00**	**22.00**	**48.00**	**30.00**	**42.00**	**38.00**	**29.00**
Cyanide	mg/Kg	< 1.2	< 1.2	< 1.4	< 1.1	< 1.3	< 1.1	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Iron	mg/Kg	**27000.00**	**29000.00**	**39000.00**	**19000.00**	**130000.0**	**45000.00**	**29000.00**	**45000.00**	**21000.00**	**43000.00**	**37000.00**	**27000.00**
Lead	mg/Kg	**21.00**	**42.00**	**14.00**	**82.00**	**280.00**	**28.00**	**33.00**	**19.00**	**22.00**	**21.00**	**17.00**	**18.00**
Magnesium	mg/Kg	**400.00**	**140.00**	**530.00**	**460.00**	**2300.00**	**2000.00**	**410.00**	**480.00**	**820.00**	**1200.00**	**300.00**	**230.00**
Manganese	mg/Kg	**23.00**	**230.00**	**100.00**	**470.00**	**1200.00**	**260.00**	**400.00**	**9.60**	**65.00**	**18.00**	**3.50**	**5.20**
Mercury	mg/Kg	**0.03**	< 0.023	**0.03**	**0.13**	**0.32**	**0.02**	**0.03**	**0.03**	**0.09**	**0.04**	**0.03**	**0.03**
Nickel	mg/Kg	**6.20**	**23.00**	**47.00**	**31.00**	**16.00**	**18.00**	**25.00**	**5.60**	**5.20**	**9.10**	< 4.8	**5.20**
Potassium	mg/Kg	**1500.00**	**280.00**	**1700.00**	**790.00**	**800.00**	**400.00**	**490.00**	**1200.00**	**1200.00**	**1300.00**	**1500.00**	**1300.00**
Selenium	mg/Kg	**14.00**	< 1.1	< 1.2	< 1.1	< 2.6	< 1.1	< 1.1	**18.00**	**12.00**	**22.00**	**18.00**	**11.00**
Silver	mg/Kg	< 1.2	< 1.1	< 1.2	< 1.1	< 2.6	< 1.1	< 1.1	< 1.1	< 1.1	< 1.2	< 1.2	< 1.2
Sodium	mg/Kg	**98.00**	< 53	< 62	< 56	< 65	< 56	< 57	**56.00**	**56.00**	< 58	< 60	< 60
Thallium	mg/Kg	< 1.2	< 1.1	< 1.2	< 1.1	< 2.6	< 1.1	< 1.1	< 1.1	< 1.1	< 1.2	< 1.2	< 1.2
Vanadium	mg/Kg	**110.00**	**32.00**	**44.00**	**34.00**	**45.00**	**63.00**	**41.00**	**250.00**	**75.00**	**230.00**	**91.00**	**69.00**
Zinc	mg/Kg	**23.00**	**250.00**	**220.00**	**250.00**	**980.00**	**130.00**	**160.00**	**23.00**	**27.00**	**36.00**	**18.00**	**15.00**

Parameter	Location Sample Date Depth Interval (ft) Units	SC-0037 7/1/1999 (7.5, wall)	SC-0039 7/1/1999 (7.5, wall)	SC-0041 7/1/1999 (2.5, wall)	SC-0043 7/1/1999 (2.5, wall)	SC-0044 7/1/1999 (7.5, wall)	SC-0045 7/1/1999 (4, floor)	SC-0046 7/1/1999 (2.5, wall)	SC-0047 7/1/1999 (2.5, wall)	SC-0048 7/1/1999 (7.5, wall)	SC-0050 7/6/1999 (3, wall)	SC-0053 7/8/1999 (4, floor)	SC-0058 7/8/1999 (2.5, wall)	SC-0059 7/8/1999 (7.5, wall)	SC-0061 7/8/1999 (2.5, wall)	SC-0069 7/13/1999 (3, wall)	SC-0070 7/13/1999 (2.5, wall)	SC-0071 7/14/1999 (3, floor)
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	**0.48**	**1.5**
m-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/Kg	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	< 0.370	**0.48**
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	< 0.460	**1.7**	**4.7**
Phenol	mg/Kg	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	--	--	--
P-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	mg/Kg	< 0.38	< 0.39	< 0.37	< 0.38	< 0.39	< 0.38	< 0.36	< 0.37	< 0.38	--	--	--	--	--	--	--	--
Tribromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Compounds																		
Aluminum (fume or dust)	mg/Kg	**11000.00**	**14000.00**	**11000.00**	**11000.00**	**14000.00**	**12000.00**	**11000.00**	**13000.00**	**12000.00**	--	--	--	--	--	--	--	--
Antimony	mg/Kg	< 2.3	< 2.4	< 2.3	< 2.4	< 2.4	< 2.3	< 2.2	< 2.2	< 2.3	< 2.2	< 2.4	< 2.4	**3.3**	**2.9**	< 2.8	< 2.1	**4.4**
Arsenic	mg/Kg	**41.00**	**93.00**	**45.00**	**64.00**	**42.00**	**50.00**	**75.00**	**65.00**	**40.00**	**61.00**	**45**	**57**	**95**	**55**	**46**	**54**	**33**
Barium	mg/Kg	**35.00**	**54.00**	**75.00**	**46.00**	**100.00**	**62.00**	**40.00**	**68.00**	**52.00**	**35.00**	**40**	**67**	**30**	**43**	**19**	**28**	**1000**
Beryllium	mg/Kg	< 0.47	**0.65**	**0.54**	**0.59**	**0.69**	**0.63**	**0.85**	**0.71**	**0.68**	**0.77**	**1.3**	**0.72**	**0.64**	**0.57**	**1.1**	**0.88**	**0.96**
Cadmium	mg/Kg	< 0.58	< 0.6	< 0.57	< 0.59	< 0.6	< 0.58	< 0.56	< 0.56	< 0.57	< 0.55	< 0.61	< 0.61	< 0.62	< 0.59	< 0.70	< 0.52	**1.5**
Calcium metal	mg/Kg	**750.00**	**4300.00**	**16000.00**	**1300.00**	**8200.00**	**8600.00**	**58000.00**	**200.00**	**1800.00**	--	--	--	--	--	--	--	--
Chromium	mg/Kg	**140.00**	**300.00**	**98.00**	**190.00**	**110.00**	**200.00**	**150.00**	**200.00**	**170.00**	**170.00**	**44**	**300**	**250**	**150**	**19**	**17**	**38**
Cobalt	mg/Kg	< 1.2	< 1.2	**2.40**	< 1.2	**3.10**	< 1.2	**1.30**	< 1.1	< 1.1	< 1.1	--	--	--	--	--	--	--
Copper	mg/Kg	**33.00**	**49.00**	**33.00**	**42.00**	**35.00**	**35.00**	**33.00**	**42.00**	**35.00**	**34.00**	**27**	**37**	**40**	**33**	**52**	**32**	**58**
Cyanide	mg/Kg	< 1.2	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 1.1	< 1.1	< 1.1	--	< 1.2	< 1.2	< 1.2	< 1.2	< 1.4	< 1.1	< 1.1
Iron	mg/Kg	**23000.00**	**41000.00**	**26000.00**	**35000.00**	**27000.00**	**28000.00**	**31000.00**	**37000.00**	**28000.00**	--	--	--	--	--	--	--	--
Lead	mg/Kg	**16.00**	**31.00**	**51.00**	**22.00**	**47.00**	**24.00**	**21.00**	**19.00**	**27.00**	**16.00**	**46**	**33**	**17**	**24**	**20**	**47**	**1300**
Magnesium	mg/Kg	**510.00**	**890.00**	**1500.00**	**380.00**	**1000.00**	**660.00**	**2500.00**	**470.00**	**740.00**	--	--	--	--	--	--	--	--
Manganese	mg/Kg	**13.00**	**44.00**	**150.00**	**26.00**	**150.00**	**39.00**	**50.00**	**7.60**	**29.00**	--	--	--	--	--	--	--	--
Mercury	mg/Kg	**0.03**	**0.12**	**0.06**	**0.03**	**0.29**	**0.04**	**0.03**	**0.04**	**0.06**	**0.04**	< 0.024	**0.038**	**0.037**	**0.036**	**0.045**	**0.066**	**0.15**
Nickel	mg/Kg	**5.00**	**6.20**	**9.40**	**7.00**	**12.00**	**9.20**	**11.00**	**4.60**	**7.30**	**6.00**	**27**	**7.8**	**5**	**7.2**	**44**	**23**	**33**
Potassium	mg/Kg	**1300.00**	**1600.00**	**1400.00**	**1500.00**	**1500.00**	**1500.00**	**1700.00**	**1500.00**	**1500.00**	--	--	--	--	--	--	--	--
Selenium	mg/Kg	**13.00**	**48.00**	**17.00**	**19.00**	**11.00**	**17.00**	**13.00**	**17.00**	**15.00**	**14.00**	--	--	--	--	--	--	--
Silver	mg/Kg	< 1.2	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 1.1	< 1.1	< 1.1	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.4	< 1.0	< 1.1
Sodium	mg/Kg	< 58	**91.00**	**71.00**	**72.00**	**77.00**	**80.00**	**100.00**	**61.00**	**67.00**	--	--	--	--	--	--	--	--
Thallium	mg/Kg	< 1.2	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 1.1	< 1.1	< 1.1	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.4	< 1.0	< 1.1
Vanadium	mg/Kg	**75.00**	**160.00**	**62.00**	**100.00**	**74.00**	**100.00**	**100.00**	**110.00**	**95.00**	**110.00**	**48**	**140**	**160**	**82**	**37**	**43**	**42**
Zinc	mg/Kg	**18.00**	**30.00**	**57.00**	**34.00**	**65.00**	**39.00**	**69.00**	**20.00**	**21.00**	**25.00**	**170**	**34**	**13**	**33**	**230**	**140**	**260**

Notes:
mg/Kg - milligrams per kilogram
ft - feet below ground surface
bold - analyte detected

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location / Sample Date / Depth Interval (ft) / Units	SC-0072 7/14/1999 (3, floor)	SC-0083 7/15/1999 (5, wall)	SC-0094 7/16/1999 (0-0)	SC-0095 7/16/1999 (0-0)	SC-0099 7/16/1999 (5, floor)	SC-0105 7/20/1999 (5, wall)	SC-0110 7/23/1999 (10, floor)	SC-0112 7/23/1999 (5, wall)	SC-0114 7/23/1999 (10, floor)	SC-0115 7/23/1999 (5, wall)	SC-0116 7/23/1999 (10, floor)	SC-0135 8/4/1999 (5, wall)	SC-0136 8/4/1999 (5, wall)	SC-0139 8/4/1999 (5, wall)	SC-0157 8/13/1999 (8, wall)	SC-0180 9/1/1999 (7, wall)	SS-01 11/1/1991 (0-2)	SS-02 11/1/1991 (0-2)	SS-03 11/1/1991 (0-2)	SS-05 11/1/1991 (0-2)	SS-06 11/1/1991 (0-2)
Volatile Organic Compounds																						
1,1,1-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.015**	--	--
2-Hexanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	mg/Kg	< 0.0039	< 0.0036	--	--	< 0.0040	< 0.014	**0.0084**	< 0.0056	< 0.0047	< 0.0054	< 0.0048	< 0.0053	< 0.0042	< 0.0044	**1.2**	< 0.0061	**0.001**	**0.001**	--	**0.002**	--
Bromodichloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.038**	**0.06**	**0.028**	**0.036**	--
Carbon tetrachloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	mg/Kg	< 0.0039	< 0.0036	--	--	< 0.0040	< 0.014	< 0.0070	< 0.0056	< 0.0047	< 0.0054	< 0.0048	< 0.0053	< 0.0042	< 0.0044	**4.6**	< 0.0061	--	--	**0.005**	--	**1.6**
Methylene Chloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	mg/Kg	< 0.0039	< 0.0036	--	--	< 0.0040	< 0.014	< 0.0070	< 0.0056	< 0.0047	< 0.0054	< 0.0048	< 0.0053	< 0.0042	< 0.0044	< 1.200	< 0.0061	--	--	--	--	--
Tetrachloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	mg/Kg	< 0.0039	< 0.0036	--	--	< 0.0040	< 0.014	< 0.0070	< 0.0056	< 0.0047	< 0.0054	< 0.0048	< 0.0053	< 0.0042	< 0.0044	**21**	< 0.0061	**0.004**	**0.005**	**0.004**	**0.003**	**0.59**
trans-1,3-Dichloropropene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	mg/Kg	< 0.0079	< 0.0073	--	--	< 0.0081	< 0.028	< 0.014	< 0.011	< 0.0094	< 0.011	< 0.0097	< 0.011	< 0.0085	< 0.0087	**66**	< 0.012	--	--	**0.005**	**0.002**	**11**
Semivolatile Organic Compounds																						
1,2-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location / Sample Date / Depth Interval (ft) / Units	SC-0072 7/14/1999 (3, floor)	SC-0083 7/15/1999 (5, wall)	SC-0094 7/16/1999 (0-0)	SC-0095 7/16/1999 (0-0)	SC-0099 7/16/1999 (5, floor)	SC-0105 7/20/1999 (5, wall)	SC-0110 7/23/1999 (10, floor)	SC-0112 7/23/1999 (5, wall)	SC-0114 7/23/1999 (10, floor)	SC-0115 7/23/1999 (5, wall)	SC-0116 7/23/1999 (10, floor)	SC-0135 8/4/1999 (5, wall)	SC-0136 8/4/1999 (5, wall)	SC-0139 8/4/1999 (5, wall)	SC-0157 8/13/1999 (8, wall)	SC-0180 9/1/1999 (7, wall)	SS-01 11/1/1991 (0-2)	SS-02 11/1/1991 (0-2)	SS-03 11/1/1991 (0-2)	SS-05 11/1/1991 (0-2)	SS-06 11/1/1991 (0-2)
2-Chloronaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**4.1**	--	**2.4**
2-Methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Cresol)	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1-one	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	mg/Kg	< 0.380	< 0.400	<0.410	<0.420	< 0.380	< 0.430	< 0.510	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	< 0.470	**20**	< 0.420	--	--	--	--	--
4-Nitrophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	mg/Kg	**0.87**	< 0.400	<0.410	<0.420	< 0.380	< 0.430	< 0.510	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	< 0.470	< 16.000	< 0.420	--	**3**	**7.9**	--	--
Acenaphthylene	mg/Kg	< 0.380	< 0.400	<0.410	<0.420	< 0.380	< 0.430	< 0.510	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	< 0.470	**34**	< 0.420	--	--	**15**	--	--
Anthracene	mg/Kg	**2**	< 0.400	<0.410	<0.420	< 0.380	< 0.430	**0.58**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	**0.55**	**60**	< 0.420	--	**7.1**	**324**	**2.9**	**0.32**
Benzo(a)anthracene	mg/Kg	**4.2**	< 0.400	<0.410	<0.420	< 0.380	**1.6**	**2.3**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	**0.94**	**32**	< 0.420	--	**78**	**72**	**7.7**	--
Benzo(a)pyrene	mg/Kg	**3.2**	< 0.400	<0.410	<0.420	< 0.380	**1.4**	**2.3**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	**0.88**	**23**	< 0.420	--	**87**	**68**	**11**	--
Benzo(b)fluoranthene	mg/Kg	**3**	< 0.400	<0.410	<0.420	< 0.380	**0.92**	**1.6**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	**0.71**	< 16	< 0.420	--	**150**	**73**	**14**	--
Benzo(g,h,i)perylene	mg/Kg	**2**	< 0.400	<0.410	<0.420	< 0.380	**0.96**	**1.4**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	< 0.470	< 16	< 0.420	--	**54**	**38**	**7.9**	--
Benzo(k)fluoranthene	mg/Kg	**2.4**	< 0.400	<0.410	<0.420	< 0.380	**1.5**	**2.6**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	**0.81**	**20**	< 0.420	--	**28**	**33**	**5.4**	--
Benzoic Acid	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	mg/Kg	**3.8**	< 0.400	<0.410	<0.420	< 0.380	**1.5**	**2.4**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	**0.91**	**34**	< 0.420	--	**55**	**44**	**10**	--
Dibenzo(a,h)anthracene	mg/Kg	**0.8**	< 0.400	<0.410	<0.420	< 0.380	< 0.430	**0.68**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	< 0.470	< 16	< 0.420	--	**12**	**6.9**	**2**	--
Dibenzofuran	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.71**	**15**	--	--
Diethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Endrin ketone	mg/Kg			--	--													**0.022**	--	--	--	--
Fluoranthene	mg/Kg	**8.1**	< 0.400	<0.410	<0.420	< 0.380	**2.3**	**3.4**	< 0.420	**0.56**	< 0.430	< 0.430	< 0.400	< 0.400	**2.6**	**84**	< 0.420	--	**57**	**110**	**13**	--
Fluorene	mg/Kg	**1.2**	< 0.400	<0.410	<0.420	< 0.380	< 0.430	< 0.510	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	< 0.470	**69**	< 0.420	--	--	**26**	--	--
Heptachlor	mg/Kg			--	--													**0.0058**	--	--	--	--
Hexachloro-1,3-butadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2-2
Historical Excavated Soil Analytical Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Location	SC-0072	SC-0083	SC-0094	SC-0095	SC-0099	SC-0105	SC-0110	SC-0112	SC-0114	SC-0115	SC-0116	SC-0135	SC-0136	SC-0139	SC-0157	SC-0180	SS-01	SS-02	SS-03	SS-05	SS-06
	Sample Date	7/14/1999	7/15/1999	7/16/1999	7/16/1999	7/16/1999	7/20/1999	7/23/1999	7/23/1999	7/23/1999	7/23/1999	7/23/1999	8/4/1999	8/4/1999	8/4/1999	8/13/1999	9/1/1999	11/1/1991	11/1/1991	11/1/1991	11/1/1991	11/1/1991
	Depth Interval (ft)	(3, floor)	(5, wall)	(0-0)	(0-0)	(5, floor)	(5, wall)	(10, floor)	(5, wall)	(10, floor)	(5, wall)	(10, floor)	(5, wall)	(5, wall)	(5, wall)	(8, wall)	(7, wall)	(0-2)	(0-2)	(0-2)	(0-2)	(0-2)
	Units																					
Hexachlorocyclopentadiene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	mg/Kg	**1.6**	< 0.400	<0.410	<0.420	< 0.380	**1.1**	**1.7**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	< 0.470	< 16	< 0.420	--	--	--	--	--
m-Dichlorobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	mg/Kg	**1.1**	< 0.400	<0.410	<0.420	< 0.380	< 0.430	**0.79**	< 0.420	< 0.410	< 0.430	< 0.430	< 0.400	< 0.400	< 0.470	**440** [1,2]	< 0.420	--	**1.1**	**18**	--	**4.1**
Nitrobenzene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	mg/Kg	**7.1**	< 0.400	<0.410	<0.420	< 0.380	**0.94**	**1.8**	< 0.420	**0.44**	< 0.430	< 0.430	< 0.400	< 0.400	**2.3**	**150**	< 0.420	--	**22**	**100**	**6**	**0.73**
Phenol	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Nitroaniline	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**59**	**90**	**16**	--
Tribromomethane	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Compounds																						
Aluminum (fume or dust)	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**5210**	**7890**	**3500**	**4830**	**3640**
Antimony	mg/Kg	**3**	< 2.4	< 2.5	< 2.3	< 2.4	< 2.4	< 3.1	< 2.6	< 2.5	< 5.2	< 2.4	< 2.4	< 2.4	< 2.9	< 2.2	< 5.1	--	--	--	--	--
Arsenic	mg/Kg	**52**	**42**	**17**	**6.6**	**43**	**120**	**64**	**110**	**120**	**170**	**46**	**100**	**64**	**100**	**8**	**170**	**7**	**15.4**	**17.3**	**18.9**	**1.5**
Barium	mg/Kg	**1300**	**40**	**45**	**36**	**36**	**970**	**720**	**94**	**190**	**270**	**110**	**250**	**72**	**160**	**200**	**210**	**218**	**94.9**	**267**	**160**	**108**
Beryllium	mg/Kg	**1.1**	< 0.48	**0.8**	< 0.47	**0.65**	**2.3**	< 0.62	**1.4**	**1.4**	**2.4**	**1.1**	**1.4**	**0.81**	**1.9**	**0.74**	**2.4**	**0.56**	**0.74**	--	**0.68**	**1.1**
Cadmium	mg/Kg	**1.3**	< 0.60	**0.84**	< 0.58	**0.6**	**2.6**	**2**	**1.6**	**1.4**	**1.8**	**1.5**	< 0.61	< 0.61	**0.78**	< 0.54	< 1.3	**1.8**	**2.9**	**1.6**	**1.5**	**2.1**
Calcium metal	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**7970**	**8320**	**14600**	**14100**	**88100**
Chromium	mg/Kg	**22**	**130**	**54**	**25**	**180**	**21**	**27**	**30**	**31**	**31**	**38**	**27**	**27**	**25**	**24**	**33**	**21.3**	**32.8**	**7.9**	**10.9**	**9.1**
Cobalt	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**7.7**	**7.4**	**4**	**5**	**2.6**
Copper	mg/Kg	**52**	**34**	**8.6**	**5.5**	**33**	**42**	**74**	**35**	**32**	**58**	**30**	**40**	**22**	**40**	**12**	**64**	**25.9**	**25.8**	**33.6**	**32.2**	**9.6**
Cyanide	mg/Kg	< 1.1	< 1.2	< 1.3	< 1.3	< 1.2	< 1.3	**380**	< 1.3	**1.5**	< 1.3	< 1.3	< 1.2	< 1.2	< 1.4	**390**	< 1.3	--	**12.6**	**101**	**8.2**	**1.4**
Iron	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**18400**	**24200**	**22900**	**18200**	**11200**
Lead	mg/Kg	**110**	**20**	**17**	**12**	**16**	**210**	**140**	**120**	**250**	**130**	**51**	**170**	**73**	**110**	**27**	**150**	**67.7**	**112**	**198**	**95.7**	**25.9**
Magnesium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**668**	**708**	**669**	**875**	**4020**
Manganese	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**271**	**266**	**116**	**172**	**158**
Mercury	mg/Kg	**0.053**	**0.048**	**0.087**	**0.042**	**0.029**	**0.097**	**0.64**	**0.073**	**0.078**	**0.12**	**0.12**	**0.063**	**0.083**	**0.087**	**0.18**	**0.14**	--	--	**0.44**	**0.38**	--
Nickel	mg/Kg	**37**	< 4.8	**21**	**12**	**5.2**	**100**	**8.3**	**58**	**52**	**110**	**45**	**49**	**35**	**77**	**11**	**130**	**11.8**	**12.5**	**8.3**	**13.1**	**10.2**
Potassium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**426**	**627**	**1760**	**579**	**580**
Selenium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.3**	**0.53**	**1.2**	**0.88**	--
Silver	mg/Kg	< 1.0	< 1.2	< 1.3	< 1.2	< 1.2	< 1.2	< 1.6	< 1.3	< 1.2	< 2.6	< 1.2	< 1.2	< 1.2	< 1.4	< 1.1	< 2.5	--	--	--	--	--
Sodium	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**199**	**336**	**329**	**284**	**318**
Thallium	mg/Kg	< 1.0	< 1.2	< 1.3	< 1.2	< 1.2	< 1.2	< 1.6	< 1.3	< 1.2	< 2.6	< 1.2	**1.8**	**1.9**	**1.7**	< 1.1	**5.1**	--	--	**0.55**	**0.42**	--
Vanadium	mg/Kg	**34**	**76**	**55**	**25**	**100**	**75**	**95**	**98**	**83**	**110**	**62**	**81**	**61**	**75**	**32**	**110**	**25.8**	**35.5**	**29.9**	**24.8**	**22.9**
Zinc	mg/Kg	**230**	**17**	**110**	**57**	**14**	**770**	**160**	**510**	**460**	**1000**	**310**	**470**	**280**	**630**	**57**	**1000**	**95.2**	**179**	**31.7**	**695.5**	**61.7**

Notes:
mg/Kg - milligrams per kilogram
ft - feet below ground surface
bold - analyte detected

Table 2-3
Groundwater Analytical Data, April 2010
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Units	Type 4 RRS - Hotel Worker [1]	Type 4 RRS - Broad Street Retail Worker [1]	Type 1/3 RRS	MW-09A 4/14/2010	MW-09B 4/15/2010	MW-14A 4/13/2010	MW-14A DUP 4/13/2010	MW-401AR 4/15/2010	MW-402A 4/15/2010	MW-402B 4/15/2010
Field Water Quality Parameters											
Field Param - Dissolved Oxygen in Water	mg/L	--	--	--	0.12	0.67	1.18	--	0.79	3.14	6.02
Field Param - Oxidation-Reduction in Water	mV	--	--	--	49.5	-18.8	276.7	--	124.8	130.9	-22.8
Field Param - pH in Water	pH units	--	--	--	6.57	6.49	5.61	--	5.73	4.95	6.57
Field Param - Specific Conductivity in Water	ms/cm	--	--	--	0.514	0.543	0.278	--	0.421	0.403	0.805
Field Param - Temperature in Water	deg c	--	--	--	22.36	18.06	16.05	--	25.33	22.14	23.62
Turbidity	NTU	--	--	--	9.91	6.03	1.01	--	4.72	9.21	8.76
Monitored Natural Attenuation Parameters											
Ferrous Iron	mg/L	--	--	--	< 0.10	**0.14**	--	--	< 0.10	**8.9**	< 0.10
Iron	mg/L	--	--	--	**1.9**	**2.0**	--	--	**0.19**	**13**	**2.4**
Methane	ug/L	--	--	--	**0.22**	**25**	--	--	**0.39**	**4.7**	**11**
Oxygen	ug/L	--	--	--	**1500**	**1500**	--	--	**1400**	**1300**	**1700**
Volatite Organic Compounds											
Benzene	ug/L	36500	24900	5	< 5.0	< 5.0	--	--	< 5.0	< 5.0	< 5.0
Ethylbenzene	ug/L	--	--	700	< 5.0	< 5.0	--	--	< 5.0	< 5.0	< 5.0
Methyl Ethyl Benzene	ug/L	--	--	5 [3]	< 5.0	< 5.0	--	--	< 5.0	< 5.0	< 5.0
Toluene	ug/L	--	--	1000	< 5.0	< 5.0	--	--	< 5.0	< 5.0	< 5.0
Xylenes, total	ug/L	--	--	10000	< 5.0	< 5.0	--	--	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds											
2,4-Dimethylphenol	ug/L	--	--	700	< 10	< 9.4	--	--	< 9.8	< 9.7	< 9.9
2-Methylphenol	ug/L	--	--	10 [3]	< 10	< 9.4	--	--	< 9.8	< 9.7	< 9.9
3&4-Methylphenol (M&P-Cresol)	ug/L	--	--	--	< 10	< 9.4	--	--	< 9.8	< 9.7	< 9.9
Acenaphthylene	ug/L	--	--	10 [3]	< 10	< 9.4	--	--	< 9.8	< 9.7	< 9.9
Naphthalene	ug/L	29000	24200	20	< 10	< 9.4	--	--	< 9.8	< 9.7	< 9.9
Phenanthrene	ug/L	--	--	10 [3]	< 10	< 9.4	--	--	< 9.8	< 9.7	< 9.9
Cyanide	mg/L	--	--	0.2	**0.015**	**0.029**	< 0.010	< 0.010	< 0.010	**0.039**	**0.059**

Notes:
ug/l - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
ms/cm - milliseimens per centimeter
deg c - degrees Celsius
NTU - Nephelometric Turbidity Units
RRS - Risk Reduction Standard
DUP - sample duplicate
^ - reporting detection limit exceeds the Type 1/3 RRS
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1]- Type 4 RRS values protective of vapor intrusion are calculated for those COI that are volatile, detected (above a screening level, if available), and have inhalation toxicity information available.
[2] - Analyte concentration exceeds the Type 1/3 RRS.
[3] - Where no cleanup standard is provided in Rule 391-3-19, Appendix III, Table 1, the Type 1/3 RRS is based on the maximum detection limit for non-detects.

Table 2-3
Groundwater Analytical Data, April 2010
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Units	Type 4 RRS - Hotel Worker [1]	Type 4 RRS - Broad Street Retail Worker [1]	Type 1/3 RRS	MW-403A 4/14/2010	MW-403B 4/14/2010	MW-403B 4/14/2010	MW-404B 4/15/2010	MW-404B DUP 4/15/2010	MW-404R 4/15/2010	MW-405 4/14/2010
Field Water Quality Parameters											
Field Param - Dissolved Oxygen in Water	mg/L	--	--	--	4.38	--	0.5	0.67	--	0.74	0.33
Field Param - Oxidation-Reduction in Water	mV	--	--	--	21.5	--	-76.3	-47.3	--	2.3	-29.5
Field Param - pH in Water	pH units	--	--	--	6.76	--	6.62	6.76	--	6.38	6.13
Field Param - Specific Conductivity in Water	ms/cm	--	--	--	1.028	--	1.345	0.789	--	0.265	0.849
Field Param - Temperature in Water	deg c	--	--	--	28.92	--	28.85	21.32	--	20.2	24.84
Turbidity	NTU	--	--	--	6.32	--	2.52	2.76	--	4.77	5.77
Monitored Natural Attenuation Parameters											
Ferrous Iron	mg/L	--	--	--	< 0.10	< 0.10	--	< 0.10	< 0.10	< 0.10	**7.2**
Iron	mg/L	--	--	--	**0.62**	**8.0**	--	**2.6**	**2.4**	**11**	**18**
Methane	ug/L	--	--	--	**13**	**46**	--	**36**	**33**	**27**	**17**
Oxygen	ug/L	--	--	--	**1400**	**1500**	--	**1500**	**1500**	**1500**	**1300**
Volatile Organic Compounds											
Benzene	ug/L	36500	24900	5	< 5.0	< 5.0	--	< 5.0	< 5.0	**110** [2]	< 5.0
Ethylbenzene	ug/L	--	--	700	< 5.0	< 5.0	--	< 5.0	< 5.0	**22**	< 5.0
Methyl Ethyl Benzene	ug/L	--	--	5 [3]	< 5.0	< 5.0	--	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	ug/L	--	--	1000	< 5.0	< 5.0	--	< 5.0	< 5.0	**6.2**	< 5.0
Xylenes, total	ug/L	--	--	10000	< 5.0	< 5.0	--	< 5.0	< 5.0	**16**	< 5.0
Semivolatile Organic Compounds											
2,4-Dimethylphenol	ug/L	--	--	700	< 9.5	< 9.5	--	< 9.4	< 9.7	< 9.4	< 10
2-Methylphenol	ug/L	--	--	10 [3]	< 9.5	< 9.5	--	< 9.4	< 9.7	< 9.4	< 10
3&4-Methylphenol (M&P-Cresol)	ug/L	--	--	--	< 9.5	< 9.5	--	< 9.4	< 9.7	< 9.4	< 10
Acenaphthylene	ug/L	--	--	10 [3]	< 9.5	< 9.5	--	< 9.4	< 9.7	< 9.4	< 10
Naphthalene	ug/L	29000	24200	20	< 9.5	< 9.5	--	< 9.4	< 9.7	**9.9**	< 10
Phenanthrene	ug/L	--	--	10 [3]	< 9.5	< 9.5	--	< 9.4	< 9.7	< 9.4	< 10
Cyanide	mg/L	--	--	0.2	**0.14**	**0.016**	--	**0.079**	**0.086**	**0.010**	**0.046**

Notes:
ug/l - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
ms/cm - milliseimens per centimeter
deg c - degrees Celsius
NTU - Nephelometric Turbidity Units
RRS - Risk Reduction Standard
DUP - sample duplicate
^ - reporting detection limit exceeds the Type 1/3 RRS
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1]- Type 4 RRS values protective of vapor intrusion are calculated for those COI that are volatile, detected (above a screening level, if available), and have inhalation toxicity information available.
[2] - Analyte concentration exceeds the Type 1/3 RRS.
[3] - Where no cleanup standard is provided in Rule 391-3-19, Appendix III, Table 1, the Type 1/3 RRS is based on the maximum detection limit for non-detects.

Table 2-3
Groundwater Analytical Data, April 2010
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Units	Type 4 RRS - Hotel Worker [1]	Type 4 RRS - Broad Street Retail Worker [1]	Type 1/3 RRS	MW-406A 4/13/2010	MW-406A 4/15/2010	MW-406B 4/13/2010	MW-406C 4/13/2010	MW-501 4/16/2010	MW-503 4/14/2010	MW-504 4/15/2010
Field Water Quality Parameters											
Field Param - Dissolved Oxygen in Water	mg/L	--	--	--	--	2.19	2.39	1.48	5.29	6.27	0.13
Field Param - Oxidation-Reduction in Water	mV	--	--	--	--	339.5	105.3	2.26	123.5	-40.4	-126.2
Field Param - pH in Water	pH units	--	--	--	--	4.57	6.07	6.79	5.63	6.66	6.77
Field Param - Specific Conductivity in Water	ms/cm	--	--	--	--	0.671	0.764	0.676	0.467	0.667	1.127
Field Param - Temperature in Water	deg c	--	--	--	--	24.14	23.73	26.92	20.33	23.76	24.61
Turbidity	NTU	--	--	--	--	4.7	9.91	7.57	4.16	9.89	3.02
Monitored Natural Attenuation Parameters											
Ferrous Iron	mg/L	--	--	--	--	--	--	--	< 0.10	< 0.10	< 0.10
Iron	mg/L	--	--	--	--	--	--	--	**0.12**	**0.27**	**12**
Methane	ug/L	--	--	--	--	--	--	--	< 0.19	< 0.19	**1900**
Oxygen	ug/L	--	--	--	--	--	--	--	**1600**	**1700**	**1200**
Volatite Organic Compounds											
Benzene	ug/L	36500	24900	5	--	--	--	--	< 5.0	< 5.0	**3000 [2]**
Ethylbenzene	ug/L	--	--	700	--	--	--	--	< 5.0	< 5.0	< 130
Methyl Ethyl Benzene	ug/L	--	--	5 [3]	--	--	--	--	< 5.0	< 5.0	< 130 ^
Toluene	ug/L	--	--	1000	--	--	--	--	< 5.0	< 5.0	**400**
Xylenes, total	ug/L	--	--	10000	--	--	--	--	< 5.0	< 5.0	**580**
Semivolatile Organic Compounds											
2,4-Dimethylphenol	ug/L	--	--	700	--	--	--	--	< 9.7	< 9.9	**26000 [2]**
2-Methylphenol	ug/L	--	--	10 [3]	--	--	--	--	< 9.7	< 9.9	**44000 [2]**
3&4-Methylphenol (M&P-Cresol)	ug/L	--	--	--	--	--	--	--	< 9.7	< 9.9	**1000**
Acenaphthylene	ug/L	--	--	10 [3]	--	--	--	--	< 9.7	< 9.9	< 94 ^
Naphthalene	ug/L	29000	24200	20	--	--	--	--	< 9.7	< 9.9	**1200 [2]**
Phenanthrene	ug/L	--	--	10 [3]	--	--	--	--	< 9.7	< 9.9	< 94 ^
Cyanide	mg/L	--	--	0.2	**0.030**	--	< 0.010	< 0.010	**0.010**	< 0.010	**0.4 [2]**

Notes:
ug/l - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
ms/cm - milliseimens per centimeter
deg c - degrees Celsius
NTU - Nephelometric Turbidity Units
RRS - Risk Reduction Standard
DUP - sample duplicate
^ - reporting detection limit exceeds the Type 1/3 RRS
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1]- Type 4 RRS values protective of vapor intrusion are calculated for those COI that are volatile, detected (above a screening level, if available), and have inhalation toxicity information available.
[2] - Analyte concentration exceeds the Type 1/3 RRS.
[3] - Where no cleanup standard is provided in Rule 391-3-19, Appendix III, Table 1, the Type 1/3 RRS is based on the maximum detection limit for non-detects.

Table 2-3
Groundwater Analytical Data, April 2010
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Units	Type 4 RRS - Hotel Worker [1]	Type 4 RRS - Broad Street Retail Worker [1]	Type 1/3 RRS	MW-504 DUP 4/15/2010	MW-505R 4/13/2010	MW-506 4/14/2010	MW-507 4/16/2010	MW-508 4/15/2010
Field Water Quality Parameters									
Field Param - Dissolved Oxygen in Water	mg/L	--	--	--	--	0.56	6.83	7.55	5.8
Field Param - Oxidation-Reduction in Water	mV	--	--	--	--	18.9	52.1	-44.7	188
Field Param - pH in Water	pH units	--	--	--	--	6.38	6.42	6.54	5.74
Field Param - Specific Conductivity in Water	ms/cm	--	--	--	--	0.496	0.185	0.303	0.178
Field Param - Temperature in Water	deg c	--	--	--	--	19.72	18.85	17.59	19.08
Turbidity	NTU	--	--	--	--	9.82	2.08	8.72	6.06
Monitored Natural Attenuation Parameters									
Ferrous Iron	mg/L	--	--	--	< 0.10	--	< 0.10	< 0.10	< 0.10
Iron	mg/L	--	--	--	**12**	--	< 0.10	**3.9**	**0.22**
Methane	ug/L	--	--	--	**1900**	--	< 0.19	**0.27**	< 0.19
Oxygen	ug/L	--	--	--	**1200**	--	**1700**	**1700**	**1600**
Volatite Organic Compounds									
Benzene	ug/L	36500	24900	5	**2800** [2]	--	< 5.0	< 5.0	< 5.0
Ethylbenzene	ug/L	--	--	700	< 130	--	< 5.0	< 5.0	< 5.0
Methyl Ethyl Benzene	ug/L	--	--	5 [3]	< 130 ^	--	< 5.0	< 5.0	< 5.0
Toluene	ug/L	--	--	1000	**360**	--	< 5.0	< 5.0	< 5.0
Xylenes, total	ug/L	--	--	10000	**510**	--	< 5.0	< 5.0	< 5.0
Semivolatile Organic Compounds									
2,4-Dimethylphenol	ug/L	--	--	700	**25000** [2]	--	< 9.4	< 9.4	< 9.9
2-Methylphenol	ug/L	--	--	10 [3]	**45000** [2]	--	< 9.4	< 9.4	< 9.9
3&4-Methylphenol (M&P-Cresol)	ug/L	--	--	--	**840**	--	< 9.4	< 9.4	< 9.9
Acenaphthylene	ug/L	--	--	10 [3]	< 110 ^	--	< 9.4	< 9.4	< 9.9
Naphthalene	ug/L	29000	24200	20	**1100** [2]	--	< 9.4	< 9.4	< 9.9
Phenanthrene	ug/L	--	--	10 [3]	< 110 ^	--	< 9.4	< 9.4	< 9.9
Cyanide	mg/L	--	--	0.2	**0.37** [2]	< 0.010	< 0.010	**0.024**	< 0.010

Notes:
ug/l - micrograms per liter
mg/L - milligrams per liter
mV - millivolts
ms/cm - milliseimens per centimeter
deg c - degrees Celsius
NTU - Nephelometric Turbidity Units
RRS - Risk Reduction Standard
DUP - sample duplicate
^ - reporting detection limit exceeds the Type 1/3 RRS
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1]- Type 4 RRS values protective of vapor intrusion are calculated for those COI that are volatile, detected (above a screening level, if available), and have inhalation toxicity information available.
[2] - Analyte concentration exceeds the Type 1/3 RRS.
[3] - Where no cleanup standard is provided in Rule 391-3-19, Appendix III, Table 1, the Type 1/3 RRS is based on the maximum detection limit for non-detects.

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	GP-118 1/18/1996 (4-8)	GP-118 1/18/1996 (12-16)	GP-125 1/22/1996 (11.5-16)	GP-125 1/22/1996 (26-28.5)	GP-126 1/22/1996 (13-17)	GP-126 1/22/1996 (20-24)	GP-127 1/24/1996 (16-19)	GP-127 1/24/1996 (26-30)	GP-131 2/10/1996 (5-9)	GP-131 2/10/1996 (15-18)	GP-131 2/10/1996 (18-22)	GP-132 2/9/1996 (13-17)	GP-132 2/9/1996 (24-28)	GP-133 2/8/1996 (16-19)	GP-133 2/8/1996 (26-29)	GP-303 12/5/1998 (32-33.5)	GP-304 12/4/1998 (28-32)	GP-305 12/6/1998 (43-45)	GP-306 12/6/1998 (22-24)	GP-306 12/6/1998 (26-28)	GP-307 12/7/1998 (28-30)	GP-308 12/7/1998 (22-24)	GP-308 12/7/1998 (28-32)	GP-310 12/9/1998 (28-30)
Volatile Organic Compounds																											
1,1,1-Trichloroethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
2-Butanone	57,400	648	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.018	< 0.022	< 0.026	< 0.016	< 0.016	< 0.028	< 0.1	< 0.091	< 0.019
2-Hexanone	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Acetone	404,000	3,280	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	**0.01**	< 0.012	**0.014**	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.018	< 0.038	< 0.036	< 0.045	< 0.052	< 0.033	< 0.033	< 0.057	< 0.21	< 0.18	< 0.038
Benzene	0.84	0.02	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.0036	**0.18** [2]	< 0.0052	< 0.0033	< 0.0033	< 0.0057	< 0.021	< 0.018	**0.014**
Bromodichloromethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Carbon Disulfide	32.3	0.969	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.0036	**0.014**	< 0.0052	< 0.0033	< 0.0033	**0.015**	< 0.021	< 0.018	**0.011**
Carbon tetrachloride	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Chlorobenzene	45.9	1.52	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Chloroform	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Ethylbenzene	7.4	0.257	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	**0.002**	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.0036	**0.046**	< 0.0052	< 0.0033	< 0.0033	< 0.0057	< 0.021	< 0.018	< 0.0038
Methylene Chloride	18.6	0.271	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.014	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.017	< 0.0036	< 0.0045	< 0.0052	< 0.0033	< 0.0033	< 0.0057	< 0.021	< 0.018	< 0.0038
Styrene	3,810	141	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.0036	< 0.0045	< 0.0052	< 0.0033	< 0.0033	< 0.0057	< 0.021	< 0.018	< 0.0038
Tetrachloroethylene	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.0036	< 0.0045	< 0.0052	< 0.0033	< 0.0033	< 0.0057	< 0.021	< 0.018	< 0.0038
Toluene	2,030	60.6	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	**0.003**	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.0036	**0.016**	< 0.0052	< 0.0033	< 0.0033	< 0.0057	< 0.021	< 0.018	< 0.0038
trans-1,3-Dichloropropene	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
Xylenes, total	567	20.5	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	**0.007**	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	< 0.0036	**0.041**	< 0.0052	< 0.0033	< 0.0033	< 0.0057	< 0.021	< 0.018	< 0.0038
Semivolatile Organic Compounds																											
1,2,4-Trichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
2,4-Dinitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	--	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
2-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
3,3`-Dichlorobenzidine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	mg/Kg	< 0.013	< 0.013	< 0.012	< 0.012	< 0.012	< 0.013	< 0.012	< 0.013	< 0.013	< 0.013	< 0.013	< 0.012	< 0.012	< 0.013	< 0.012	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	GP-118 1/18/1996 (4-8)	GP-118 1/18/1996 (12-16)	GP-125 1/22/1996 (11.5-16)	GP-125 1/22/1996 (26-28.5)	GP-126 1/22/1996 (13-17)	GP-126 1/22/1996 (20-24)	GP-127 1/24/1996 (16-19)	GP-127 1/24/1996 (26-30)	GP-131 2/10/1996 (5-9)	GP-131 2/10/1996 (15-18)	GP-131 2/10/1996 (18-22)	GP-132 2/9/1996 (13-17)	GP-132 2/9/1996 (24-28)	GP-133 2/8/1996 (16-19)	GP-133 2/8/1996 (26-29)	GP-303 12/5/1998 (32-33.5)	GP-304 12/4/1998 (28-32)	GP-305 12/6/1998 (43-45)	GP-306 12/6/1998 (22-24)	GP-306 12/6/1998 (26-28)	GP-307 12/7/1998 (28-30)	GP-308 12/7/1998 (22-24)	GP-308 12/7/1998 (28-32)	GP-310 12/9/1998 (28-30)
Acenaphthylene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Anthracene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Benzo(a)anthracene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	**0.05**	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Benzo(a)pyrene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	**0.057**	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Benzo(b)fluoranthene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	**0.091**	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Benzo(g,h,i)perylene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Benzo(k)fluoranthene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	**0.096**	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Benzoic Acid	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	**0.4**	< 0.39	< 0.35
Chrysene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	**0.05**	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Dibenzo(a,h)anthracene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Dibenzofuran	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	--	--	--	--	--	--	--	--	--
Diethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	**0.082**	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Fluorene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Hexachloro-1,3-butadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
m-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	53.9	2.26	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	< 0.42	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Nitrobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	**0.042**	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Phenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
P-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	mg/Kg	< 0.42	< 0.42	< 0.41	< 0.41	< 0.4	< 0.44	< 0.38	< 0.41	< 0.42	< 0.43	< 0.43	< 0.4	< 0.41	**0.093**	< 0.38	< 0.41	< 0.36	< 0.48	< 0.38	< 0.36	< 0.37	< 0.38	< 0.39	< 0.35
Inorganic Compounds																											
Aluminum (fume or dust)	--	--	mg/Kg	**21100**	**17000**	**24700**	**24100**	**13700**	**17600**	**19700**	**6430**	**24700**	**18900**	**14200**	**13400**	**6060**	**19700**	**5280**	--	--	--	--	--	--	--	--	--
Antimony	--	--	mg/Kg	< 0.45	**0.66**	< 0.46	< 0.45	< 0.43	< 0.48	< 0.43	< 0.45	**0.62**	< 0.46	< 0.45	< 0.44	< 0.44	< 0.45	< 0.42	< 2.5	< 2.2	< 2.9	< 2.1	< 2	< 2.1	< 2.6	< 2.2	< 2
Arsenic	--	--	mg/Kg	**8.8**	**7.2**	**3.6**	**1.7**	< 0.72	< 0.79	**1.2**	**7.1**	**4.1**	**1.5**	**1**	**0.34**	**1.1**	**4.5**	< 0.7	**3.8**	**2.2**	**7.2**	**3**	**1.2**	< 1	**7.9**	**2.3**	< 0.98
Barium	--	--	mg/Kg	**49**	**43.7**	**97.1**	**103**	**42.7**	**51.2**	**62.2**	**25**	**81.3**	**52.6**	**33**	**74.4**	**27.2**	**123**	**28.2**	**64**	**19**	**41**	**99**	**27**	**17**	**220**	**82**	**16**
Beryllium	--	--	mg/Kg	**0.55**	**0.5**	**0.86**	**0.61**	**0.6**	**0.67**	**0.6**	**1.3**	**0.62**	**0.59**	**0.28**	**0.66**	**0.62**	**0.96**	**0.24**	**1.6**	**0.66**	**6.8**	**0.99**	< 0.49	< 0.52	**1.1**	**0.72**	< 0.49
Cadmium	--	--	mg/Kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 1.2	< 0.55	**1.3**	< 1.1	< 0.49	< 0.52	< 0.64	< 0.54	< 0.49
Calcium metal	--	--	mg/Kg	**584**	**738**	**795**	**504**	**179**	**266**	**592**	**324**	**854**	**568**	**278**	**1190**	**100**	**1400**	**341**	--	--	--	--	--	--	--	--	--
Chromium	--	--	mg/Kg	**48**	**46.5**	**29.6**	**22.8**	**12.9**	**18.4**	**17.4**	**39.3**	**24.6**	**14**	**8.9**	**16.4**	**127**	**23.6**	**9.8**	**19**	**17**	**14**	**23**	**50**	**8.6**	**26**	**20**	**14**
Cobalt	--	--	mg/Kg	**8.7**	**12**	**10**	**4.2**	**8.3**	**5.1**	**7.7**	**17.9**	**8.2**	**8.1**	**3.4**	**8.9**	**14.9**	**8.6**	**1.5**	**8.7**	**8.5**	**26**	**7.3**	**3.6**	**7.6**	**13**	**5.3**	**3**
Copper	--	--	mg/Kg	**7.7**	**5.9**	**18.1**	**13**	**9.2**	**10.1**	**16**	**81.3**	**20.6**	**9.3**	**6.4**	**12.6**	**2.8**	**16.8**	**4**	**9.5**	**8.3**	**28**	**12**	**3.2**	< 2.6	**19**	**11**	< 2.4
Cyanide	--	--	mg/Kg	< 0.63	< 0.63	< 0.62	< 0.62	**0.92**	**1.5**	< 0.59	**1.3**	< 0.62	< 0.63	< 0.63	< 0.61	< 0.62	< 0.63	< 0.58	< 1.2	< 1.1	< 1.4	< 1.2	< 1.1	< 1.1	< 1.3	< 1.2	< 1.1
Iron	--	--	mg/Kg	**23600**	**27500**	**34400**	**23400**	**16400**	**17700**	**19800**	**31800**	**37900**	**18700**	**10500**	**24500**	**18000**	**29900**	**5110**	--	--	--	--	--	--	--	--	--
Lead	--	--	mg/Kg	**14.4**	**14.2**	**13.9**	**12.1**	**6.5**	**6.6**	**9**	**28.5**	**24.9**	**8.7**	**4.5**	**12.5**	**3.3**	**11.8**	**3.3**	**8.9**	**4.4**	**29**	**8.1**	**2.2**	**1.8**	**18**	**12**	**1.1**
Magnesium	--	--	mg/Kg	**1510**	**1050**	**3170**	**1530**	**1530**	**1910**	**1760**	**320**	**1260**	**1620**	**556**	**2260**	**244**	**3230**	**281**	--	--	--	--	--	--	--	--	--
Manganese	--	--	mg/Kg	**359**	**758**	**414**	**78.4**	**207**	**103**	**196**	**323**	**413**	**334**	**122**	**370**	**128**	**322**	**34.4**	--	--	--	--	--	--	--	--	--
Mercury	--	--	mg/Kg	< 0.13	< 0.13	< 0.12	< 0.12	< 0.12	< 0.14	< 0.12	< 0.12	< 0.12	< 0.13	< 0.13	< 0.11	< 0.12	< 0.1	< 0.12	**0.015**	< 0.011	< 0.013	**0.015**	< 0.011	< 0.011	**0.048**	**0.013**	< 0.0098
Nickel	--	--	mg/Kg	**17.5**	**11.9**	**15.9**	**12.4**	**7.7**	**38.3**	**14.6**	**17.3**	**10.8**	**8.4**	**6.1**	**8.8**	**5.2**	**14.5**	**4.5**	**9.9**	**8.3**	**51**	**12**	**5.4**	< 4.1	**17**	**12**	< 3.9
Potassium	--	--	mg/Kg	**1600**	**902**	**1850**	**1720**	**1200**	**1580**	**1500**	**441**	**1250**	**1250**	**550**	**949**	**218**	**1810**	**273**	--	--	--	--	--	--	--	--	--
Selenium	--	--	mg/Kg	< 0.66	**1.2**	< 0.66	< 0.65	**0.69**	< 0.69	**0.68**	< 0.65	**1.2**	**0.87**	**0.96**	**1.5**	< 0.64	**0.89**	< 0.61	< 1.2	< 1.1	< 1.4	< 1.1	< 0.99	< 1	< 1.3	< 1.1	< 0.98
Silver	--	--	mg/Kg	< 0.18	< 0.18	< 0.18	< 0.17	< 0.17	< 0.19	< 0.17	< 0.18	< 0.17	< 0.18	< 0.18	< 0.17	< 0.17	< 0.18	< 0.16	< 1.2	< 1.1	< 1.4	< 1.1	< 0.99	< 1	< 1.3	< 1.1	< 0.98
Sodium	--	--	mg/Kg	**436**	**439**	**521**	**636**	**556**	**584**	**631**	**332**	**400**	**445**	**360**	**394**	**241**	**475**	**318**	--	--	--	--	--	--	--	--	--
Thallium	--	--	mg/Kg	< 0.88	< 0.88	< 0.88	< 0.87	< 0.84	< 0.93	< 0.83	< 0.88	< 0.87	< 0.89	< 0.88	< 0.85	< 0.86	< 0.88	< 0.82	< 1.2	< 1.1	**1.8**	< 1.1	< 0.99	< 1	< 1.3	< 1.1	< 0.98
Vanadium	--	--	mg/Kg	**37.4**	**39.8**	**38.1**	**34.2**	**31.4**	**32.3**	**34.7**	**32.7**	**48.2**	**33.6**	**19.2**	**27.4**	**14.8**	**31.5**	**9.2**	**44**	**11**	**22**	**38**	**13**	**6.2**	**57**	**45**	**6.4**
Zinc	--	--	mg/Kg	**77.6**	**65.2**	**67.8**	**42.2**	**29.7**	**36.9**	**43.4**	**140**	**44**	**30**	**18**	**44.8**	**11.7**	**59.5**	**9.7**	**42**	**25**	**180**	**42**	**17**	**9.5**	**68**	**39**	**9.1**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1] - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
[2] - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
[3] - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	GP-311 12/14/1998 (28-30)	GP-312 12/14/1998 (31-33)	GP-313 12/15/1998 (28-30)	GP-313 12/15/1998 (30-33)	GP-314 12/15/1998 (22-24)	GP-315 12/16/1998 (22-24)	GP-316 12/16/1998 (22-24)	GP-317 12/16/1998 (22-24)	GP-318 12/16/1998 (11-13)	GP-318 12/16/1998 (20-22)	GP-318 12/16/1998 (33.5-34.5)	GP-319 12/17/1998 (7-9)	GP-319 12/17/1998 (20-22)	GP-319 12/17/1998 (26-28)	GP-320 12/17/1998 (26-28)	GP-320 12/17/1998 (28-30)	GP-321 12/17/1998 (5.5-6.5)	GP-321 12/17/1998 (16-18)	GP-321 12/17/1998 (28-29.5)	GP-322 12/18/1998 (7-9)	GP-322 12/18/1998 (21-23)	GP-322 12/18/1998 (28-30)	GP-323 12/18/1998 (20-24)	GP-323 12/18/1998 (26-28)	GP-324 12/19/1998 (12-14)
Volatile Organic Compounds																												
1,1,1-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	57,400	648	mg/Kg	< 0.023	< 0.02	< 0.021	< 0.023	< 0.018	< 0.019	< 0.022	< 0.018	< 0.02	< 0.021	< 0.025	< 0.029	< 0.024	< 0.018	< 0.023	< 0.026	< 0.019	< 0.021	< 0.022	< 0.019	< 0.022	< 0.049	< 0.022	< 0.02	< 0.022
2-Hexanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	404,000	3,280	mg/Kg	< 0.046	< 0.04	< 0.042	< 0.046	< 0.036	< 0.039	< 0.043	< 0.037	< 0.041	< 0.042	< 0.05	< 0.057	< 0.048	< 0.037	< 0.046	< 0.052	**0.1**	< 0.042	< 0.044	< 0.037	< 0.044	< 0.098	< 0.045	< 0.041	< 0.044
Benzene	0.84	0.02	mg/Kg	**0.65** [2]	< 0.004	< 0.0042	< 0.0046	< 0.0036	< 0.0039	< 0.0043	< 0.0037	0.0096	**0.014**	**0.025** [2]	**0.022** [2]	< 0.0048	**0.36** [2]	< 0.25	< 0.25	< 0.0038	**0.08** [2]	< 0.26	< 0.0037	< 0.0044	**0.032** [2]	< 0.0045	< 0.0041	< 0.0044
Bromodichloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	32.3	0.969	mg/Kg	**0.0081**	< 0.004	< 0.0042	< 0.0046	< 0.0036	< 0.0039	< 0.0043	< 0.0037	**0.0045**	**0.0044**	< 0.005	**0.39**	< 0.0048	**0.005**	< 0.0046	**0.0072**	< 0.0038	< 0.0042	**0.0078**	< 0.0037	< 0.0044	< 0.0098	< 0.0045	< 0.0041	< 0.0044
Carbon tetrachloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	45.9	1.52	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	7.4	0.257	mg/Kg	**0.27** [2]	< 0.004	< 0.0042	< 0.0046	< 0.0036	< 0.0039	< 0.0043	< 0.0037	< 0.0041	**0.012**	**0.068**	< 0.0057	< 0.0048	**0.12**	< 0.25	< 0.25	< 0.0038	**0.21**	< 0.26	< 0.0037	< 0.0044	< 0.0098	< 0.0045	< 0.0041	< 0.0044
Methylene Chloride	18.6	0.271	mg/Kg	< 0.0046	< 0.004	< 0.0042	< 0.0046	< 0.0036	< 0.0039	< 0.0043	< 0.0037	< 0.0041	< 0.0042	< 0.005	< 0.0057	< 0.0048	< 0.0037	< 0.0046	< 0.0052	< 0.0038	< 0.0042	< 0.0044	< 0.0037	< 0.0044	< 0.0098	< 0.0045	< 0.0041	< 0.0044
Styrene	3,810	141	mg/Kg	< 0.0046	< 0.004	< 0.0042	< 0.0046	< 0.0036	< 0.0039	< 0.0043	< 0.0037	< 0.0041	< 0.0042	< 0.005	< 0.0057	< 0.0048	< 0.0037	< 0.0046	< 0.0052	< 0.0038	< 0.0042	< 0.0044	< 0.0037	< 0.0044	< 0.0098	< 0.0045	< 0.0041	< 0.0044
Tetrachloroethylene	--	--	mg/Kg	< 0.0046	< 0.004	< 0.0042	< 0.0046	< 0.0036	< 0.0039	< 0.0043	< 0.0037	< 0.0041	< 0.0042	< 0.005	< 0.0057	< 0.0048	< 0.0037	< 0.0046	< 0.0052	< 0.0038	< 0.0042	< 0.0044	< 0.0037	< 0.0044	< 0.0098	< 0.0045	< 0.0041	< 0.0044
Toluene	2,030	60.6	mg/Kg	**0.61**	< 0.004	< 0.0042	< 0.0046	< 0.0036	< 0.0039	< 0.0043	< 0.0037	0.0042	< 0.0042	**0.0051**	< 0.0057	< 0.0048	**0.023**	< 0.25	< 0.25	< 0.0038	< 0.25	< 0.26	< 0.0037	< 0.0044	< 0.0098	< 0.0045	< 0.0041	< 0.0044
trans-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	567	20.5	mg/Kg	**0.75**	< 0.004	< 0.0042	< 0.0046	< 0.0036	< 0.0039	< 0.0043	< 0.0037	**0.0012**	**0.0055**	**0.024**	< 0.0057	< 0.0048	**0.075**	**0.34**	**0.55**	< 0.0038	**2.2**	< 0.52	< 0.0037	< 0.0044	< 0.0098	< 0.0045	< 0.0041	< 0.0044
Semivolatile Organic Compounds																												
1,2,4-Trichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	mg/Kg	< 0.43	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	< 0.42	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	< 0.41	< 0.43	< 0.39	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
2,4-Dinitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	mg/Kg	< 0.43	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	< 0.42	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	< 0.41	< 0.43	< 0.39	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
2-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	< 0.43	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	< 0.42	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	< 0.41	< 0.43	< 0.39	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
3,3`-Dichlorobenzidine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	mg/Kg	**7.8**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	< 0.42	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**1**	< 0.43	< 0.39	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location	GP-311	GP-312	GP-313	GP-313	GP-314	GP-315	GP-316	GP-317	GP-318	GP-318	GP-318	GP-319	GP-319	GP-319	GP-320	GP-320	GP-321	GP-321	GP-321	GP-322	GP-322	GP-322	GP-323	GP-323	GP-324
			Sample Date	12/14/1998	12/14/1998	12/15/1998	12/15/1998	12/15/1998	12/16/1998	12/16/1998	12/16/1998	12/16/1998	12/16/1998	12/16/1998	12/17/1998	12/17/1998	12/17/1998	12/17/1998	12/17/1998	12/17/1998	12/17/1998	12/17/1998	12/18/1998	12/18/1998	12/18/1998	12/18/1998	12/18/1998	12/19/1998
			Depth Interval (ft)	(28-30)	(31-33)	(28-30)	(30-33)	(22-24)	(22-24)	(22-24)	(22-24)	(11-13)	(20-22)	(33.5-34.5)	(7-9)	(20-22)	(26-28)	(26-28)	(28-30)	(5.5-6.5)	(16-18)	(28-29.5)	(7-9)	(21-23)	(28-30)	(20-24)	(26-28)	(12-14)
			Units																									
Acenaphthylene	--	--	mg/Kg	**18**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**2**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**0.7**	< 0.43	< 0.39	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Anthracene	--	--	mg/Kg	**8.9**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**3.3**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	< 8.2	< 0.43	**1.8**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Benzo(a)anthracene	--	--	mg/Kg	**5.2**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**16**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	< 8.2	< 0.43	**6.8**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Benzo(a)pyrene	--	--	mg/Kg	**3.6**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**12**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**3.8**	< 0.43	**3.8**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Benzo(b)fluoranthene	--	--	mg/Kg	**4.3**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**14**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**4.1**	< 0.43	**3.2**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Benzo(g,h,i)perylene	--	--	mg/Kg	**0.97**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	< 0.42	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**1.3**	< 0.43	**3.2**	**0.57**	< 0.44	< 0.44	< 0.4	< 0.4
Benzo(k)fluoranthene	--	--	mg/Kg	**4.2**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**6.2**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**2.2**	< 0.43	**2.9**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Benzoic Acid	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	**0.074**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	< 0.42	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	< 0.41	< 0.43	< 0.39	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Chrysene	--	--	mg/Kg	**5.5**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**14**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	< 8.2	< 0.43	**7**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Dibenzo(a,h)anthracene	--	--	mg/Kg	< 0.43	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**1.9**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	< 0.41	< 0.43	**2**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Dibenzofuran	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	mg/Kg	**8.7**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**23**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**11**	< 0.43	**15**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Fluorene	--	--	mg/Kg	**11**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	< 0.42	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**3.6**	< 0.43	< 0.39	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Hexachloro-1,3-butadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	**0.91**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**7**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**1.2**	< 0.43	**4.2**	**0.45**	< 0.44	< 0.44	< 0.4	< 0.4
m-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	53.9	2.26	mg/Kg	**69** [1,2]	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**0.78**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**47** [2]	< 0.43	< 0.39	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Nitrobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	mg/Kg	< 0.43	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**7.7**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**21**	< 0.43	**5.9**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Phenol	--	--	mg/Kg	< 0.43	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	< 0.42	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	< 0.41	< 0.43	< 0.39	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
P-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	mg/Kg	**11**	< 0.4	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.39	< 0.41	< 0.42	< 0.44	**21**	< 0.4	< 0.41	< 0.41	< 0.4	< 0.39	**11**	< 0.43	**16**	< 0.42	< 0.44	< 0.44	< 0.4	< 0.4
Inorganic Compounds																												
Aluminum (fume or dust)	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	--	--	mg/Kg	< 2.4	< 2.4	< 2.6	< 2.4	< 2.2	< 2.2	< 2.5	< 2.1	< 2.5	< 2.5	< 2.4	< 2.6	< 2.4	< 2.2	< 2.5	< 2.5	< 2.4	< 2.5	< 2.6	< 2.4	< 2.5	< 2.7	< 2.7	< 2.5	< 2.4
Arsenic	--	--	mg/Kg	**1.5**	< 1.2	**3.1**	**3.6**	**4.1**	**4.5**	**4.2**	< 1.1	16	**4.5**	**1.5**	**14**	**3.2**	**1.6**	< 1.2	**1.3**	**4.1**	**5.6**	**11**	**8.3**	**3**	**5.4**	**7.8**	**2.4**	**5.3**
Barium	--	--	mg/Kg	**27**	**120**	**110**	**93**	**110**	**79**	**130**	**20**	**270**	**130**	**47**	**270**	**71**	**34**	**30**	**50**	**240**	**79**	**35**	**140**	**67**	**41**	**130**	**70**	**140**
Beryllium	--	--	mg/Kg	< 0.6	**0.81**	**1.1**	**1.1**	**1.1**	**0.69**	**0.99**	< 0.53	0.96	**1**	**0.63**	< 0.64	**0.87**	< 0.56	< 0.62	< 0.62	**0.92**	**0.95**	< 0.65	**1**	**0.71**	**0.95**	**1.7**	**0.8**	**1.1**
Cadmium	--	--	mg/Kg	< 0.6	< 0.61	< 0.65	< 0.59	< 0.56	< 0.55	< 0.62	< 0.53	< 0.62	< 0.63	< 0.61	< 0.64	< 0.6	< 0.56	< 0.62	< 0.62	< 0.59	< 0.62	< 0.65	< 0.59	< 0.63	< 0.67	< 0.68	< 0.62	< 0.61
Calcium metal	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	--	mg/Kg	**12**	**42**	**36**	**31**	**28**	**22**	**25**	**7**	**23**	**27**	**16**	**12**	**19**	**9.8**	**9.1**	**9.7**	**22**	**28**	**53**	**21**	**18**	**16**	**23**	**19**	**27**
Cobalt	--	--	mg/Kg	**22**	**24**	**9.1**	**16**	**6.9**	**7.4**	**13**	**3.7**	**10**	**13**	**12**	**6.8**	**10**	**11**	**8.6**	**9.6**	**18**	**22**	**1.7**	**5.9**	**11**	**13**	**17**	**7.4**	**14**
Copper	--	--	mg/Kg	< 3	**25**	**12**	**19**	**16**	**13**	**17**	**3.1**	**37**	**17**	**11**	**37**	**15**	**6.2**	**3.2**	**5**	**14**	**13**	**19**	**20**	**13**	**16**	**56**	**7.1**	**18**
Cyanide	--	--	mg/Kg	**1.4**	**2.8**	< 1.3	< 1.3	< 1.2	< 1.2	**1.3**	< 1.2	**450**	**3**	< 1.3	**58**	**1.2**	< 1.2	**2**	**1.7**	< 1.2	< 1.2	**4.6**	< 1.2	**1.3**	< 1.3	< 1.4	< 1.2	< 1.2
Iron	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	mg/Kg	**2.4**	**17**	**9.4**	**12**	**11**	**9.7**	**14**	**2.6**	**110**	**12**	**7.6**	**120**	**8.5**	**3.8**	**3.2**	**3.2**	**18**	**16**	**10**	**67**	**6.9**	**15**	**20**	**6.9**	**15**
Magnesium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	mg/Kg	< 0.013	< 0.012	**0.041**	**0.026**	**0.044**	< 0.012	**0.046**	< 0.012	0.98	**0.029**	**0.029**	**1.4**	**0.022**	**0.023**	**0.015**	< 0.011	**0.079**	< 0.012	**0.022**	**0.6**	**0.034**	**0.027**	**0.024**	**0.17**	**0.034**
Nickel	--	--	mg/Kg	**5.1**	**33**	**13**	**15**	**14**	**11**	**14**	< 4.3	15	**15**	**14**	**14**	**13**	**7.8**	**7.2**	**12**	**13**	**12**	**25**	**10**	**13**	**20**	**21**	**9.4**	**18**
Potassium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	mg/Kg	< 1.2	< 1.2	< 1.3	< 1.2	< 1.1	< 1.1	< 1.2	< 1.1	< 1.2	< 1.3	< 1.2	< 1.3	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	**3.1**	< 1.2	< 1.3	< 1.3	< 1.4	< 1.2	< 1.2
Silver	--	--	mg/Kg	< 1.2	< 1.2	< 1.3	< 1.2	< 1.1	< 1.1	< 1.2	< 1.1	< 1.2	< 1.3	< 1.2	< 1.3	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.3	< 1.2	< 1.3	< 1.3	< 1.4	< 1.2	< 1.2
Sodium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	mg/Kg	< 1.2	< 1.2	< 1.3	< 1.2	< 1.1	< 1.1	< 1.2	< 1.1	< 1.2	< 1.3	< 1.2	< 1.3	< 1.2	< 1.1	< 1.2	< 1.2	**1.3**	< 1.2	< 1.3	< 1.2	< 1.3	< 1.3	< 1.4	< 1.2	< 1.2
Vanadium	--	--	mg/Kg	**17**	**24**	**41**	**34**	**45**	**42**	**50**	**11**	**34**	**58**	**24**	**19**	**42**	**16**	**26**	**20**	**42**	**47**	**53**	**29**	**42**	**22**	**36**	**15**	**43**
Zinc	--	--	mg/Kg	**12**	**85**	**52**	**51**	**54**	**43**	**61**	**13**	**180**	**63**	**40**	**91**	**48**	**22**	**16**	**23**	**56**	**58**	**85**	**91**	**40**	**45**	**91**	**120**	**78**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1] - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
[2] - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
[3] - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location Sample Date Depth Interval (ft) Units	GP-324 12/19/1998 (22-24)	GP-325 12/19/1998 (0-2)	GP-325 12/19/1998 (10-12)	GP-326 12/19/1998 (10-12)	GP-327 12/20/1998 (12-14)	GP-327 12/20/1998 (26-28)	GP-329 12/20/1998 (10-12)	GP-329 12/20/1998 (20-22)	GP-330 12/21/1998 (32-34)	GP-331 12/21/1998 (10-12)	GP-331 12/21/1998 (16-18)	GP-331 12/21/1998 (32-34)	GP-332 12/23/1998 (26-28)	GP-333 12/28/1998 (29-31)	GP-334 12/28/1998 (26-28)	HA-101 2/7/1996 (1-3)	HA-102 2/7/1996 (1-3)	HA-102 2/7/1996 (5-7)	HA-103 2/7/1996 (1-3)	HA-103 2/7/1996 (5-6)	HA-105 2/8/1996 (1-3)	HA-106A 9/10/1997 (2-5)	HA-106B 9/10/1997 (0-2)	HA-106B 9/10/1997 (2-5)	HA-107 2/12/1996 (1-3)	HA-107 2/12/1996 (3-4)
Volatile Organic Compounds																													
1,1,1-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
1,1,2-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
1,1-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
1,1-Dichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
1,2-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
1,2-Dichloroethene, total	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
1,2-Dichloropropane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
2-Butanone	57,400	648	mg/Kg	< 0.02	< 0.032	< 0.021	< 0.024	< 0.022	< 0.017	< 0.022	< 0.022	< 0.015	< 0.023	< 0.021	< 0.031	< 0.017	< 0.019	< 0.026	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
2-Hexanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Acetone	404,000	3,280	mg/Kg	< 0.041	**0.13**	**0.044**	< 0.047	< 0.043	< 0.035	< 0.043	< 0.044	< 0.03	**0.079**	< 0.042	< 0.062	< 0.035	< 0.038	< 0.053	< 0.013	< 0.012	**0.12**	< 0.056	< 0.025	< 0.021	--	--	--	< 0.013	< 0.013
Benzene	0.84	0.02	mg/Kg	< 0.0041	< 0.0063	< 0.0043	< 0.0047	< 0.0043	< 0.0035	< 0.0043	< 0.0044	< 0.003	< 0.0046	**0.0055**	< 0.0062	< 0.0035	< 0.0038	< 0.0053	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Bromodichloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Bromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Carbon Disulfide	32.3	0.969	mg/Kg	< 0.0041	**0.0088**	< 0.0043	< 0.0047	< 0.0043	< 0.0035	< 0.0043	< 0.0044	< 0.003	< 0.0046	**0.0043**	< 0.0062	< 0.0035	< 0.0038	< 0.0053	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Carbon tetrachloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Chlorobenzene	45.9	1.52	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	**0.001**	< 0.013
Chlorodibromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Chloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Chloroform	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Chloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
cis-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Ethylbenzene	7.4	0.257	mg/Kg	< 0.0041	< 0.0063	< 0.0043	< 0.0047	< 0.0043	< 0.0035	< 0.0043	< 0.0044	< 0.003	< 0.0046	**0.032**	< 0.0062	< 0.0035	< 0.0038	< 0.0053	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Methylene Chloride	18.6	0.271	mg/Kg	< 0.0041	< 0.0063	< 0.0043	< 0.0047	< 0.0043	< 0.0035	< 0.0043	< 0.0044	< 0.003	< 0.0046	< 0.0042	< 0.0062	< 0.0035	< 0.0038	< 0.0053	< 0.015	< 0.015	< 0.014	< 0.013	< 0.01	< 0.013	--	--	--	< 0.013	< 0.013
Styrene	3,810	141	mg/Kg	< 0.0041	< 0.0063	< 0.0043	< 0.0047	< 0.0043	< 0.0035	< 0.0043	< 0.0044	< 0.003	< 0.0046	< 0.0042	< 0.0062	< 0.0035	< 0.0038	< 0.0053	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Tetrachloroethylene	--	--	mg/Kg	< 0.0041	< 0.0063	< 0.0043	< 0.0047	< 0.0043	< 0.0035	< 0.0043	< 0.0044	< 0.003	< 0.0046	< 0.0042	< 0.0062	< 0.0035	< 0.0038	< 0.0053	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Toluene	2,030	60.6	mg/Kg	< 0.0041	< 0.0063	< 0.0043	< 0.0047	< 0.0043	< 0.0035	< 0.0043	< 0.0044	< 0.003	< 0.0046	< 0.0042	< 0.0062	< 0.0035	< 0.0038	< 0.0053	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
trans-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Tribromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Trichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Vinyl Acetate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Xylenes, total	567	20.5	mg/Kg	< 0.0041	< 0.0063	< 0.0043	< 0.0047	< 0.0043	< 0.0035	< 0.0043	< 0.0044	< 0.003	< 0.0046	**0.089**	< 0.0062	< 0.0035	< 0.0038	< 0.0053	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
Semivolatile Organic Compounds																													
1,2,4-Trichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	mg/Kg	< 0.42	< 0.43	< 0.41	< 0.41	< 0.42	< 0.39	< 0.41	< 0.44	< 0.37	< 0.41	< 0.42	< 0.41	< 0.36	< 0.35	< 0.36	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 6.4	< 7.8	< 0.45	< 0.84	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
2-Chlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.79**	**2.7**	**0.2**	**0.36**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
2-Methylphenol	--	--	mg/Kg	< 0.42	< 0.43	< 0.41	< 0.41	< 0.42	< 0.39	< 0.41	< 0.44	< 0.37	< 0.41	< 0.42	< 0.41	< 0.36	< 0.35	< 0.36	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	< 0.42	< 0.43	< 0.41	< 0.41	< 0.42	< 0.39	< 0.41	< 0.44	< 0.37	< 0.41	< 0.42	< 0.41	< 0.36	< 0.35	< 0.36	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	--	--	--	< 0.013	< 0.013
4-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	mg/Kg	< 0.42	< 0.43	< 0.41	< 0.41	< 0.42	< 0.39	< 0.41	< 0.44	< 0.37	< 0.41	< 0.42	< 0.41	< 0.36	< 0.35	< 0.36	< 6.4	**2.4**	**0.14**	< 0.84	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	GP-324 12/19/1998 (22-24)	GP-325 12/19/1998 (0-2)	GP-325 12/19/1998 (10-12)	GP-326 12/19/1998 (10-12)	GP-327 12/20/1998 (12-14)	GP-327 12/20/1998 (26-28)	GP-329 12/20/1998 (10-12)	GP-329 12/20/1998 (20-22)	GP-330 12/21/1998 (32-34)	GP-331 12/21/1998 (10-12)	GP-331 12/21/1998 (16-18)	GP-331 12/21/1998 (32-34)	GP-332 12/23/1998 (26-28)	GP-333 12/28/1998 (29-31)	GP-334 12/28/1998 (26-28)	HA-101 2/7/1996 (1-3)	HA-102 2/7/1996 (1-3)	HA-102 2/7/1996 (5-7)	HA-103 2/7/1996 (1-3)	HA-103 2/7/1996 (5-6)	HA-105 2/8/1996 (1-3)	HA-106A 9/10/1997 (2-5)	HA-106B 9/10/1997 (0-2)	HA-106B 9/10/1997 (2-5)	HA-107 2/12/1996 (1-3)	HA-107 2/12/1996 (3-4)
Acenaphthylene	--	--	mg/Kg	< 0.42	< 0.43	< 0.41	< 0.41	< 0.42	< 0.39	< 0.41	< 0.44	< 0.37	**2.9**	**1.2**	< 0.41	< 0.36	< 0.35	< 0.36	**1.3**	< 7.8	**0.049**	**0.11**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
Anthracene	--	--	mg/Kg	< 0.42	**0.64**	< 0.41	< 0.41	< 0.42	**0.86**	< 0.41	< 0.44	< 0.37	**0.59**	**1.6**	< 0.41	< 0.36	< 0.35	< 0.36	**3.1**	**6.4**	**0.35**	**0.37**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
Benzo(a)anthracene	--	--	mg/Kg	< 0.42	**1.6**	< 0.41	< 0.41	< 0.42	**1.6**	< 0.41	< 0.44	< 0.37	**9**	**1.1**	< 0.41	< 0.36	< 0.35	< 0.36	**14**	**18**	**1.7**	**3**	< 0.44	< 0.42	--	--	--	**0.039**	< 0.43
Benzo(a)pyrene	--	--	mg/Kg	< 0.42	**1.5**	< 0.41	< 0.41	< 0.42	**1.4**	< 0.41	< 0.44	< 0.37	**4.9**	**0.84**	< 0.41	< 0.36	< 0.35	< 0.36	**15**	**15**	**1.7**	**3.5**	< 0.44	< 0.42	--	--	--	**0.047**	< 0.43
Benzo(b)fluoranthene	--	--	mg/Kg	< 0.42	**1.4**	< 0.41	< 0.41	< 0.42	**1.3**	< 0.41	< 0.44	< 0.37	**4.5**	**0.56**	< 0.41	< 0.36	< 0.35	< 0.36	**30**	**31**	**3.5**	**5.8**	**0.048**	< 0.42	--	--	--	**0.077**	< 0.43
Benzo(g,h,i)perylene	--	--	mg/Kg	< 0.42	**1.1**	< 0.41	< 0.41	< 0.42	**0.92**	< 0.41	< 0.44	< 0.37	**2.9**	< 0.42	< 0.41	< 0.36	< 0.35	< 0.36	**3.5**	**3.2**	**0.5**	**0.82**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
Benzo(k)fluoranthene	--	--	mg/Kg	< 0.42	**1.5**	< 0.41	< 0.41	< 0.42	**1.1**	< 0.41	< 0.44	< 0.37	**3.5**	**0.64**	< 0.41	< 0.36	< 0.35	< 0.36	**31**	**31**	**3.5**	**5.5**	**0.05**	< 0.42	--	--	--	**0.08**	< 0.43
Benzoic Acid	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	< 0.42	< 0.43	< 0.41	< 0.41	< 0.42	< 0.39	< 0.41	< 0.44	< 0.37	< 0.41	< 0.42	< 0.41	< 0.36	< 0.35	< 0.36	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	mg/Kg	< 0.42	**1.9**	< 0.41	< 0.41	< 0.42	**1.6**	< 0.41	< 0.44	< 0.37	**6.9**	**0.94**	< 0.41	< 0.36	< 0.35	< 0.36	**14**	**17**	**1.3**	**2.8**	< 0.44	< 0.42	--	--	--	**0.045**	< 0.43
Dibenzo(a,h)anthracene	--	--	mg/Kg	< 0.42	**0.44**	< 0.41	< 0.41	< 0.42	**0.43**	< 0.41	< 0.44	< 0.37	**1.8**	< 0.42	< 0.41	< 0.36	< 0.35	< 0.36	**1**	**1.2**	**0.14**	**0.2**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
Dibenzofuran	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 6.4	**2.5**	**0.18**	**0.12**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
Diethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	mg/Kg	< 0.42	**3.5**	**0.48**	< 0.41	< 0.42	**3.9**	< 0.41	< 0.44	< 0.37	**9**	**2.7**	< 0.41	< 0.36	< 0.35	< 0.36	**24**	**30**	**2**	**4**	< 0.44	< 0.42	--	--	--	**0.051**	< 0.43
Fluorene	--	--	mg/Kg	< 0.42	< 0.43	< 0.41	< 0.41	< 0.42	**0.46**	< 0.41	< 0.44	< 0.37	< 0.41	**1.5**	**0.62**	< 0.36	< 0.35	< 0.36	**0.76**	**3.6**	**0.25**	**0.085**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
Hexachloro-1,3-butadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	< 0.42	**1**	< 0.41	< 0.41	< 0.42	**0.91**	< 0.41	< 0.44	< 0.37	**3.4**	**0.42**	< 0.41	< 0.36	< 0.35	< 0.36	**4.5**	**4.7**	**0.65**	**0.88**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
m-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	53.9	2.26	mg/Kg	< 0.42	< 0.43	< 0.41	< 0.41	< 0.42	**0.7**	< 0.41	< 0.44	< 0.37	< 0.41	< 0.42	< 0.41	< 0.36	< 0.35	< 0.36	**1.8**	**8.1** [2]	**0.54**	**0.3**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
Nitrobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	mg/Kg	< 0.42	**2.7**	< 0.41	< 0.41	< 0.42	**3.7**	< 0.41	< 0.44	< 0.37	**0.46**	**4.5**	< 0.41	< 0.36	< 0.35	< 0.36	**10**	**32**	**1.7**	**2.2**	< 0.44	< 0.42	--	--	--	< 0.42	< 0.43
Phenol	--	--	mg/Kg	< 0.42	< 0.43	< 0.41	< 0.41	< 0.42	< 0.39	< 0.41	< 0.44	< 0.37	< 0.41	< 0.42	< 0.41	< 0.36	< 0.35	< 0.36	--	--	--	--	--	--	--	--	--	--	--
P-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	mg/Kg	< 0.42	**3.4**	**0.53**	< 0.41	< 0.42	**3.5**	< 0.41	< 0.44	< 0.37	**9.2**	**2.5**	< 0.41	< 0.36	< 0.35	< 0.36	**20**	**26**	**1.5**	**3.8**	**0.045**	< 0.42	--	--	--	**0.05**	< 0.43
Inorganic Compounds																													
Aluminum (fume or dust)	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**4090**	**6650**	**3570**	**10300**	**21000**	**8150**	--	--	--	**20000**	**26100**
Antimony	--	--	mg/Kg	< 2.5	< 2.4	< 2.1	< 2.3	< 2.6	< 2.4	< 2.5	< 2.7	< 2	< 2.3	< 2.3	< 2.3	< 2.2	< 2.1	< 2.2	**2.6**	**2.9**	**0.62**	**2.6**	< 0.48	**0.64**	--	--	--	**0.8**	< 0.48
Arsenic	--	--	mg/Kg	**7.6**	**8.3**	**3.1**	**3.6**	**3.9**	**4.1**	**7.4**	**24**	**1.2**	**4.5**	**3.5**	< 1.1	< 1.1	< 1.1	**2.3**	**27.9**	**28**	**38**	**11**	**2.4**	**6.2**	--	--	--	**4.8**	**3.4**
Barium	--	--	mg/Kg	**270**	**90**	**87**	**120**	**110**	**120**	**51**	**110**	**61**	**270**	**120**	**15**	**33**	**10**	**50**	**96.2**	**117**	**31**	**276**	**230**	**36.4**	--	--	--	**123**	**202**
Beryllium	--	--	mg/Kg	**1.1**	**1.1**	**0.98**	**1**	**1**	**0.89**	< 0.62	**1.3**	**0.59**	**1.5**	**1**	< 0.57	**0.67**	< 0.53	**0.72**	**0.53**	**1**	**0.71**	**0.79**	**1.3**	**0.46**	--	--	--	**0.93**	**0.82**
Cadmium	--	--	mg/Kg	< 0.63	< 0.6	< 0.53	< 0.57	< 0.64	< 0.6	< 0.62	< 0.68	< 0.51	< 0.58	< 0.58	< 0.57	< 0.56	< 0.53	< 0.55	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	--	--	--	< 0.05	< 0.05
Calcium metal	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**565**	**1120**	**252**	**12300**	**1580**	**1310**	--	--	--	**1550**	**1850**
Chromium	--	--	mg/Kg	**34**	**39**	**27**	**32**	**27**	**23**	**48**	**78**	**27**	**27**	**26**	**5.9**	**13**	**20**	**17**	**9.8**	**13.3**	**7.9**	**19.4**	**25.2**	**27.8**	--	--	--	**31**	**26.2**
Cobalt	--	--	mg/Kg	**15**	**12**	**14**	**13**	**15**	**10**	**5.7**	**26**	**12**	**16**	**17**	**2.2**	**10**	**2.4**	**7.6**	**4.2**	**8.9**	**11.6**	**8.8**	**13.3**	**8.6**	--	--	--	**13.5**	**13.7**
Copper	--	--	mg/Kg	**29**	**12**	**17**	**19**	**18**	**16**	**8.1**	**6.5**	**9.9**	**18**	**17**	< 2.8	**4.7**	< 2.7	**7.7**	**39.6**	**40.3**	**33.8**	**46.3**	**17.3**	**4.4**	--	--	--	**23.1**	**18.2**
Cyanide	--	--	mg/Kg	**2**	**2.8**	**2.9**	**1.5**	< 1.3	< 1.2	**2.4**	**1.8**	< 1.1	**8.9**	**15**	< 1.2	< 1.1	**1.2**	< 1.1	**49.5**	**10.5**	**13.3**	**2.7**	**2.1**	< 0.64	--	--	--	< 0.62	**1.3**
Iron	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**27800**	**25600**	**17300**	**23100**	**26300**	**17800**	--	--	--	**34100**	**27900**
Lead	--	--	mg/Kg	**56**	**21**	**12**	**14**	**12**	**19**	**12**	**95**	**7.9**	**13**	**11**	**2.6**	**3.3**	**1**	**4.8**	**232**	**116**	**63.6**	**519**	**27.6**	**13**	**164**	**115**	**61**	**24.4**	**82.5**
Magnesium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**363**	**683**	**237**	**1720**	**2240**	**379**	--	--	--	**1430**	**1480**
Manganese	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**126**	**312**	**146**	**369**	**1400**	**530**	--	--	--	**658**	**636**
Mercury	--	--	mg/Kg	**0.07**	**0.031**	**0.027**	**0.035**	**0.022**	**0.012**	**0.055**	**0.11**	< 0.011	**0.05**	**0.056**	< 0.012	**0.011**	< 0.0097	**0.013**	**0.89**	**0.39**	< 0.14	**0.69**	< 0.13	< 0.12	--	--	--	**0.39**	< 0.13
Nickel	--	--	mg/Kg	**22**	**23**	**14**	**17**	**15**	**13**	**15**	**19**	**12**	**18**	**14**	< 4.5	**7.1**	< 4.3	**11**	**9.7**	**16.9**	**20.8**	**10.8**	**14.2**	**6.5**	--	--	--	**10.7**	**12.4**
Potassium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**472**	**654**	**392**	**1170**	**1890**	**271**	--	--	--	**1510**	**1740**
Selenium	--	--	mg/Kg	< 1.3	< 1.2	< 1.1	< 1.1	< 1.3	< 1.2	< 1.2	< 1.4	< 1	< 1.2	< 1.2	< 1.1	< 1.1	< 1.1	< 1.1	**1.3**	**2.2**	< 0.69	**0.69**	< 0.69	< 0.66	--	--	--	**1.8**	**1.8**
Silver	--	--	mg/Kg	< 1.3	< 1.2	< 1.1	< 1.1	< 1.3	< 1.2	< 1.2	< 1.4	< 1	< 1.2	< 1.2	< 1.1	< 1.1	< 1.1	< 1.1	< 0.18	< 0.17	< 0.19	< 0.18	< 0.19	< 0.18	--	--	--	< 0.17	< 0.19
Sodium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**399**	**385**	**322**	**507**	**531**	**361**	--	--	--	**338**	**550**
Thallium	--	--	mg/Kg	< 1.3	< 1.2	< 1.1	< 1.1	< 1.3	< 1.2	< 1.2	< 1.4	< 1	< 1.2	< 1.2	< 1.1	< 1.1	< 1.1	< 1.1	< 0.91	< 0.83	< 0.93	< 0.89	< 0.93	< 0.89	--	--	--	< 0.87	< 0.93
Vanadium	--	--	mg/Kg	**48**	**35**	**52**	**54**	**59**	**42**	**32**	**91**	**20**	**41**	**52**	**12**	**13**	**4.2**	**13**	**20.7**	**23.5**	**23.5**	**23.8**	**38**	**25.7**	--	--	--	**42.2**	**38.2**
Zinc	--	--	mg/Kg	**100**	**79**	**59**	**68**	**62**	**56**	**81**	**160**	**36**	**70**	**56**	**10**	**22**	**8.4**	**34**	**65.1**	**140**	**182**	**138**	**61.6**	**38**	--	--	--	**57.1**	**137**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1] - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
[2] - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
[3] - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	HA-108 2/12/1996 (1-3)	HA-108 2/12/1996 (5-7)	HA-108 2/12/1996 (10-11)	HA-200 9/8/1997 (2-5)	HA-200 9/8/1997 (2-5) DUP	HA-201 9/8/1997 (0-2)	HA-202 9/9/1997 (0-2)	HA-203 9/9/1997 (0-2)	HA-203 9/9/1997 (2-5)	HA-204 9/9/1997 (0-2)	HA-204 9/9/1997 (2-5)	HA-205 9/9/1997 (0-2)	HA-205 9/9/1997 (2-5)	HA-206 9/8/1997 (0-2)	HA-207 9/8/1997 (0-2)	HA-210 9/9/1997 (0-2)	HA-210 9/9/1997 (2-5)	HA-212 9/9/1997 (0-2)	HA-213 9/8/1997 (0-2)	HA-214 9/9/1997 (0-2)	HA-214 9/9/1997 (0-2) DUP	HA-302 12/8/1998 (0-2)	HA-302 12/8/1998 (2-4)	HA-302 12/8/1998 (4-6)	HA-303 12/9/1998 (0-2)	HA-303 12/9/1998 (2-4)	HA-303 12/9/1998 (4-6)
Volatile Organic Compounds																														
1,1,1-Trichloroethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	57,400	648	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.03	< 0.032	< 0.035	< 0.032	< 0.04	< 0.037
2-Hexanone	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	404,000	3,280	mg/Kg	< 0.013	< 0.012	**0.13**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.2**	**0.13**	**0.26**	**0.19**	< 0.079	< 0.073
Benzene	0.84	0.02	mg/Kg	< 0.013	< 0.012	< 0.013	< 0.0063	< 0.0064	< 0.0056	< 0.0058	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0056	< 0.0056	< 0.0057	< 0.0057	< 0.006	< 0.0058	< 0.0057	< 0.0057	< 0.0057	< 0.0059	< 0.0064	< 0.0071	< 0.0065	< 0.0079	< 0.0073
Bromodichloromethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	32.3	0.969	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0059	< 0.0064	< 0.0071	< 0.0065	< 0.0079	< 0.0073
Carbon tetrachloride	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	45.9	1.52	mg/Kg	**0.001**	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	7.4	0.257	mg/Kg	< 0.013	< 0.012	< 0.013	< 0.0063	< 0.0064	< 0.0056	< 0.0058	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0056	< 0.0056	< 0.0057	< 0.0057	< 0.006	< 0.0058	< 0.0057	< 0.0057	< 0.0057	< 0.0059	< 0.0064	< 0.0071	< 0.0065	< 0.0079	< 0.0073
Methylene Chloride	18.6	0.271	mg/Kg	< 0.015	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0059	< 0.0064	< 0.0071	< 0.0065	< 0.0079	< 0.0073
Styrene	3,810	141	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0059	< 0.0064	< 0.0071	< 0.0065	< 0.0079	< 0.0073
Tetrachloroethylene	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.0059	< 0.0064	< 0.0071	< 0.0065	< 0.0079	< 0.0073
Toluene	2,030	60.6	mg/Kg	**0.002**	< 0.012	< 0.013	< 0.0063	< 0.0064	< 0.0056	< 0.0058	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0056	< 0.0056	< 0.0057	< 0.0057	< 0.006	< 0.0058	< 0.0057	< 0.0057	< 0.0057	< 0.0059	< 0.0064	< 0.0071	< 0.0065	< 0.0079	< 0.0073
trans-1,3-Dichloropropene	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	567	20.5	mg/Kg	< 0.013	< 0.012	< 0.013	< 0.0063	< 0.0064	< 0.0056	< 0.0058	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0056	< 0.0056	< 0.0057	< 0.0057	< 0.006	< 0.0058	< 0.0057	< 0.0057	< 0.0057	< 0.0059	< 0.0064	< 0.0071	< 0.0065	< 0.0079	< 0.0073
Semivolatile Organic Compounds																														
1,2,4-Trichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
2,4-Dinitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	mg/Kg	< 0.42	< 0.41	< 0.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	mg/Kg	< 0.42	< 0.41	< 0.43	< 0.42	< 0.42	**0.95**	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.37	< 0.37	< 0.38	< 0.38	< 0.39	**< 0.38**	< 0.38	< 0.38	**0.39**	--	--	--	--	--	--
2-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
2-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
3,3`-Dichlorobenzidine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	mg/Kg	< 0.013	< 0.012	< 0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	mg/Kg	< 0.42	< 0.41	< 0.43	< 0.42	< 0.42	**0.63**	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.37	< 0.37	< 0.38	< 0.38	< 0.39	< 0.38	< 0.38	< 0.38	**0.55**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	HA-108 2/12/1996 (1-3)	HA-108 2/12/1996 (5-7)	HA-108 2/12/1996 (10-11)	HA-200 9/8/1997 (2-5)	HA-200 9/8/1997 (2-5) DUP	HA-201 9/8/1997 (0-2)	HA-202 9/9/1997 (0-2)	HA-203 9/9/1997 (0-2)	HA-203 9/9/1997 (2-5)	HA-204 9/9/1997 (0-2)	HA-204 9/9/1997 (2-5)	HA-205 9/9/1997 (0-2)	HA-205 9/9/1997 (2-5)	HA-206 9/8/1997 (0-2)	HA-207 9/8/1997 (0-2)	HA-210 9/9/1997 (0-2)	HA-210 9/9/1997 (2-5)	HA-212 9/9/1997 (0-2)	HA-213 9/8/1997 (0-2)	HA-214 9/9/1997 (0-2)	HA-214 9/9/1997 (0-2) DUP	HA-302 12/8/1998 (0-2)	HA-302 12/8/1998 (2-4)	HA-302 12/8/1998 (4-6)	HA-303 12/9/1998 (0-2)	HA-303 12/9/1998 (2-4)	HA-303 12/9/1998 (4-6)
Acenaphthylene	--	--	mg/Kg	< 0.42	< 0.41	< 0.43	**1.4**	**0.94**	< 0.37	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.37	< 0.37	< 0.38	< 0.38	< 0.39	< 0.38	< 0.38	**0.38**	**0.43**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Anthracene	--	--	mg/Kg	< 0.42	< 0.41	< 0.43	**0.87**	**0.51**	**1.6**	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.37	< 0.37	< 0.38	< 0.38	< 0.39	< 0.38	**1.7**	**1**	**1.9**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Benzo(a)anthracene	--	--	mg/Kg	**0.21**	< 0.41	**0.12**	**6.2**	**4.5**	**3.8**	**0.48**	< 0.38	< 0.38	**1.4**	**0.88**	< 0.38	< 0.37	< 0.37	**0.89**	< 0.38	< 0.39	**0.39**	**5**	**2.9**	**4.8 D**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Benzo(a)pyrene	--	--	mg/Kg	**0.17**	< 0.41	**0.083**	**5.7**	**3.9**	**3.7**	**0.49**	< 0.38	< 0.38	**1.2**	0.98	< 0.38	< 0.37	< 0.37	**0.92**	< 0.38	< 0.39	**< 0.38**	**4.7**	**3.2**	**4.4**	**0.39**	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Benzo(b)fluoranthene	--	--	mg/Kg	**0.35**	< 0.41	**0.21**	**6.1**	**3.3**	**4.5**	**0.45**	**0.4**	< 0.38	**1.2**	**0.88**	< 0.38	< 0.37	< 0.37	**0.8**	< 0.38	< 0.39	**< 0.38**	**5.3**	**3**	**4.9**	**0.61**	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Benzo(g,h,i)perylene	--	--	mg/Kg	**0.13**	< 0.41	< 0.43	**2.1**	1.8	**1.4**	< 0.38	< 0.38	< 0.38	**0.62**	0.49	< 0.38	< 0.37	< 0.37	**0.58**	< 0.38	< 0.39	**< 0.38**	**1.6**	**1.2**	**2.3**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Benzo(k)fluoranthene	--	--	mg/Kg	**0.36**	< 0.41	**0.22**	**4.6**	**4.2**	**3.3**	**0.64**	**0.45**	< 0.38	**1.3**	**1.1**	< 0.38	< 0.37	< 0.37	**1.2**	< 0.38	< 0.39	**< 0.38**	**4.8**	**3.1**	**4.5**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Benzoic Acid	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Chrysene	--	--	mg/Kg	**0.24**	< 0.41	**0.13**	**4.6**	**3.8**	**3.3**	**0.46**	**0.42**	< 0.38	**1.3**	**0.87**	< 0.38	< 0.37	< 0.37	**1.1**	< 0.38	< 0.39	**< 0.38**	**4.1**	**2.5**	**4.7**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Dibenzo(a,h)anthracene	--	--	mg/Kg	**0.06**	< 0.41	< 0.43	< 0.42	< 0.42	< 0.37	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.37	< 0.37	< 0.38	< 0.38	< 0.39	**< 0.38**	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Dibenzofuran	--	--	mg/Kg	< 0.42	< 0.41	< 0.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	mg/Kg	**0.38**	**0.051**	**0.26**	**11 D**	**6.2**	**7.7 D**	**1.1**	**0.67**	< 0.38	**2.4**	**2.1**	< 0.38	< 0.37	**0.38**	**1.9**	< 0.38	< 0.39	**0.6**	**8.6 D**	**5.2**	**8.8 D**	**0.61**	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Fluorene	--	--	mg/Kg	< 0.42	< 0.41	< 0.43	< 0.42	< 0.42	**1.4**	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.37	< 0.37	< 0.38	< 0.38	< 0.39	< 0.38	**0.67**	**0.54**	**0.79**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Hexachloro-1,3-butadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	**0.15**	< 0.41	< 0.43	**2.2**	1.8	**1.3**	< 0.38	< 0.38	< 0.38	**0.55**	0.51	< 0.38	< 0.37	< 0.37	**0.57**	< 0.38	< 0.39	**< 0.38**	**1.6**	**1.3**	**2.2**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
m-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	53.9	2.26	mg/Kg	< 0.42	< 0.41	< 0.43	< 0.42	< 0.42	**2.4** [2]	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.38	< 0.37	< 0.37	< 0.38	< 0.38	< 0.39	< 0.38	**0.38**	**0.39**	**0.65**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Nitrobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	mg/Kg	**0.28**	**0.043**	**0.18**	**2.8**	**1.8**	**6.5 D**	**0.64**	**0.43**	< 0.38	**1.6**	**1.2**	< 0.38	< 0.37	< 0.37	**1.3**	< 0.38	< 0.39	< 0.38	**5**	**3.4**	**6**	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Phenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.38	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
P-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	mg/Kg	**0.29**	< 0.41	**0.18**	**8.1 D**	**5.8 D**	**5.6**	**0.84**	**0.71**	< 0.38	**2.4**	**1.5**	< 0.38	< 0.37	< 0.37	**2.2**	< 0.38	< 0.39	**0.65**	**6.6 D**	**4.3**	**7.1 D**	**0.78**	< 0.38	< 0.38	< 0.41	< 0.39	< 0.4
Inorganic Compounds																														
Aluminum (fume or dust)	--	--	mg/Kg	**21500**	**24600**	**25400**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	--	--	mg/Kg	**10**	**0.59**	**1.5**	**6.3**	< 6.4 N	< 5.6 N	< 5.8 N	< 5.7 N	--	< 5.7 N	--	< 5.7 N	--	< 5.6 N	< 5.7 N	< 5.7 N	< 5.7 N	< 5.8 N	< 11.5 N	< 5.7 N	< 5.7 N	< 0.0023	< 0.0021	< 0.0024	< 0.0025	< 0.0024	< 0.0022
Arsenic	--	--	mg/Kg	**10**	**4.4**	**5.9**	**3.7 N**	**5.7 N**	**8.8**	**1.9 N**	**5.2 N**	--	**14.6 N**	--	**7.8 N**	--	**3.5 N**	**7.6 N**	**4.1 N**	**6.1 N**	**5.6 N**	**24.6 N**	**26.5 N**	**30 N**	**0.017**	**0.0042**	**0.0099**	**0.016**	**0.012**	**0.014**
Barium	--	--	mg/Kg	**214**	**175**	**168**	**177 N**	**196 N**	**125**	**96.4 N**	**129 N**	--	**246 N**	--	**101 N**	--	**97.7 N**	**198 N**	**116 N**	**70.4 N**	**124 N**	**592 N**	**386 N**	**560 N**	**0.12**	**0.12**	**0.22**	**0.066**	**0.047**	**0.038**
Beryllium	--	--	mg/Kg	**1**	**1.2**	**1**	**1.1**	**0.92**	**0.78**	**0.66**	**0.95**	--	**1.2**	--	**0.72**	--	**0.7**	**0.76**	**0.73**	**0.68**	**0.72**	**0.7**	**0.77**	**0.85**	**0.00067**	**0.0009**	**0.001**	**0.0013**	**0.00087**	**0.00076**
Cadmium	--	--	mg/Kg	< 0.05	< 0.05	< 0.05	< 0.63	**0.64**	< 0.56	< 0.58	**0.57**	--	< 0.57	--	< 0.57	--	< 0.56	< 0.57	< 0.57	< 0.57	< 0.58	< 1.1	< 0.57	< 0.57	< 0.00058	< 0.00053	< 0.0006	< 0.00062	< 0.00059	< 0.00055
Calcium metal	--	--	mg/Kg	**2720**	**864**	**2350**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	--	mg/Kg	**28.1**	**25.6**	**26.1**	**22.3**	**19.8**	**28**	**58.9**	**23.7**	--	**32.4**	--	**33.9**	--	**17.9**	**19.3**	**30.6**	**34.6**	**24.4**	**53.3**	**28.1**	**42.1**	**0.063**	**0.023**	**0.028**	**0.065**	**0.039**	**0.051**
Cobalt	--	--	mg/Kg	**13**	**13.7**	**10.7**	**13.5**	**12.4**	**11.6**	**14.3**	**13.5**	--	**18**	--	**13.7**	--	**10.7**	**17.9**	**11.6**	**10.6**	**11.3**	**17.9**	**18.5**	**17**	**0.011**	**0.012**	**0.014**	**0.016**	**0.008**	**0.0062**
Copper	--	--	mg/Kg	**306**	**22**	**68.8**	**71.6**	**21.5**	**69.7**	**15.7**	**151**	--	**182**	--	**18.5**	--	**16**	**65.7**	**24.1**	**9.2**	**17**	**109**	**59.1**	**86.5**	**0.019**	**0.016**	**0.023**	**0.011**	**0.0076**	**0.0086**
Cyanide	--	--	mg/Kg	< 0.64	< 0.63	< 0.64	< 1.3	< 1.3	< 1.1	< 1.2	< 1.1	--	< 1.1	--	< 1.1	--	< 1.1	< 1.1	< 1.1	**1.9**	< 1.2	< 1.1	< 1.1	< 1.1	< 0.0012	< 0.0012	< 0.0012	< 0.0013	< 0.0012	< 0.0012
Iron	--	--	mg/Kg	**40100**	**32000**	**31300**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	mg/Kg	**273**	**15.4**	**69**	**115**	**31**	**209**	**63.6**	**192**	--	**143**	--	**33.1**	--	**24.8**	**89.2**	**29.1**	**31.7**	**38.9**	**197**	**199**	**245**	**0.041**	**0.027**	**0.069**	**0.026**	**0.015**	**0.013**
Magnesium	--	--	mg/Kg	**2280**	**3080**	**3360**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	mg/Kg	**1010**	**684**	**599**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	mg/Kg	**0.29**	< 0.13	< 0.13	**0.3 N**	**0.15 N**	**0.18**	**0.12 N**	**0.16**	--	**0.08 N**	--	**0.14 N**	--	**0.07 N**	**0.09**	**0.08 N**	**0.05 N**	**0.08 N**	**0.16 N**	**0.18 N**	**0.22 N**	**0.000069**	**0.000089**	**0.00014**	**0.000077**	**0.000062**	**0.000059**
Nickel	--	--	mg/Kg	**19.9**	**17.5**	**17.8**	**14**	**13.5**	**14**	**13.7**	**14.2**	--	**27.8**	--	**13.7**	--	**11.1**	**20.5**	**17**	**12.5**	**13.7**	**32.4**	**24.7**	**27.5**	**0.025**	**0.014**	**0.017**	**0.032**	**0.019**	**0.021**
Potassium	--	--	mg/Kg	**1750**	**1930**	**2140**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	mg/Kg	**2.4**	**1.2**	**1.1**	< 1.3 N	< 1.3 N	< 1.1 N	< 1.2 N	< 1.1 N	--	< 1.1 N	--	< 1.1 N	--	< 1.1 N	< 1.1 N	< 1.1 N	< 1.1 N	< 1.2 N	< 2.3 N	< 1.1 N	< 1.1 N	**0.0047**	< 0.0011	< 0.0012	< 0.0012	< 0.0012	< 0.0011
Silver	--	--	mg/Kg	< 0.18	< 0.17	< 0.18	< 1.3	< 1.3	< 1.1	< 1.2	< 1.1	--	< 1.1	--	< 1.1	--	< 1.1	< 1.1	< 1.1	< 1.1	**< 1.2**	< 2.3	< 1.1	< 1.1	< 0.0012	< 0.0011	< 0.0012	< 0.0012	< 0.0012	< 0.0011
Sodium	--	--	mg/Kg	**427**	**486**	**479**	--	**< 1.3**	**< 1.1**	**< 1.2**	**< 1.1**	--	**< 1.1**	--	**< 1.1**	--	**< 1.1**	**< 1.1**	**< 1.1**	--	**< 1.2**	**< 2.3**	**< 1.1**	**< 1.1**	--	--	--	--	--	--
Thallium	--	--	mg/Kg	< 0.9	< 0.84	< 0.9	< 2.5	< 1.3	< 1.1	< 1.2	< 1.1	--	< 1.1	--	< 1.1	--	< 1.1	< 1.1	< 1.1	< 1.1	**< 1.2**	< 2.3	< 1.1	< 1.1	< 0.0012	< 0.0011	< 0.0012	**0.0019**	< 0.0012	**0.0011**
Vanadium	--	--	mg/Kg	**31.9**	**36.5**	**34.9**	**31.7**	**30.6**	**22.8**	**40.5**	**31.9**	--	**34.9**	--	**30.9**	--	**18.9**	**23.7**	**21.3**	**28.2**	**24.3**	**31.9**	**36.4**	**40.1**	**0.033**	**0.027**	**0.036**	**0.048**	**0.032**	**0.039**
Zinc	--	--	mg/Kg	**325**	**86.7**	**102**	**111**	**72.7**	**147**	**124**	**185**	--	**216**	--	**131**	--	**97**	**154**	**232**	**242**	**115**	**734**	**332**	**408**	**0.1**	**0.14**	**0.18**	**0.18**	**0.096**	**0.1**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1] - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
[2] - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
[3] - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location Sample Date Depth Interval (ft) Units	HA-303 12/9/1998 (6-8)	HA-304 12/9/1998 (0-2)	HA-304 12/9/1998 (2-4)	MW-01R 3/31/1998 (10-12)	MW-01R 3/31/1998 (20-22)	MW-04R 3/31/1998 (8-10)	MW-04R 3/31/1998 (26-28)	MW-09A 2/24/1996 (13-15)	MW-09A 2/24/1996 (17-19)	MW-09B 2/28/1996 (64-66)	MW-10 2/26/1996 (11-13)	MW-10 2/26/1996 (15-17)	MW-11 2/25/1996 (11-13)	MW-11 2/25/1996 (23-25)	MW-12 2/24/1996 (10-16)	MW-12 2/24/1996 (22-24)	MW-13 2/28/1996 (1-3)	MW-13 2/28/1996 (5-7)	OSW-1 8/7/2000 (0-0)	OSW-2 8/9/2000 (0-0)	OSW-3 8/10/2000 (0-0)	OSW-4 8/10/2000 (0-0)	OSW-5 8/10/2000 (0-0)	SB-01A 2/20/1992 (8.5-10.5)	SB-01B 2/20/1992 (16.5-18.5)	SB-02IIC 3/5/1992 (26.5-28.5)	SB-03A 2/24/1992 (22.5-24.5)
Volatile Organic Compounds																														
1,1,1-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
1,1,2-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
1,1-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
1,1-Dichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
1,2-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
1,2-Dichloroethene, total	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	--
1,2-Dichloropropane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
2-Butanone	57,400	648	mg/Kg	< 0.035	< 0.031	< 0.027	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.013	< 0.012	< 0.012	< 0.013
2-Hexanone	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.013	< 0.012	< 0.012	< 0.013
Acetone	404,000	3,280	mg/Kg	**0.17**	**0.4**	**0.16**	--	--	--	--	< 0.015	< 0.013	< 0.014	--	< 0.022	< 0.026	< 0.14	**0.48**	**0.12**	**0.013**	**0.011**	--	--	--	--	--	< 0.013	**0.15**	**0.47**	**0.38**
Benzene	0.84	0.02	mg/Kg	< 0.0069	< 0.0063	< 0.0054	< 0.0062	< 0.0061	< 0.0062	< 0.0088	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Bromodichloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Bromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.013	< 0.012	< 0.012	< 0.013
Carbon Disulfide	32.3	0.969	mg/Kg	< 0.0069	< 0.0063	< 0.0054	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	**0.16**	**0.011**	< 0.006	< 0.006
Carbon tetrachloride	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Chlorobenzene	45.9	1.52	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Chlorodibromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Chloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.013	< 0.012	< 0.012	< 0.013
Chloroform	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Chloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.013	< 0.012	< 0.012	< 0.013
cis-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Ethylbenzene	7.4	0.257	mg/Kg	< 0.0069	< 0.0063	< 0.0054	< 0.0062	< 0.0061	< 0.0062	< 0.0088	< 0.012	< 0.013	< 0.014	**0.003**	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Methylene Chloride	18.6	0.271	mg/Kg	< 0.0069	< 0.0063	< 0.0054	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.046	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Styrene	3,810	141	mg/Kg	< 0.0069	< 0.0063	< 0.0054	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Tetrachloroethylene	--	--	mg/Kg	< 0.0069	< 0.0063	< 0.0054	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Toluene	2,030	60.6	mg/Kg	< 0.0069	< 0.0063	< 0.0054	< 0.0062	< 0.0061	< 0.0062	< 0.0088	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	**0.002**	< 0.012	< 0.043	< 0.013	**0.002**	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
trans-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Tribromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Trichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	< 0.006	< 0.006
Vinyl Acetate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.013	< 0.012	< 0.012	< 0.013
Vinyl chloride	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.013	< 0.012	< 0.012	< 0.013
Xylenes, total	567	20.5	mg/Kg	< 0.0069	< 0.0063	< 0.0054	< 0.0062	< 0.0061	< 0.0062	< 0.0088	< 0.012	< 0.013	< 0.014	**0.009**	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.006	< 0.006	**0.003**	< 0.006
Semivolatile Organic Compounds																														
1,2,4-Trichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
1,2-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
1,4-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2,4,5-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2	< 2	< 2	< 2
2,4,6-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2,4-Dichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2,4-Dimethylphenol	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2,4-Dinitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2	< 2	< 2	< 2
2,4-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2,6-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2-Chloronaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.4	< 0.42	< 0.47	< 0.42	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2-Chlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2-Methylnaphthalene	--	--	mg/Kg	--	--	--	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	< 0.42	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2-Methylphenol	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
2-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2	< 2	< 2	< 2
2-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.83	< 0.81	< 0.82	< 0.84
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
3-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2	< 2	< 2	< 2
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2	< 2	< 2	< 2
4-Bromophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
4-Chloro-3-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
4-Chlorophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
4-Methyl-2-Pentanone	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.012	< 0.013	< 0.014	< 0.013	< 0.012	< 0.012	< 0.012	< 0.043	< 0.013	< 0.013	< 0.013	--	--	--	--	--	< 0.013	< 0.012	< 0.012	< 0.013
4-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
4-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2	< 2	< 2	< 2
Acenaphthene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**5.5**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	HA-303 12/9/1998 (6-8)	HA-304 12/9/1998 (0-2)	HA-304 12/9/1998 (2-4)	MW-01R 3/31/1998 (10-12)	MW-01R 3/31/1998 (20-22)	MW-04R 3/31/1998 (8-10)	MW-04R 3/31/1998 (26-28)	MW-09A 2/24/1996 (13-15)	MW-09A 2/24/1996 (17-19)	MW-09B 2/28/1996 (64-66)	MW-10 2/26/1996 (11-13)	MW-10 2/26/1996 (15-17)	MW-11 2/25/1996 (11-13)	MW-11 2/25/1996 (23-25)	MW-12 2/24/1996 (10-16)	MW-12 2/24/1996 (22-24)	MW-13 2/28/1996 (1-3)	MW-13 2/28/1996 (5-7)	OSW-1 8/7/2000 (0-0)	OSW-2 8/9/2000 (0-0)	OSW-3 8/10/2000 (0-0)	OSW-4 8/10/2000 (0-0)	OSW-5 8/10/2000 (0-0)	SB-01A 2/20/1992 (8.5-10.5)	SB-01B 2/20/1992 (16.5-18.5)	SB-02IIC 3/5/1992 (26.5-28.5)	SB-03A 2/24/1992 (22.5-24.5)
Acenaphthylene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**0.74**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Anthracene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**3**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Benzo(a)anthracene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**2.2**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	**0.028**	< 0.44	< 0	**0.94**	**0.34**	< 0	< 0	**0.065**	--	< 0.41	< 0.42
Benzo(a)pyrene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**1.4**	< 0.41	**0.62**	< 0.39	< 0.42	< 0.42	**0.02**	< 0.44	< 0	**1.4**	**0.42**	< 0	< 0	< 0.42	< 0.4	< 0.41	< 0.42
Benzo(b)fluoranthene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**2.2**	< 0.41	**0.79**	< 0.39	< 0.42	< 0.42	**0.04**	< 0.44	< 0	**1.9**	**0.5**	< 0	< 0	< 0.42	< 0.4	< 0.41	< 0.42
Benzo(g,h,i)perylene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**0.44**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	**0.006**	< 0.44	< 0	**1.3**	< 0	< 0	< 0	< 0.42	< 0.4	< 0.41	< 0.42
Benzo(k)fluoranthene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**2.1**	< 0.41	**0.8**	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	< 0	**0.98**	< 0	< 0	< 0	< 0.42	< 0.4	< 0.41	< 0.42
Benzoic Acid	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2	< 2	< 2	< 2
Benzyl Alcohol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Benzyl butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Bis(2-Chloroethyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	**0.12**	**0.052**	< 0.42
Chrysene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**1.7**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	**0.028**	< 0.44	< 0	**0.99**	**0.34**	< 0	< 0	**0.091**	< 0.4	< 0.41	< 0.42
Dibenzo(a,h)anthracene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	< 0.42	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	< 0	< 0	< 0	< 0	< 0	< 0.42	< 0.4	< 0.41	< 0.42
Dibenzofuran	--	--	mg/Kg	--	--	--	--	--	--	--	< 0.4	< 0.42	< 0.47	**3.1**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Diethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Dimethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Di-n-butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Di-n-octyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Fluoranthene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**4.6**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	**0.042**	< 0.44	< 0	**1.6**	**0.8**	< 0	< 0	**0.064**	< 0.4	**0.056**	< 0.42
Fluorene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**4.1**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	< 0	< 0	< 0	< 0	< 0	< 0.42	< 0.4	< 0.41	< 0.42
Hexachloro-1,3-butadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Hexachlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Hexachlorocyclopentadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Hexachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	< 0.42	< 0.41	**0.47**	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	< 0	**1.2**	< 0	< 0	< 0	< 0.42	< 0.4	< 0.41	< 0.42
m-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Naphthalene	53.9	2.26	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**5.1** [2]	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	< 0.42	< 0.44	< 0	< 0	< 0	< 0	< 0	< 0.42	< 0.4	< 0.41	< 0.42
Nitrobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
n-Nitrosodi-n-propylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
n-Nitrosodiphenylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
P-Chloroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
Pentachlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2	< 2	< 2	< 2
Phenanthrene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**6.6**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	**0.026**	< 0.44	--	--	--	--	--	**0.055**	< 0.4	**0.23**	< 0.42
Phenol	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.42	< 0.4	< 0.41	< 0.42
P-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2	< 2	< 2	< 2
Pyrene	--	--	mg/Kg	< 0.39	< 0.42	< 0.42	< 0.41	< 0.4	< 0.41	< 0.58	< 0.4	< 0.42	< 0.47	**4.2**	< 0.41	< 0.4	< 0.39	< 0.42	< 0.42	**0.045**	< 0.44	--	--	--	--	--	**0.079**	< 0.4	**0.073**	< 0.42
Inorganic Compounds																														
Aluminum (fume or dust)	--	--	mg/Kg	--	--	--	--	--	--	--	**17700**	**27600**	**4050**	**32700**	**25300**	**15500**	**22800**	**22800**	**24700**	**11800**	**15500**	--	--	--	--	--	**24300**	**29600**	**29600**	**31600**
Antimony	--	--	mg/Kg	< 0.0024	< 0.0026	< 0.0025	< 2.5	< 2.4	< 2.5	< 3.5	**0.44**	< 0.42	**14.9**	< 0.44	**0.54**	< 0.44	**0.56**	**7.8**	**0.62**	**17**	**19.6**	--	--	--	--	--	< 5.6	**6.3**	**9.2**	**8.5**
Arsenic	--	--	mg/Kg	**0.013**	**0.0091**	**0.008**	< 1.2	< 1.2	< 1.2	**5.2**	**6.4**	**3.3**	**3.8**	**3.2**	**3.8**	**7.1**	**1.9**	**23.7**	**3.3**	**1.9**	**1.7**	**5.49**	**18.8**	**25.4**	**29.2**	**35.1**	**4.9**	**2.2**	**1.7**	**5.3**
Barium	--	--	mg/Kg	**0.045**	**0.14**	**0.15**	**130**	**31**	**140**	**23**	**97**	**103**	**50.7**	**145**	**114**	**304**	**90.8**	**124**	**85.3**	**241**	**93.1**	**22.4**	**105**	**127**	**52.7**	**255**	**78.1**	**234**	**107**	**164**
Beryllium	--	--	mg/Kg	**0.00079**	**0.00069**	**0.00099**	**1**	< 0.61	**1.2**	**6.1**	**0.72**	**0.82**	**2.9**	**1.3**	**0.96**	**1.2**	**0.94**	**0.85**	**1.1**	**1.3**	**0.94**	< 0	< 0	< 0	< 0	< 0	< 0.24	**1.5**	**0.75**	**1.1**
Cadmium	--	--	mg/Kg	< 0.0006	< 0.00064	< 0.00063	< 0.62	< 0.61	< 0.62	< 0.88	< 0.05	< 0.05	< 0.63	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.04	< 0.58	< 0.6	< 0	< 0	< 0	< 0	< 0	**1.2**	**1.6**	**2.3**	**3.1**
Calcium metal	--	--	mg/Kg	--	--	--	--	--	--	--	**7720**	**1100**	**3430**	**1580**	**979**	**43400**	**1300**	**3350**	**916**	**2770**	**1190**	--	--	--	--	--	**3320**	**2180**	**902**	**1840**
Chromium	--	--	mg/Kg	**0.051**	**0.019**	**0.025**	**22**	**16**	**21**	**16**	**21.1**	**24.4**	**11.9**	**29.4**	**23.4**	**12.8**	**33.5**	**35.4**	**31.9**	**22.8**	**22.7**	**8.45**	**14.3**	**18.1**	**26.7**	**20**	**38.9**	**46.6**	**30**	**30.3**
Cobalt	--	--	mg/Kg	**0.012**	**0.011**	**0.013**	--	--	--	--	**10.3**	**6.7**	**22.8**	**14.7**	**14.3**	**13.2**	**5.3**	**8.1**	**18.6**	**16.2**	**13.5**	**4.59**	**7.32**	**9.89**	**10.4**	**26.7**	**4**	**22.6**	**10.1**	**10.7**
Copper	--	--	mg/Kg	**0.0084**	**0.023**	**0.049**	**13**	**8.1**	**12**	**35**	**22.4**	**21.2**	**49**	**22.2**	**21.2**	**43**	**16.6**	**23.8**	**19.4**	**22**	**16**	**15**	**30.8**	**31.5**	**23**	**40.5**	**17.9**	**14.5**	**13.1**	**16.9**
Cyanide	--	--	mg/Kg	< 0.0012	< 0.0013	< 0.0013	< 1.2	< 1.2	< 1.2	< 1.8	< 0.6	< 0.64	< 0.7	< 0.64	< 0.62	--	**1.2**	< 0.64	< 0.65	< 0.63	< 0.67	< 0	**5.7**	< 0	< 0	**0.971**	< 0.63	< 0.61	**0.88**	**1.6**
Iron	--	--	mg/Kg	--	--	--	--	--	--	--	**26800**	**28700**	**56300**	**33400**	**27800**	**19500**	**24400**	**38100**	**34100**	**20100**	**26300**	--	--	--	--	--	**32800**	**32900**	**32700**	**37100**
Lead	--	--	mg/Kg	**0.021**	**0.026**	**0.047**	**13**	< 6.1	**14**	**22**	**37**	**10.3**	**25.1**	**18.5**	**13**	**54.4**	**9.6**	**47.9**	**13.1**	**217**	**12.7**	**22.6**	**74.3**	**57.1**	**36.4**	**67.7**	**27.2**	**2.8**	**10.2**	**15.1**
Magnesium	--	--	mg/Kg	--	--	--	--	--	--	--	**1920**	**1250**	**1000**	**2980**	**3280**	**2730**	**2020**	**1470**	**1630**	**2010**	**3070**	--	--	--	--	--	**915**	**2550**	**2650**	**3130**
Manganese	--	--	mg/Kg	--	--	--	--	--	--	--	**502**	**847**	**492**	**665**	**400**	**204**	**176**	**450**	**799**	**1170**	**462**	--	--	--	--	--	**322**	**1740**	**339**	**472**
Mercury	--	--	mg/Kg	**0.000065**	**0.000053**	**0.00008**	--	--	--	--	< 0.11	< 0.09	< 0.14	< 0.08	< 0.12	**4.5**	< 0.11	< 0.13	< 0.11	**0.19**	< 0.12	**0.249**	**0.381**	**0.153**	< 0	**0.0966**	< 0.13	< 0.12	**5.1**	< 0.13
Nickel	--	--	mg/Kg	**0.024**	**0.013**	**0.016**	**13**	**5.2**	**15**	**27**	**12.6**	**13.3**	**55.2**	**19.2**	**15.9**	**19.9**	**12.3**	**17.9**	**12.1**	**11.4**	**11.2**	**18.3**	**14.2**	**19.7**	**14**	**29.7**	**8.6**	**14**	**12.2**	**12.6**
Potassium	--	--	mg/Kg	--	--	--	--	--	--	--	**1130**	**1410**	**822**	**2570**	**1870**	**1220**	**1510**	**1620**	**1490**	**1730**	**1920**	--	--	--	--	--	**1210**	**2170**	**1330**	**1960**
Selenium	--	--	mg/Kg	< 0.0012	< 0.0013	< 0.0013	< 0.81	< 0.32	< 0.81	< 0.23	**0.88**	**1.1**	< 0.19	**0.71**	**0.8**	**0.72**	**1.5**	**2.3**	**0.96**	< 0.19	< 0.19	--	--	--	--	--	< 0.24	< 0.24	< 0.25	< 0.25
Silver	--	--	mg/Kg	< 0.0012	< 0.0013	< 0.0013	< 1.2	< 1.2	< 1.2	< 1.8	< 0.16	< 0.16	< 1.3	< 0.17	< 0.17	< 0.17	< 0.16	< 0.18	< 0.15	< 1.2	< 1.2	--	--	--	--	--	< 0.49	**0.59**	< 0.49	< 0.5
Sodium	--	--	mg/Kg	--	--	--	--	--	--	--	**837**	**852**	**53.7**	**1200**	**1090**	**976**	**849**	**867**	**803**	**150**	**195**	--	--	--	--	--	**361**	**410**	**315**	**358**
Thallium	--	--	mg/Kg	< 0.0012	< 0.0013	< 0.0013	< 1.2	< 1.2	< 1.2	< 1.8	< 0.81	< 0.82	< 0.19	< 0.86	< 0.87	< 0.86	< 0.81	< 0.9	**0.8**	**0.26**	**0.26**	--	--	--	--	--	< 0.49	**0.53**	< 0.49	< 0.5
Vanadium	--	--	mg/Kg	**0.039**	**0.02**	**0.031**	--	--	--	--	**43.9**	**48.7**	**20**	**46.4**	**39.6**	**21.8**	**37.5**	**46.6**	**48.5**	**30.5**	**35.1**	**6.98**	**33.1**	**52.8**	**58.8**	**78**	**52.3**	**43.6**	**50.3**	**51.1**
Zinc	--	--	mg/Kg	**0.12**	**0.11**	**0.16**	**51**	**17**	**61**	**130**	**85.5**	**54.9**	**172**	**73.9**	**63.1**	**93.2**	**49.1**	**163**	**53.8**	**82.1**	**55.7**	**94.5**	**117**	**118**	**71.7**	**132**	**50.7**	**80.6**	**59.5**	**68**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1] - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
[2] - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
[3] - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location Sample Date Depth Interval (ft) Units	SB-03B 2/24/1992 (28.5-30.5)	SB-04IIB 2/21/1992 (26.5-28.6)	SB-09A 3/3/1992 (18.5-20.5)	SB-09B 2/23/1992 (28.5-30.5)	SB-102 1/18/1996 (64-66)	SB-102 10/7/2003 (0-2)	SB-102 10/7/2003 (2-4)	SB-102 10/7/2003 (4-6)	SB-10B 2/23/1992 (22.5-24.5)	SB-11A 3/5/1992 (4.5-6.5)	SB-11B 3/5/1992 (6.5-8.5)	SB-13A 5/21/1992 (18-20)	SB-13B 5/21/1992 (32-34)	SB-14A 5/21/1992 (18-20)	SB-15A 5/21/1992 (18-20)	SC-0001 6/28/1999 (2.5, wall)	SC-0002 6/28/1999 (5, floor)	SC-0003 6/28/1999 (2.5, wall)	SC-0006 6/28/1999 (2.5, wall)	SC-0008 6/29/1999 (5, floor)	SC-0011 6/29/1999 (7.5, wall)	SC-0012 6/29/1999 (10, floor)	SC-0013 6/29/1999 (2.5, wall)	SC-0014 6/29/1999 (7.5, wall)	SC-0016 6/29/1999 (7.5, wall)
Volatile Organic Compounds																												
1,1,1-Trichloroethane	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	--	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	--	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	--	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
2-Butanone	57,400	648	mg/Kg	< 0.013	< 0.011	< 0.013	< 0.012	< 0.013	--	--	--	< 0.013	< 0.013	< 0.012	< 0.012	< 0.011	< 0.011	< 0.013	< 0.036	< 0.031	< 0.019	< 0.02	< 0.037	< 0.021	< 0.018	< 0.024	**0.02100**	< 0.019
2-Hexanone	--	--	mg/Kg	< 0.013	< 0.011	< 0.013	< 0.012	< 0.013	--	--	--	< 0.013	< 0.013	< 0.012	< 0.012	< 0.011	< 0.011	< 0.013	--	--	--	--	--	--	--	--	--	--
Acetone	404,000	3,280	mg/Kg	< 0.013	< 0.011	< 0.013	< 0.012	**0.006**	--	--	--	< 0.013	**1.5**	**0.48**	**0.071**	**0.14**	< 0.011	**0.055**	**0.34000**	**0.08500**	< 0.038	< 0.04	< 0.073	**0.04600**	**0.09100**	**0.05800**	**0.22000**	**0.09800**
Benzene	0.84	0.02	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	< 0.0072	< 0.0062	< 0.0038	< 0.004	< 0.0073	< 0.0041	< 0.0036	< 0.0048	< 0.0042	< 0.0037
Bromodichloromethane	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	mg/Kg	< 0.013	< 0.011	< 0.013	< 0.012	< 0.013	--	--	--	< 0.013	< 0.013	< 0.012	--	< 0.011	< 0.011	< 0.013	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	32.3	0.969	mg/Kg	**0.16**	**0.12**	**0.013**	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	--	< 0.006	< 0.005	< 0.007	**0.00910**	**0.04000**	< 0.0038	< 0.004	< 0.0073	< 0.0041	< 0.0036	< 0.0048	< 0.0042	< 0.0037
Carbon tetrachloride	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	45.9	1.52	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	mg/Kg	< 0.013	< 0.011	< 0.013	< 0.012	< 0.013	--	--	--	< 0.013	< 0.013	< 0.012	--	< 0.011	< 0.011	< 0.013	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	--	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	mg/Kg	< 0.013	< 0.011	< 0.013	< 0.012	< 0.013	--	--	--	< 0.013	< 0.013	< 0.012	--	< 0.011	< 0.011	< 0.013	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	7.4	0.257	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	< 0.0072	< 0.0062	< 0.0038	< 0.004	< 0.0073	< 0.0041	< 0.0036	< 0.0048	< 0.0042	< 0.0037
Methylene Chloride	18.6	0.271	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	--	**0.02**	< 0.005	**0.024**	< 0.0072	< 0.0062	< 0.0038	< 0.004	< 0.0073	< 0.0041	< 0.0036	< 0.0048	< 0.0042	< 0.0037
Styrene	3,810	141	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	< 0.0072	< 0.0062	< 0.0038	< 0.004	< 0.0073	< 0.0041	< 0.0036	< 0.0048	**0.00460**	< 0.0037
Tetrachloroethylene	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	< 0.0072	< 0.0062	< 0.0038	< 0.004	< 0.0073	< 0.0041	< 0.0036	< 0.0048	< 0.0042	< 0.0037
Toluene	2,030	60.6	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	**0.004**	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	< 0.0072	< 0.0062	< 0.0038	< 0.004	< 0.0073	< 0.0041	< 0.0036	< 0.0048	< 0.0042	< 0.0037
trans-1,3-Dichloropropene	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	mg/Kg	< 0.013	< 0.011	< 0.013	< 0.012	--	--	--	--	< 0.013	< 0.013	< 0.012	< 0.012	< 0.011	< 0.011	< 0.013	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	mg/Kg	< 0.013	< 0.011	< 0.013	< 0.012	< 0.013	--	--	--	< 0.013	< 0.013	< 0.012	--	< 0.011	< 0.011	< 0.013	--	--	--	--	--	--	--	--	--	--
Xylenes, total	567	20.5	mg/Kg	< 0.006	< 0.006	< 0.006	< 0.006	< 0.013	--	--	--	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.007	< 0.014	< 0.012	< 0.0077	< 0.008	< 0.015	< 0.0082	< 0.0072	< 0.0096	< 0.0083	< 0.0075
Semivolatile Organic Compounds																												
1,2,4-Trichlorobenzene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	mg/Kg	< 2	< 1.8	< 2	< 1.9	--	--	--	--	< 2.1	< 2.1	< 1.9	< 2.1	< 2	< 1.8	< 2	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
2,4-Dinitrophenol	--	--	mg/Kg	< 2	< 1.8	< 2	< 1.9	--	--	--	--	< 2.1	< 2.1	< 1.9	< 2.1	< 2	< 1.8	< 2	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
2-Nitroaniline	--	--	mg/Kg	< 2	< 1.8	< 2	< 1.9	--	--	--	--	< 2.1	< 2.1	< 1.9	< 2.1	< 2	< 1.8	< 2	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	--	--	mg/Kg	< 0.83	< 0.75	< 0.84	< 0.78	--	--	--	--	< 0.87	< 0.85	< 0.78	< 0.83	< 0.78	< 0.74	< 0.78	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	mg/Kg	< 2	< 1.8	< 2	< 1.9	--	--	--	--	< 2.1	< 2.1	< 1.9	< 2.1	< 2	< 1.8	< 2	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	< 2	< 1.8	< 2	< 1.9	--	--	--	--	< 2.1	< 2.1	< 1.9	< 2.1	< 2	< 1.8	< 2	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	mg/Kg	< 0.013	< 0.011	< 0.013	< 0.012	< 0.013	--	--	--	< 0.013	< 0.013	< 0.012	< 0.012	< 0.011	< 0.011	< 0.013	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	mg/Kg	< 2	< 1.8	< 2	< 1.9	--	--	--	--	< 2.1	< 2.1	< 1.9	< 2.1	< 2	< 1.8	< 2	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	SB-03B 2/24/1992 (28.5-30.5)	SB-04IIB 2/21/1992 (26.5-28.6)	SB-09A 3/3/1992 (18.5-20.5)	SB-09B 2/23/1992 (28.5-30.5)	SB-102 1/18/1996 (64-66)	SB-102 10/7/2003 (0-2)	SB-102 10/7/2003 (2-4)	SB-102 10/7/2003 (4-6)	SB-10B 2/23/1992 (22.5-24.5)	SB-11A 3/5/1992 (4.5-6.5)	SB-11B 3/5/1992 (6.5-8.5)	SB-13A 5/21/1992 (18-20)	SB-13B 5/21/1992 (32-34)	SB-14A 5/21/1992 (18-20)	SB-15A 5/21/1992 (18-20)	SC-0001 6/28/1999 (2.5, wall)	SC-0002 6/28/1999 (5, floor)	SC-0003 6/28/1999 (2.5, wall)	SC-0006 6/28/1999 (2.5, wall)	SC-0008 6/29/1999 (5, floor)	SC-0011 6/29/1999 (7.5, wall)	SC-0012 6/29/1999 (10, floor)	SC-0013 6/29/1999 (2.5, wall)	SC-0014 6/29/1999 (7.5, wall)	SC-0016 6/29/1999 (7.5, wall)
Acenaphthylene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Anthracene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	**0.026**	< 0.42	**0.14**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Benzo(a)anthracene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	**0.095**	< 0.42	**0.2**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Benzo(a)pyrene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	**0.11**	< 0.42	**0.25**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Benzo(b)fluoranthene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	**0.089**	< 0.42	**0.29**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Benzo(g,h,i)perylene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	**0.15**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Benzo(k)fluoranthene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	**0.098**	< 0.42	**0.07**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	**0.41000**	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Benzoic Acid	--	--	mg/Kg	< 2	< 1.8	< 2	< 1.9	--	--	--	--	< 2.1	< 2.1	< 1.9	**0.048**	< 2	< 1.8	**0.036**	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	**0.12**	--	--	--	--	< 0.43	**0.16**	**0.24**	< 0.42	**0.34**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Chrysene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	**0.1**	< 0.42	**0.18**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Dibenzo(a,h)anthracene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	**0.037**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Dibenzofuran	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	**0.31**	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	**0.1**	< 0.42	**0.28**	< 0.37	< 0.39	**0.51000**	< 0.41	< 0.41	< 0.4	**0.71000**	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Fluorene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Hexachloro-1,3-butadiene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	**0.16**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
m-Dichlorobenzene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Naphthalene	53.9	2.26	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Nitrobenzene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	< 0.39	< 0.37	< 0.39	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	mg/Kg	< 2	< 1.8	< 2	< 1.9	--	--	--	--	< 2.1	< 2.1	< 1.9	< 2.1	< 2	< 1.8	< 2	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	**0.005**	< 0.42	**0.15**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	**0.50000**	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Phenol	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	--	--	--	--	< 0.43	< 0.42	< 0.39	< 0.42	**0.014**	< 0.37	< 0.39	< 0.43	< 0.41	< 0.41	< 0.4	< 0.4	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
P-Nitroaniline	--	--	mg/Kg	< 2	< 1.8	< 2	< 1.9	--	--	--	--	< 2.1	< 2.1	< 1.9	< 2.1	< 2	< 1.8	< 2	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	mg/Kg	< 0.42	< 0.37	< 0.42	< 0.39	< 0.44	--	--	--	< 0.43	< 0.42	**0.12**	< 0.42	**0.23**	< 0.37	< 0.39	**0.48000**	< 0.41	< 0.41	< 0.4	**0.59000**	< 0.4	< 0.4	< 0.35	< 0.38	< 0.37
Inorganic Compounds																												
Aluminum (fume or dust)	--	--	mg/Kg	**20200**	**10200**	**48000**	**30100**	**7890**	--	--	--	**10600**	**20000**	**8510**	**25000**	**17900**	**8900**	**15100**	**8700.00**	**30000.00**	**18000.00**	**18000.00**	**8900.00**	**16000.00**	**14000.00**	**3300.00**	**9600.00**	**13000.00**
Antimony	--	--	mg/Kg	< 5.6	**17.4**	< 5.7	**16.9**	< 0.47	--	--	--	< 6.1	< 20.7	< 9.3	**5.9**	--	< 4.7	--	< 2.6	< 2.5	< 2.5	< 2.5	< 2.3	< 2.2	< 2.4	< 2.1	< 2.3	< 2.3
Arsenic	--	--	mg/Kg	**1.4**	**6.6**	**3.5**	**9**	**10.8**	**20.9**	**27.7**	**33.9**	**1.1**	**6.4**	**8.6**	**4.5**	**2.2**	**0.99**	**0.81**	**11.00**	**6.70**	**6.40**	**7.10**	**23.00**	**5.70**	**23.00**	**6.20**	**18.00**	**30.00**
Barium	--	--	mg/Kg	**67.9**	**30.9**	**176**	**128**	**476**	--	--	--	**32**	**47.3**	**60.9**	**236**	**54.1**	**29.2**	**73.2**	**140.00**	**110.00**	**26.00**	**25.00**	**86.00**	**40.00**	**160.00**	**27.00**	**56.00**	**40.00**
Beryllium	--	--	mg/Kg	**0.62**	**0.94**	**1.1**	**2.1**	**2.6**	--	--	--	< 0.26	< 0.52	< 0.93	**0.65**	**0.63**	< 0.15	< 0.17	**0.52**	**0.82**	< 0.49	< 0.49	< 0.45	< 0.44	**0.50**	< 0.42	< 0.47	< 0.45
Cadmium	--	--	mg/Kg	< 0.98	**1.3**	**3.2**	**3.9**	< 0.05	--	--	--	< 1.1	< 2.6	< 1.2	--	--	< 0.82	< 0.83	< 0.65	< 0.62	< 0.62	< 0.62	< 0.57	< 0.55	**0.76**	**0.56**	< 0.58	< 0.57
Calcium metal	--	--	mg/Kg	**766**	**365**	**1680**	**1210**	**1460**	--	--	--	**277**	**2180**	**88500**	**1610**	**4160**	**274**	**492**	**60000.00**	**3100.00**	**1800.00**	**2800.00**	**16000.00**	**540.00**	**11000.00**	**270000.0**	**750.00**	**570.00**
Chromium	--	--	mg/Kg	**32**	**30.8**	**42.5**	**42.7**	**19.5**	**21.9**	**18.5**	--	**7.7**	**27.2**	**17.7**	**32**	**27.4**	**9.2**	**16.4**	**19.00**	**38.00**	**31.00**	**30.00**	**24.00**	**33.00**	**44.00**	**10.00**	**16.00**	**26.00**
Cobalt	--	--	mg/Kg	**3.2**	**13.4**	**11.1**	**31**	**10.1**	--	--	--	**3.3**	**5.6**	**7.8**	**16**	**10.9**	**2.7**	**15.6**	**4.90**	**5.30**	**1.80**	**1.90**	**5.80**	**5.70**	**6.80**	**2.30**	**12.00**	**7.80**
Copper	--	--	mg/Kg	**8.6**	**15.4**	**17.9**	**30.5**	**24.3**	--	--	--	**10.3**	**16.5**	**19.4**	**12.4**	**12.6**	**2.1**	**6.7**	**32.00**	**26.00**	**15.00**	**14.00**	**30.00**	**5.80**	**41.00**	**7.90**	**10.00**	**10.00**
Cyanide	--	--	mg/Kg	< 0.6	< 0.64	< 0.63	< 0.63	< 0.66	--	--	--	**0.99**	< 0.65	< 0.59	--	--	< 1.1	< 1.2	< 1.3	< 1.3	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.1	< 1.2	< 1.1
Iron	--	--	mg/Kg	**30600**	**54100**	**38500**	**102000**	**34000**	--	--	--	**6150**	**34700**	**19600**	**35200**	**35500**	**9110**	**19600**	**13000.00**	**43000.00**	**43000.00**	**38000.00**	**24000.00**	**20000.00**	**22000.00**	**6000.00**	**18000.00**	**26000.00**
Lead	--	--	mg/Kg	**9.1**	**8.9**	**11.5**	**44.5**	**54.5**	**54.9**	**52.8**	--	**2.4**	**11.8**	**34.3**	**13.5**	**8.8**	**3.2**	**6.7**	**140.00**	**24.00**	**11.00**	**18.00**	**100.00**	**11.00**	**130.00**	**19.00**	**25.00**	**21.00**
Magnesium	--	--	mg/Kg	**1280**	**1260**	**4110**	**7540**	**2240**	--	--	--	**377**	**871**	**4910**	**3890**	**4870**	**338**	**2200**	**5500.00**	**1300.00**	**500.00**	**480.00**	**1100.00**	**980.00**	**2100.00**	**7200.00**	**390.00**	**540.00**
Manganese	--	--	mg/Kg	**116**	**209**	**851**	**472**	**1790**	--	--	--	**50.3**	**113**	**204**	**484**	**181**	**90.3**	**376**	**450.00**	**250.00**	**74.00**	**75.00**	**290.00**	**160.00**	**430.00**	**140.00**	**650.00**	**460.00**
Mercury	--	--	mg/Kg	**0.23**	< 0.13	< 0.13	< 0.13	< 0.14	--	--	--	**0.34**	**0.2**	**0.37**	--	--	< 0.08	< 0.1	**0.64**	**0.20**	**0.04**	**0.07**	**0.19**	**0.04**	**0.05**	**0.02**	**0.05**	**0.04**
Nickel	--	--	mg/Kg	**6.3**	**8.9**	**23.6**	**65.2**	**36.9**	--	--	--	**3.2**	< 10.3	**13.7**	--	**30.3**	**3.2**	**9.6**	**8.50**	**14.00**	**5.90**	**6.20**	**19.00**	**12.00**	**13.00**	**12.00**	**7.10**	**9.00**
Potassium	--	--	mg/Kg	**1060**	**290**	**3260**	**896**	**784**	--	--	--	**351**	**3150**	**1910**	**2040**	**788**	**351**	**1700**	**990.00**	**1700.00**	**770.00**	**700.00**	**1200.00**	**790.00**	**1500.00**	**960.00**	**420.00**	**480.00**
Selenium	--	--	mg/Kg	< 0.25	< 0.26	< 0.25	< 0.26	**1.1**	--	--	--	< 0.26	< 0.78	< 0.7	--	--	< 0.17	< 0.18	< 1.3	< 1.2	< 1.2	< 1.2	< 1.1	< 1.1	**4.30**	**1.20**	< 1.2	< 1.1
Silver	--	--	mg/Kg	**0.52**	**0.81**	< 0.49	**1**	< 0.18	--	--	--	< 0.53	< 5.2	< 4.7	--	--	< 0.61	< 0.66	< 1.3	< 1.2	< 1.2	< 1.2	< 1.1	< 1.1	< 1.2	< 1.1	< 1.2	< 1.1
Sodium	--	--	mg/Kg	**299**	**310**	**388**	**382**	**362**	--	--	--	**250**	**48**	**110**	**82.5**	**108**	**49.9**	**94.6**	**140.00**	**120.00**	**99.00**	**70.00**	< 57	< 55	**130.00**	**160.00**	< 58	< 57
Thallium	--	--	mg/Kg	< 0.49	< 0.52	< 0.49	< 0.52	< 0.92	--	--	--	< 0.53	< 0.52	< 0.47	--	--	< 0.5	< 0.54	< 1.3	< 1.2	< 1.2	< 1.2	< 1.1	< 1.1	< 1.2	< 1.1	< 1.2	< 1.1
Vanadium	--	--	mg/Kg	**36.8**	**21.3**	**58.5**	**28.3**	**52.9**	--	--	--	**13.8**	**32.3**	**17.7**	**43.1**	**20.1**	**14.8**	**39.7**	**23.00**	**63.00**	**53.00**	**49.00**	**33.00**	**28.00**	**49.00**	**7.40**	**38.00**	**50.00**
Zinc	--	--	mg/Kg	**42.1**	**51**	**93**	**142**	**119**	**120**	**150**	**169**	**20.4**	**20.8**	**58.2**	**81.4**	**67.2**	**13.6**	**41.1**	**160.00**	**64.00**	**30.00**	**32.00**	**250.00**	**70.00**	**280.00**	**74.00**	**52.00**	**67.00**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
¹ - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
² - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
³ - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location Sample Date Depth Interval (ft) Units	SC-0019 6/29/1999 (7.5, wall)	SC-0020 6/29/1999 (2.5, wall)	SC-0021 6/29/1999 (7.5, wall)	SC-0022 6/29/1999 (10, floor)	SC-0024 6/29/1999 (7.5, wall)	SC-0025 6/30/1999 (2.5, wall)	SC-0026 6/30/1999 (7.5, wall)	SC-0027 6/30/1999 (2.5, wall)	SC-0028 6/30/1999 (7.5, wall)	SC-0029 6/30/1999 (7.5, wall)	SC-0032 6/30/1999 (10, floor)	SC-0033 6/30/1999 (10, floor)	SC-0038 7/1/1999 (2.5, wall)	SC-0040 7/1/1999 (10, floor)	SC-0042 7/1/1999 (2.5, wall)	SC-0049 7/6/1999 (3, wall)	SC-0051 7/6/1999 (8, floor)	SC-0052 7/8/1999 (4, floor)	SC-0054 7/8/1999 (4, floor)	SC-0055 7/8/1999 (2.5, wall)	SC-0056 7/8/1999 (7.5, wall)	SC-0057 7/8/1999 (7, floor)	SC-0060 7/8/1999 (10, floor)	SC-0062 7/8/1999 (7.5, wall)	SC-0063 7/8/1999 (10, floor)	SC-0064 7/9/1999 (3, floor)
Volatile Organic Compounds																													
1,1,1-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	57,400	648	mg/Kg	< 0.02	< 0.025	< 0.019	< 0.019	< 0.013	< 0.016	< 0.027	< 0.018	< 0.016	< 0.02	**0.04800**	< 0.017	< 0.023	< 0.024	< 0.019	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	404,000	3,280	mg/Kg	< 0.041	< 0.05	< 0.038	**0.07000**	< 0.025	< 0.031	< 0.054	< 0.037	**0.10000**	**0.06800**	**0.36000**	**0.15000**	**0.05600**	**0.12000**	< 0.038	--	--	--	--	--	--	--	--	--	--	--
Benzene	0.84	0.02	mg/Kg	< 0.0041	< 0.005	< 0.0038	< 0.0038	< 0.0025	< 0.0031	< 0.0054	< 0.0037	< 0.0033	**0.00580**	< 0.0036	< 0.0035	< 0.0046	**0.00480**	< 0.0038	--	--	--	--	--	--	--	--	--	--	< 0.0045
Bromodichloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	32.3	0.969	mg/Kg	< 0.0041	< 0.005	< 0.0038	< 0.0038	< 0.0025	< 0.0031	< 0.0054	< 0.0037	< 0.0033	**0.01300**	< 0.0036	< 0.0035	< 0.0046	**0.00500**	< 0.0038	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	45.9	1.52	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	7.4	0.257	mg/Kg	< 0.0041	< 0.005	< 0.0038	< 0.0038	< 0.0025	< 0.0031	< 0.0054	< 0.0037	< 0.0033	< 0.0041	< 0.0036	< 0.0035	< 0.0046	< 0.0047	< 0.0038	--	--	--	--	--	--	--	--	--	--	< 0.0045
Methylene Chloride	18.6	0.271	mg/Kg	< 0.0041	< 0.005	< 0.0038	< 0.0038	< 0.0025	< 0.0031	< 0.0054	< 0.0037	< 0.0033	< 0.0041	< 0.0036	< 0.0035	< 0.0046	< 0.0047	< 0.0038	--	--	--	--	--	--	--	--	--	--	--
Styrene	3,810	141	mg/Kg	< 0.0041	< 0.005	< 0.0038	< 0.0038	< 0.0025	< 0.0031	< 0.0054	< 0.0037	< 0.0033	**0.00900**	< 0.0036	< 0.0035	< 0.0046	< 0.0047	< 0.0038	--	--	--	--	--	--	--	--	--	--	< 0.0045
Tetrachloroethylene	--	--	mg/Kg	< 0.0041	< 0.005	< 0.0038	< 0.0038	< 0.0025	< 0.0031	< 0.0054	< 0.0037	< 0.0033	< 0.0041	< 0.0036	< 0.0035	< 0.0046	< 0.0047	< 0.0038	--	--	--	--	--	--	--	--	--	--	--
Toluene	2,030	60.6	mg/Kg	< 0.0041	< 0.005	< 0.0038	< 0.0038	< 0.0025	< 0.0031	< 0.0054	< 0.0037	< 0.0033	**0.00560**	< 0.0036	< 0.0035	< 0.0046	< 0.0047	**0.00640**	--	--	--	--	--	--	--	--	--	--	< 0.0045
trans-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	567	20.5	mg/Kg	< 0.0082	< 0.01	< 0.0076	< 0.0075	< 0.005	< 0.0063	< 0.011	< 0.0074	< 0.0066	< 0.0082	< 0.0072	< 0.0069	< 0.0092	< 0.0095	< 0.0076	--	--	--	--	--	--	--	--	--	--	< 0.0089
Semivolatile Organic Compounds																													
1,2,4-Trichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.410
4-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	< 0.410

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	SC-0019 6/29/1999 (7.5, wall)	SC-0020 6/29/1999 (2.5, wall)	SC-0021 6/29/1999 (7.5, wall)	SC-0022 6/29/1999 (10, floor)	SC-0024 6/29/1999 (7.5, wall)	SC-0025 6/30/1999 (2.5, wall)	SC-0026 6/30/1999 (7.5, wall)	SC-0027 6/30/1999 (2.5, wall)	SC-0028 6/30/1999 (7.5, wall)	SC-0029 6/30/1999 (7.5, wall)	SC-0032 6/30/1999 (10, floor)	SC-0033 6/30/1999 (10, floor)	SC-0038 7/1/1999 (2.5, wall)	SC-0040 7/1/1999 (10, floor)	SC-0042 7/1/1999 (2.5, wall)	SC-0049 7/6/1999 (3, wall)	SC-0051 7/6/1999 (8, floor)	SC-0052 7/8/1999 (4, floor)	SC-0054 7/8/1999 (4, floor)	SC-0055 7/8/1999 (2.5, wall)	SC-0056 7/8/1999 (7.5, wall)	SC-0057 7/8/1999 (7, floor)	SC-0060 7/8/1999 (10, floor)	SC-0062 7/8/1999 (7.5, wall)	SC-0063 7/8/1999 (10, floor)	SC-0064 7/9/1999 (3, floor)
Acenaphthylene	--	--	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	< 0.410
Anthracene	--	--	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	< 0.410
Benzo(a)anthracene	--	--	mg/Kg	< 0.4	< 0.38	**0.71000**	< 0.42	**0.82000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	**0.52000**	< 0.37	--	--	--	--	--	--	--	--	--	--	**0.98**
Benzo(a)pyrene	--	--	mg/Kg	< 0.4	< 0.38	**0.63000**	< 0.42	**0.66000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	**0.64000**	< 0.37	--	--	--	--	--	--	--	--	--	--	**0.93**
Benzo(b)fluoranthene	--	--	mg/Kg	< 0.4	< 0.38	**0.73000**	< 0.42	**0.64000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	**0.51000**	< 0.37	--	--	--	--	--	--	--	--	--	--	**0.69**
Benzo(g,h,i)perylene	--	--	mg/Kg	< 0.4	< 0.38	**0.44000**	< 0.42	**0.48000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	**0.52**
Benzo(k)fluoranthene	--	--	mg/Kg	< 0.4	< 0.38	**0.66000**	< 0.42	**0.73000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	**0.58000**	< 0.37	--	--	--	--	--	--	--	--	--	--	**0.93**
Benzoic Acid	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	mg/Kg	< 0.4	< 0.38	**0.86000**	< 0.42	**0.80000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	**0.68000**	< 0.37	--	--	--	--	--	--	--	--	--	--	**0.92**
Dibenzo(a,h)anthracene	--	--	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	< 0.410
Dibenzofuran	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	mg/Kg	< 0.4	< 0.38	**1.80000**	< 0.42	**1.60000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	**1.10000**	< 0.37	--	--	--	--	--	--	--	--	--	--	**1.6**
Fluorene	--	--	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	< 0.410
Hexachloro-1,3-butadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	< 0.4	< 0.38	**0.53000**	< 0.42	**0.54000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	**0.58**
m-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	53.9	2.26	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	< 0.410
Nitrobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	mg/Kg	< 0.4	< 0.38	**1.00000**	< 0.42	**0.56000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	**0.61000**	< 0.37	--	--	--	--	--	--	--	--	--	--	**0.55**
Phenol	--	--	mg/Kg	< 0.4	< 0.38	< 0.38	< 0.42	< 0.39	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	< 0.41	< 0.37	--	--	--	--	--	--	--	--	--	--	--
P-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	mg/Kg	< 0.4	< 0.38	**1.40000**	< 0.42	**1.40000**	< 0.4	< 0.42	< 0.4	< 0.42	< 0.41	< 0.41	< 0.4	< 0.38	**1.20000**	< 0.37	--	--	--	--	--	--	--	--	--	--	--
Inorganic Compounds																													
Aluminum (fume or dust)	--	--	mg/Kg	**24000.00**	**9900.00**	**9300.00**	**23000.00**	**19000.00**	**21000.00**	**17000.00**	**19000.00**	**23000.00**	**23000.00**	**14000.00**	**15000.00**	**13000.00**	**14000.00**	**7900.00**	--	--	--	--	--	--	--	--	--	--	--
Antimony	--	--	mg/Kg	< 2.4	< 2.3	< 2.3	< 2.6	< 2.4	< 2.4	< 2.3	< 2.2	< 2.5	**18.00**	< 2.5	< 2.2	< 2.3	< 2.5	< 2.2	< 2.4	< 2.5	< 2.4	< 2.4	< 2.3	< 2.5	< 2.3	< 2.6	< 2.1	< 2.6	< 2.2
Arsenic	--	--	mg/Kg	**7.30**	**36.00**	**8.60**	**2.90**	**6.60**	**8.10**	**5.70**	**6.40**	**9.50**	**9.20**	**3.80**	**23.00**	**30.00**	**14.00**	**28.00**	**6.40**	**5.40**	**18**	**8.6**	**38**	**16**	**4**	**13**	**24**	**9.6**	**4**
Barium	--	--	mg/Kg	**35.00**	**39.00**	**59.00**	**270.00**	**45.00**	**47.00**	**310.00**	**37.00**	**340.00**	**280.00**	**300.00**	**130.00**	**41.00**	**300.00**	**52.00**	**140.00**	**84.00**	**87**	**31**	**50**	**140**	**330**	**180**	**26**	**300**	**90**
Beryllium	--	--	mg/Kg	< 0.49	< 0.46	< 0.47	**1.40**	< 0.48	< 0.49	**0.75**	< 0.44	**1.10**	**0.94**	**1.20**	**0.74**	< 0.47	**0.74**	< 0.45	**0.79**	**0.74**	**0.6**	< 0.48	**0.62**	**0.62**	**0.84**	**1**	**0.57**	**1.2**	**0.65**
Cadmium	--	--	mg/Kg	< 0.61	< 0.57	< 0.58	< 0.64	< 0.6	< 0.61	< 0.58	< 0.55	< 0.63	< 0.57	< 0.62	< 0.55	< 0.58	< 0.62	< 0.56	< 0.61	< 0.62	< 0.60	< 0.60	< 0.58	< 0.62	< 0.57	< 0.65	< 0.53	**1.2**	< 0.56
Calcium metal	--	--	mg/Kg	**1700.00**	**49000.00**	**3700.00**	**1700.00**	**5600.00**	**4200.00**	**4700.00**	**45000.00**	**11000.00**	**6600.00**	**1900.00**	**10000.00**	**220.00**	**11000.00**	**85000.00**	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	--	mg/Kg	**38.00**	**150.00**	**11.00**	**24.00**	**31.00**	**37.00**	**25.00**	**23.00**	**24.00**	**23.00**	**24.00**	**89.00**	**130.00**	**38.00**	**74.00**	**27.00**	**36.00**	**34**	**24**	**140**	**50**	**21**	**18**	**71**	**100**	**15**
Cobalt	--	--	mg/Kg	**2.90**	**1.50**	**8.80**	**12.00**	**3.20**	**4.50**	**9.90**	**2.60**	**14.00**	**13.00**	**14.00**	**5.70**	< 1.2	**11.00**	**1.90**	**12.00**	**6.30**	--	--	--	--	--	--	--	--	--
Copper	--	--	mg/Kg	**13.00**	**29.00**	**8.30**	**24.00**	**14.00**	**15.00**	**20.00**	**11.00**	**33.00**	**32.00**	**12.00**	**29.00**	**38.00**	**36.00**	**21.00**	**17.00**	**22.00**	**18**	**12**	**39**	**36**	**28**	**260**	**42**	**36**	**22**
Cyanide	--	--	mg/Kg	< 1.2	< 1.1	< 1.2	< 1.3	< 1.2	< 1.2	< 1.3	< 1.2	< 1.3	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.1	--	--	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	**7.7**	< 1.2	< 1.3	< 1.2
Iron	--	--	mg/Kg	**38000.00**	**19000.00**	**10000.00**	**21000.00**	**33000.00**	**46000.00**	**27000.00**	**29000.00**	**26000.00**	**27000.00**	**20000.00**	**25000.00**	**24000.00**	**21000.00**	**17000.00**	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	mg/Kg	**12.00**	**26.00**	**22.00**	**60.00**	**17.00**	**14.00**	**82.00**	**12.00**	**120.00**	**290.00**	**14.00**	**32.00**	**16.00**	**200.00**	**23.00**	**36.00**	**17.00**	--	**31**	**19**	**28**	**99**	**60**	**15**	**150**	**38**
Magnesium	--	--	mg/Kg	**640.00**	**2100.00**	**470.00**	**2800.00**	**640.00**	**650.00**	**1000.00**	**950.00**	**1300.00**	**1300.00**	**1200.00**	**900.00**	**330.00**	**1800.00**	**4300.00**	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	mg/Kg	**99.00**	**63.00**	**620.00**	**1200.00**	**120.00**	**150.00**	**1300.00**	**92.00**	**1500.00**	**600.00**	**1900.00**	**540.00**	**11.00**	**850.00**	**95.00**	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	mg/Kg	**0.05**	**0.02**	**0.04**	**0.64**	**0.08**	**0.07**	**0.56**	**0.08**	**1.80**	**0.44**	**0.06**	**0.49**	**0.03**	**1.30**	**0.04**	**0.13**	**0.06**	**0.1**	**0.54**	**0.11**	**2.1**	**0.2**	**0.53**	< 0.020	**0.94**	**0.098**
Nickel	--	--	mg/Kg	**8.20**	**7.70**	**7.10**	**16.00**	**7.00**	**8.70**	**9.90**	**6.80**	**15.00**	**15.00**	**11.00**	**7.80**	**4.90**	**13.00**	**10.00**	**13.00**	**14.00**	**14**	**7.5**	**4.9**	**6.9**	**9.5**	**13**	< 4.3	**14**	**9.2**
Potassium	--	--	mg/Kg	**1100.00**	**1300.00**	**370.00**	**2200.00**	**980.00**	**920.00**	**1500.00**	**870.00**	**2200.00**	**1900.00**	**1400.00**	**1500.00**	**1500.00**	**1900.00**	**1400.00**	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	mg/Kg	< 1.2	**8.80**	< 1.2	< 1.3	< 1.2	< 1.2	< 1.2	< 1.1	< 1.3	< 1.1	< 1.2	**7.20**	**18.00**	**2.00**	**8.00**	< 1.2	< 1.2	--	--	--	--	--	--	--	--	--
Silver	--	--	mg/Kg	< 1.2	< 1.1	< 1.2	< 1.3	< 1.2	< 1.2	< 1.2	< 1.1	< 1.3	< 1.1	< 1.2	< 1.1	< 1.2	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.1	< 1.3	< 1.1	< 1.3	< 1.1
Sodium	--	--	mg/Kg	**67.00**	**69.00**	< 58	**82.00**	**71.00**	**68.00**	**68.00**	**81.00**	**150.00**	**96.00**	< 62	**58.00**	< 58	**160.00**	**110.00**	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	mg/Kg	< 1.2	< 1.1	< 1.2	< 1.3	< 1.2	< 1.2	< 1.2	< 1.1	< 1.3	< 1.1	< 1.2	< 1.1	< 1.2	< 1.2	< 1.1	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.1	< 1.3	< 1.1	< 1.3	< 1.1
Vanadium	--	--	mg/Kg	**52.00**	**74.00**	**21.00**	**32.00**	**43.00**	**49.00**	**39.00**	**35.00**	**41.00**	**45.00**	**30.00**	**59.00**	**73.00**	**34.00**	**41.00**	**51.00**	**52.00**	**53**	**35**	**70**	**37**	**25**	**25**	**48**	**34**	**20**
Zinc	--	--	mg/Kg	**37.00**	**43.00**	**49.00**	**81.00**	**54.00**	**45.00**	**78.00**	**41.00**	**130.00**	**100.00**	**54.00**	**90.00**	**15.00**	**130.00**	**56.00**	**68.00**	**75.00**	**69**	**43**	**30**	**110**	**49**	**74**	**15**	**200**	**57**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1] - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
[2] - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
[3] - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	SC-0065 7/9/1999 (3, floor)	SC-0066 7/9/1999 (3, floor)	SC-0067 7/9/1999 (3, floor)	SC-0068 7/13/1999 (3, wall)	SC-0073 7/14/1999 (7.5, wall)	SC-0074 7/14/1999 (7.5, wall)	SC-0075 7/14/1999 (12.5, wall)	SC-0076 7/14/1999 (16, floor)	SC-0077 7/14/1999 (16, floor)	SC-0077A 7/19/1999 (16, floor)	SC-0078 7/14/1999 (16, floor)	SC-0079 7/14/1999 (16, floor)	SC-0079A 7/19/1999 (16, floor)	SC-0080 7/14/1999 (12.5, wall)	SC-0081 7/14/1999 (18, floor)	SC-0082 7/14/1999 (12.5, wall)	SC-0086 7/20/1999 (6, wall)	SC-0087 7/20/1999 (12, floor)	SC-0088 7/20/1999 (12, floor)	SC-0089 7/20/1999 (12, floor)	SC-0090 7/20/1999 (12, floor)	SC-0091 7/20/1999 (6, wall)	SC-0092 7/20/1999 (12, floor)	SC-0093 7/20/1999 (6, wall)	SC-0094 7/16/1999 (12, floor)	SC-0094R 7/20/1999 (12, floor)	SC-0095 7/16/1999 (6, wall)
Volatile Organic Compounds																														
1,1,1-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	57,400	648	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	404,000	3,280	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	0.84	0.02	mg/Kg	< 0.0046	< 0.0059	< 0.0041	< 0.0035	< 0.0035	< 0.0038	< 0.0046	< 0.0042	--	< 0.0052	< 0.0060	--	< 0.0057	< 0.0034	< 0.0058	< 0.0044	< 0.0049	< 0.0053	< 0.0075	**0.011**	< 0.0052	< 0.0053	**0.0081**	< 0.0095	--	< 0.0076	--
Bromodichloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	32.3	0.969	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	45.9	1.52	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	7.4	0.257	mg/Kg	< 0.0046	< 0.0059	< 0.0041	< 0.0035	< 0.0035	< 0.0038	< 0.0046	< 0.0042	--	< 0.0052	< 0.0060	--	< 0.0057	< 0.0034	< 0.0058	< 0.0044	< 0.0049	< 0.0053	< 0.0075	< 0.0056	< 0.0052	< 0.0053	< 0.0068	< 0.0095	--	< 0.0076	--
Methylene Chloride	18.6	0.271	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	3,810	141	mg/Kg	< 0.0046	< 0.0059	< 0.0041	< 0.0035	< 0.0035	< 0.0038	< 0.0046	< 0.0042	--	< 0.0052	< 0.0060	--	< 0.0057	< 0.0034	< 0.0058	< 0.0044	< 0.0049	< 0.0053	< 0.0075	< 0.0056	< 0.0052	< 0.0053	< 0.0068	< 0.0095	--	< 0.0076	--
Tetrachloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	2,030	60.6	mg/Kg	< 0.0046	< 0.0059	< 0.0041	< 0.0035	< 0.0035	< 0.0038	< 0.0046	< 0.0042	--	< 0.0052	< 0.0060	--	< 0.0057	< 0.0034	< 0.0058	< 0.0044	< 0.0049	< 0.0053	< 0.0075	< 0.0056	< 0.0052	< 0.0053	< 0.0068	< 0.0095	--	< 0.0076	--
trans-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	567	20.5	mg/Kg	< 0.0092	< 0.012	< 0.0082	< 0.0069	< 0.0071	< 0.0075	< 0.0092	< 0.0084	--	< 0.010	< 0.012	--	< 0.011	< 0.0068	< 0.012	< 0.0089	< 0.0098	< 0.011	< 0.015	< 0.011	< 0.010	< 0.010	< 0.014	< 0.019	--	< 0.015	--
Semivolatile Organic Compounds																														
1,2,4-Trichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	mg/Kg	< 0.420	< 0.350	< 0.430	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	< 0.400	--	< 0.450	< 0.420	--	< 0.400	< 0.410	< 0.430	< 0.410	< 0.400	< 0.390	< 0.420	< 0.400	< 0.380	< 0.400	< 0.390	< 0.410	--	< 0.420
4-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	mg/Kg	**0.7**	< 0.350	< 0.430	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	< 0.400	--	< 0.450	< 0.420	--	< 0.400	< 0.410	< 0.430	< 0.410	< 0.400	< 0.390	< 0.420	< 0.400	< 0.380	< 0.400	< 0.390	< 0.410	--	< 0.420

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location Sample Date Depth Interval (ft) Units	SC-0065 7/9/1999 (3, floor)	SC-0066 7/9/1999 (3, floor)	SC-0067 7/9/1999 (3, floor)	SC-0068 7/13/1999 (3, wall)	SC-0073 7/14/1999 (7.5, wall)	SC-0074 7/14/1999 (7.5, wall)	SC-0075 7/14/1999 (12.5, wall)	SC-0076 7/14/1999 (16, floor)	SC-0077 7/14/1999 (16, floor)	SC-0077A 7/19/1999 (16, floor)	SC-0078 7/14/1999 (16, floor)	SC-0079 7/14/1999 (16, floor)	SC-0079A 7/19/1999 (16, floor)	SC-0080 7/14/1999 (12.5, wall)	SC-0081 7/14/1999 (18, floor)	SC-0082 7/14/1999 (12.5, wall)	SC-0086 7/20/1999 (6, wall)	SC-0087 7/20/1999 (12, floor)	SC-0088 7/20/1999 (12, floor)	SC-0089 7/20/1999 (12, floor)	SC-0090 7/20/1999 (12, floor)	SC-0091 7/20/1999 (6, wall)	SC-0092 7/20/1999 (12, floor)	SC-0093 7/20/1999 (6, wall)	SC-0094 7/16/1999 (12, floor)	SC-0094R 7/20/1999 (12, floor)	SC-0095 7/16/1999 (6, wall)
Acenaphthylene	--	--	mg/Kg	< 0.420	< 0.350	< 0.430	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	< 0.400	--	**0.51**	< 0.420	--	< 0.400	< 0.410	< 0.430	< 0.410	< 0.400	< 0.390	< 0.420	< 0.400	< 0.380	**0.47**	< 0.390	< 0.410	--	< 0.420
Anthracene	--	--	mg/Kg	**2.3**	**0.43**	< 0.430	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	< 0.400	--	**0.64**	< 0.420	--	< 0.400	**0.99**	< 0.430	< 0.410	< 0.400	< 0.390	**1.2**	< 0.400	< 0.380	**0.84**	< 0.390	< 0.410	--	< 0.420
Benzo(a)anthracene	--	--	mg/Kg	**2.9**	**1.6**	**0.68**	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	**0.72**	--	**6**	**0.99**	--	< 0.400	**2.7**	< 0.430	< 0.410	< 0.400	< 0.390	**3.5**	< 0.400	**0.94**	**6**	< 0.390	< 0.410	--	< 0.420
Benzo(a)pyrene	--	--	mg/Kg	**2.7**	**1.5**	**0.7**	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	**0.73**	--	**5.8**	**0.98**	--	< 0.400	**2.6**	< 0.430	< 0.410	< 0.400	< 0.390	**3.4**	< 0.400	**1.2**	**5.6**	< 0.390	< 0.410	--	< 0.420
Benzo(b)fluoranthene	--	--	mg/Kg	**2.6**	**2.1**	**0.78**	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	**1.2**	--	**6**	**1.1**	--	< 0.400	**2.6**	< 0.430	< 0.410	< 0.400	< 0.390	**2.5**	< 0.400	**0.72**	**5.4**	< 0.390	< 0.410	--	< 0.420
Benzo(g,h,i)perylene	--	--	mg/Kg	**1.7**	**1.1**	**0.46**	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	**0.72**	--	**3.8**	**0.59**	--	< 0.400	**1.4**	< 0.430	< 0.410	< 0.400	< 0.390	**1.8**	< 0.400	**0.82**	**3.2**	< 0.390	< 0.410	--	< 0.420
Benzo(k)fluoranthene	--	--	mg/Kg	**2.3**	**1.2**	**0.54**	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	**1**	--	**6.5**	**0.72**	--	< 0.400	**1.6**	< 0.430	< 0.410	< 0.400	< 0.390	**3.1**	< 0.400	**1.3**	**6**	< 0.390	< 0.410	--	< 0.420
Benzoic Acid	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	mg/Kg	**2.9**	**2.1**	**0.89**	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	**0.79**	--	**6**	**1**	--	< 0.400	**2.6**	< 0.430	**0.42**	< 0.400	< 0.390	**3.4**	< 0.400	**1**	**6.3**	< 0.390	< 0.410	--	< 0.420
Dibenzo(a,h)anthracene	--	--	mg/Kg	**0.92**	**0.53**	< 0.430	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	< 0.400	--	**1.7**	< 0.420	--	< 0.400	**0.66**	< 0.430	< 0.410	< 0.400	< 0.390	**0.62**	< 0.400	< 0.380	**1.8**	< 0.390	< 0.410	--	< 0.420
Dibenzofuran	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	mg/Kg	**7.2**	**4**	**1.6**	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	**1**	--	**7.5**	**1.4**	--	< 0.400	**4.5**	**0.57**	**0.89**	< 0.400	< 0.390	**7**	< 0.43	**1.3**	**7.9**	< 0.390	< 0.410	--	< 0.420
Fluorene	--	--	mg/Kg	**1.1**	< 0.350	< 0.430	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	< 0.44	--	< 0.450	< 0.420	--	< 0.400	**0.44**	< 0.430	< 0.410	< 0.400	< 0.390	**0.5**	< 0.400	< 0.380	< 0.400	< 0.390	< 0.410	--	< 0.420
Hexachloro-1,3-butadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	**2.2**	**1**	**0.54**	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	**0.54**	--	**4.5**	**0.47**	--	< 0.400	**1.2**	< 0.430	< 0.410	< 0.400	< 0.390	**2**	< 0.400	**0.85**	**3.9**	< 0.390	< 0.410	--	< 0.420
m-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	53.9	2.26	mg/Kg	**2.1**	< 0.350	< 0.430	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	< 0.400	--	< 0.450	< 0.420	--	< 0.400	**1.2**	< 0.430	< 0.410	< 0.400	< 0.390	< 0.420	< 0.400	< 0.380	< 0.400	< 0.390	< 0.410	--	< 0.420
Nitrobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	mg/Kg	**6.3**	**2.4**	**0.81**	< 0.380	< 0.400	< 0.380	< 0.390	< 0.400	< 0.400	--	**2**	**0.45**	--	< 0.400	**2.9**	< 0.430	**0.74**	< 0.400	< 0.390	**3.9**	< 0.400	< 0.380	**3**	< 0.390	< 0.410	--	< 0.420
Phenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Compounds																														
Aluminum (fume or dust)	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	--	--	mg/Kg	< 2.6	**4.2**	**3.6**	< 2.1	< 2.2	< 2.4	< 2.4	< 2.5	< 2.7	--	< 2.7	< 2.3	--	< 2.4	< 2.3	< 2.4	< 2.3	< 2.2	< 2.4	< 2.1	< 2.4	< 2.1	< 2.4	< 2.1	< 2.5	--	< 2.3
Arsenic	--	--	mg/Kg	**6.2**	**10**	**13**	**12**	**5.6**	**13**	**17**	**6.7**	**9.4**	--	**33**	**4.3**	--	**8.2**	**7.7**	**16**	**13**	**3.2**	**3.2**	**7.5**	**5.1**	**8.3**	**27**	**7.4**	**17**	--	**6.6**
Barium	--	--	mg/Kg	**120**	**180**	**140**	**39**	**170**	**54**	**190**	**190**	**110**	--	**130**	**130**	--	**76**	**220**	**38**	**62**	**290**	**220**	**200**	**230**	**120**	**360**	**46**	**45**	--	**36**
Beryllium	--	--	mg/Kg	**0.92**	**1**	**0.9**	< 0.43	**0.7**	< 0.47	**0.85**	**0.82**	**0.99**	--	**1.1**	**0.98**	--	< 0.49	**1.2**	**0.77**	**0.74**	**1.5**	**1.6**	**1.5**	**1.5**	**0.94**	**1**	**0.52**	**0.8**	--	< 0.47
Cadmium	--	--	mg/Kg	< 0.64	< 0.56	**0.99**	< 0.53	**0.59**	**0.8**	**0.9**	**1.1**	< 0.68	--	< 0.68	**0.66**	--	< 0.61	**0.71**	**0.85**	< 0.57	< 0.55	< 0.60	< 0.53	< 0.61	< 0.53	< 0.60	< 0.53	**0.84**	--	< 0.58
Calcium metal	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	--	mg/Kg	**21**	**45**	**39**	**12**	**21**	**55**	**46**	**26**	**24**	--	**16**	**22**	--	**51**	**27**	**76**	**45**	**26**	**33**	**26**	**27**	**34**	**23**	**29**	**54**	--	**25**
Cobalt	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	--	mg/Kg	**59**	**260**	**710**	**7.5**	**16**	**4**	**20**	**19**	**27**	--	**37**	**15**	--	**3.1**	**27**	**7.3**	**13**	**14**	**18**	**38**	**21**	**20**	**44**	**5.2**	**8.6**	--	**5.5**
Cyanide	--	--	mg/Kg	< 1.3	< 1.2	< 1.3	< 1.2	< 1.2	< 1.2	< 1.2	**1.7**	**15**	--	**42**	< 1.3	--	< 1.2	**28**	< 1.3	< 1.2	< 1.2	< 1.2	**29**	**10**	< 1.2	**6.3**	< 1.2	< 1.3	--	< 1.3
Iron	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	mg/Kg	**170**	**190**	**230**	**21**	**72**	**33**	**81**	**85**	**53**	--	**110**	**13**	--	**16**	**35**	**15**	**42**	**18**	**15**	**35**	**42**	**40**	**74**	**17**	**17**	--	**12**
Magnesium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	mg/Kg	**0.14**	**0.12**	**0.18**	**0.044**	**0.21**	**0.054**	**0.2**	**0.29**	**0.14**	--	**0.1**	**0.024**	--	**0.029**	**0.059**	**0.079**	**0.099**	**0.036**	**0.029**	**0.14**	**0.084**	**0.13**	**0.1**	**0.041**	**0.087**	--	**0.042**
Nickel	--	--	mg/Kg	**14**	**33**	**24**	**6.2**	**11**	**8.4**	**11**	**13**	**11**	--	**14**	**15**	--	**7.3**	**16**	**12**	**13**	**14**	**21**	**19**	**16**	**16**	**14**	**10**	**21**	--	**12**
Potassium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	mg/Kg	< 1.3	< 1.1	< 1.2	< 1.1	< 1.1	< 1.2	< 1.2	< 1.2	< 1.4	--	< 1.4	< 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	--	< 1.2
Sodium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	mg/Kg	< 1.3	< 1.1	< 1.2	< 1.1	< 1.1	< 1.2	< 1.2	< 1.2	< 1.4	--	< 1.4	< 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	--	< 1.2
Vanadium	--	--	mg/Kg	**29**	**30**	**32**	**25**	**37**	**59**	**54**	**39**	**40**	--	**28**	**39**	--	**39**	**40**	**70**	**56**	**34**	**46**	**41**	**34**	**38**	**44**	**27**	**55**	--	**25**
Zinc	--	--	mg/Kg	**120**	**210**	**570**	**38**	**92**	**68**	**110**	**570**	**82**	--	**78**	**67**	--	**34**	**84**	**110**	**100**	**75**	**90**	**100**	**84**	**100**	**73**	**61**	**110**	--	**57**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1] - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
[2] - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
[3] - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location Sample Date Depth Interval (ft) Units	SC-0095R 7/20/1999 (6, wall)	SC-0096 7/16/1999 (6, wall)	SC-0097 7/16/1999 (7.5, wall)	SC-0098 7/16/1999 (7, wall)	SC-0100 7/19/1999 (24, floor)	SC-0101 7/19/1999 (20, wall)	SC-0102 7/19/1999 (20, wall)	SC-0103 7/19/1999 (20, wall)	SC-0104 7/19/1999 (20, wall)	SC-0106 7/23/1999 (14, floor)	SC-0107 7/23/1999 (14, floor)	SC-0108 7/23/1999 (14, floor)	SC-0109 7/23/1999 (14, floor)	SC-0111 7/23/1999 (14, floor)	SC-0113 7/23/1999 (5, wall)	SC-0117 7/26/1999 (10, wall)	SC-0118 7/27/1999 (14, floor)	SC-0119 7/27/1999 (14, floor)	SC-0120 7/27/1999 (16, floor)	SC-0121 7/28/1999 (24, floor)	SC-0122 7/28/1999 (20, wall)	SC-0123 7/29/1999 (7, floor)	SC-0124 7/29/1999 (14, wall)	SC-0125 7/29/1999 (7, wall)	SC-0126 7/29/1999 (10, floor)	SC-0127 7/29/1999 (15, floor)	SC-0128 7/29/1999 (24, floor)
Volatile Organic Compounds																														
1,1,1-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	57,400	648	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	404,000	3,280	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	0.84	0.02	mg/Kg	< 0.0066	< 0.0036	< 0.0029	< 0.0053	< 0.0045	< 0.0049	< 0.0044	< 0.0053	< 0.0046	< 0.0056	< 0.0044	< 0.0049	< 0.0060	< 0.0047	**7.1** [1,2]	< 0.0043	**0.037** [2]	**0.16** [2]	< 0.0045	< 0.0033	< 3.0	< 0.0042	< 0.0054	**0.012**	**0.013**	**0.022** [2]	**0.007**
Bromodichloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	32.3	0.969	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	45.9	1.52	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	7.4	0.257	mg/Kg	< 0.0066	**0.008**	< 0.0029	< 0.0053	< 0.0045	< 0.0049	< 0.0044	< 0.0053	< 0.0046	< 0.0056	< 0.0044	< 0.0049	< 0.0060	< 0.0047	< 0.0053	< 0.0043	< 0.0049	< 0.0059	< 0.0045	< 0.0033	< 3.0	< 0.0042	< 0.0054	< 0.0052	**0.06**	**0.079**	**0.0048**
Methylene Chloride	18.6	0.271	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	3,810	141	mg/Kg	< 0.0066	< 0.0036	< 0.0029	< 0.0053	< 0.0045	< 0.0049	< 0.0044	< 0.0053	< 0.0046	< 0.0056	< 0.0044	< 0.0049	< 0.0060	< 0.0047	< 0.0053	< 0.0043	< 0.0049	< 0.0059	< 0.0045	< 0.0033	< 3.0	< 0.0042	< 0.0054	< 0.0052	< 0.0051	< 0.0047	< 0.0044
Tetrachloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	2,030	60.6	mg/Kg	< 0.0066	**0.018**	< 0.0029	**0.0096**	< 0.0045	**0.0053**	< 0.0044	< 0.0053	< 0.0046	< 0.0056	< 0.0044	< 0.0049	< 0.0060	< 0.0047	< 0.0053	< 0.0043	**0.0068**	**0.0092**	< 0.0045	< 0.0033	< 3.0	< 0.0042	< 0.0054	< 0.0052	**0.011**	**0.0068**	< 0.0044
trans-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	567	20.5	mg/Kg	< 0.013	**0.039**	< 0.0059	**0.015**	< 0.0089	**0.0056**	< 0.0088	< 0.011	< 0.0093	< 0.011	< 0.0087	< 0.0098	< 0.012	< 0.0094	< 0.010	< 0.0087	< 0.0098	< 0.012	< 0.0090	< 0.0066	< 0.0061	< 0.0083	< 0.011	< 0.010	**0.17**	**0.044**	< 0.0088
Semivolatile Organic Compounds																														
1,2,4-Trichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	mg/Kg	--	< 0.380	< 0.400	< 0.420	< 0.410	< 0.880	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	< 0.420	< 0.440	< 0.440	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
4-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	mg/Kg	--	< 0.380	< 0.400	< 0.420	< 0.410	< 0.880	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	< 0.420	< 0.440	< 0.440	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location Sample Date Depth Interval (ft) Units	SC-0095R 7/20/1999 (6, wall)	SC-0096 7/16/1999 (6, wall)	SC-0097 7/16/1999 (7.5, wall)	SC-0098 7/16/1999 (7, wall)	SC-0100 7/19/1999 (24, floor)	SC-0101 7/19/1999 (20, wall)	SC-0102 7/19/1999 (20, wall)	SC-0103 7/19/1999 (20, wall)	SC-0104 7/19/1999 (20, wall)	SC-0106 7/23/1999 (14, floor)	SC-0107 7/23/1999 (14, floor)	SC-0108 7/23/1999 (14, floor)	SC-0109 7/23/1999 (14, floor)	SC-0111 7/23/1999 (14, floor)	SC-0113 7/23/1999 (5, wall)	SC-0117 7/26/1999 (10, wall)	SC-0118 7/27/1999 (14, floor)	SC-0119 7/27/1999 (14, floor)	SC-0120 7/27/1999 (16, floor)	SC-0121 7/28/1999 (24, floor)	SC-0122 7/28/1999 (20, wall)	SC-0123 7/29/1999 (7, floor)	SC-0124 7/29/1999 (14, wall)	SC-0125 7/29/1999 (7, wall)	SC-0126 7/29/1999 (10, floor)	SC-0127 7/29/1999 (15, floor)	SC-0128 7/29/1999 (24, floor)
Acenaphthylene	--	--	mg/Kg	--	< 0.380	< 0.400	< 0.420	< 0.410	**2.4**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	< 0.420	< 0.440	< 0.440	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Anthracene	--	--	mg/Kg	--	< 0.380	< 0.400	< 0.420	< 0.410	< 0.880	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	< 0.420	< 0.440	< 0.440	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Benzo(a)anthracene	--	--	mg/Kg	--	< 0.380	< 0.400	**2.9**	**0.56**	**14**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	**1.4**	< 0.440	**1.1**	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Benzo(a)pyrene	--	--	mg/Kg	--	< 0.380	< 0.400	**4.1**	**0.52**	**14**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	**1.6**	< 0.440	**1.4**	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Benzo(b)fluoranthene	--	--	mg/Kg	--	< 0.380	< 0.400	**4.5**	**0.51**	**16**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	**1.4**	< 0.440	**1**	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Benzo(g,h,i)perylene	--	--	mg/Kg	--	< 0.380	< 0.400	**3.1**	< 0.410	**12**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	**1.1**	< 0.440	**1**	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Benzo(k)fluoranthene	--	--	mg/Kg	--	< 0.380	< 0.400	**2.8**	**0.57**	**17**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	**2**	< 0.440	**1.3**	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Benzoic Acid	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	mg/Kg	--	< 0.380	< 0.400	**3.7**	**0.64**	**15**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	**1.9**	< 0.440	**1.1**	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Dibenzo(a,h)anthracene	--	--	mg/Kg	--	< 0.380	< 0.400	**1.4**	< 0.410	**5.1**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	< 0.420	< 0.440	< 0.440	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Dibenzofuran	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	mg/Kg	--	< 0.380	< 0.400	**5.9**	**0.79**	**16**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	**2.8**	< 0.440	**1.6**	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Fluorene	--	--	mg/Kg	--	< 0.380	< 0.400	< 0.420	< 0.410	< 0.880	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	< 0.420	< 0.440	< 0.440	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Hexachloro-1,3-butadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	--	< 0.380	< 0.400	**3.4**	**0.41**	**15**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	**1.3**	< 0.440	**1.3**	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
m-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	53.9	2.26	mg/Kg	--	< 0.380	< 0.400	< 0.420	< 0.410	< 0.880	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	< 0.420	< 0.440	< 0.440	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	< 0.440
Nitrobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	mg/Kg	--	< 0.380	< 0.400	**3.4**	< 0.410	**1.6**	< 0.400	< 0.400	< 0.410	< 0.410	< 0.400	< 0.410	**1.9**	< 0.440	**0.55**	< 0.410	< 0.400	< 0.410	< 0.430	< 0.390	< 0.400	< 0.410	< 0.440	< 0.420	< 0.460	< 0.450	**0.91**
Phenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Compounds																														
Aluminum (fume or dust)	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	--	--	mg/Kg	--	< 2.1	< 2.4	< 2.6	< 2.1	< 4.8	< 2.2	< 2.2	< 2.5	< 4.9	< 2.4	< 2.5	**2.9**	< 2.4	< 2.7	< 2.3	< 2.5	< 2.5	< 2.6	< 2.4	< 2.4	< 2.5	< 2.5	< 2.6	< 2.8	< 2.7	< 2.7
Arsenic	--	--	mg/Kg	--	**28**	**25**	**29**	**3.4**	**27**	**4.5**	**8.7**	**14**	**2.9**	**3.4**	**3.9**	**31**	**4.1**	**4**	**5.4**	**6.7**	**5**	**3.7**	**2.2**	**3.4**	**4.7**	**5.3**	**4.6**	**2.5**	**3.7**	**4.9**
Barium	--	--	mg/Kg	--	**29**	**35**	**140**	**76**	**100**	**140**	**110**	**59**	**290**	**210**	**150**	**960**	**240**	**65**	**150**	**140**	**100**	**200**	**81**	**52**	**180**	**110**	**110**	**82**	**100**	**81**
Beryllium	--	--	mg/Kg	--	**0.67**	**0.57**	**0.95**	**0.79**	**0.57**	**1**	**0.99**	**0.85**	**1.9**	**1.8**	**1.3**	**1.3**	**0.92**	**0.75**	**1**	**1.2**	**1.1**	**1.7**	**1.4**	**0.57**	**1.4**	**0.95**	**1**	**0.99**	**1.1**	**0.77**
Cadmium	--	--	mg/Kg	--	**0.63**	< 0.61	**1.3**	< 0.52	< 1.2	< 0.55	< 0.55	< 0.63	< 1.2	**0.81**	**0.8**	**1.4**	< 0.61	**1.4**	< 0.57	**1.1**	**1**	**0.98**	< 0.60	< 0.60	< 0.62	**0.63**	< 0.64	< 0.69	< 0.68	**0.71**
Calcium metal	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	--	mg/Kg	--	**34**	**24**	**32**	**18**	**23**	**23**	**35**	**59**	**31**	**33**	**31**	**26**	**21**	**43**	**26**	**34**	**31**	**40**	**37**	**26**	**24**	**78**	**26**	**25**	**28**	**28**
Cobalt	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	--	mg/Kg	--	**11**	**11**	**43**	**12**	**86**	**17**	**18**	**4.5**	**18**	**19**	**17**	**52**	**27**	**29**	**19**	**20**	**19**	**23**	**29**	**9.5**	**16**	**17**	**18**	**11**	**15**	**16**
Cyanide	--	--	mg/Kg	--	< 1.1	< 1.2	**2.2**	**2.2**	**72**	< 1.2	**15**	< 1.3	< 1.2	**1.7**	**9.1**	**44**	< 1.3	**4.1**	**12**	< 1.2	< 1.3	< 1.3	< 1.2	< 1.2	< 1.2	**2.8**	**6.1**	**1.9**	**4.7**	**4.6**
Iron	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	mg/Kg	--	**32**	**27**	**180**	**9.1**	**48**	**12**	**24**	**35**	**19**	**16**	**16**	**84**	**67**	**22**	**15**	**18**	**13**	**19**	**18**	**6.7**	**15**	**14**	**14**	**8.6**	**12**	**13**
Magnesium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	mg/Kg	--	**0.037**	**0.055**	**0.57**	< 0.025	**0.056**	**0.033**	**0.068**	**0.073**	**0.068**	**0.024**	**0.026**	**0.057**	**0.43**	**0.055**	**0.039**	**0.045**	**0.035**	**0.034**	< 0.024	**0.025**	**0.032**	**0.035**	**0.036**	< 0.028	**0.041**	**0.05**
Nickel	--	--	mg/Kg	--	**8.5**	**9.5**	**13**	**11**	**28**	**14**	**13**	**9.5**	**19**	**20**	**17**	**42**	**12**	**23**	**17**	**21**	**18**	**24**	**41**	**8.1**	**19**	**12**	**16**	**12**	**13**	**10**
Potassium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	mg/Kg	--	< 1.0	< 1.2	< 1.3	< 1.0	< 1.2	< 1.1	< 1.1	< 1.3	< 2.5	< 1.2	< 1.2	< 1.3	< 1.2	< 1.4	< 1.1	< 1.2	< 1.2	< 1.3	< 1.2	< 1.2	< 1.2	< 1.2	< 1.3	< 1.4	< 1.4	< 1.3
Sodium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	mg/Kg	--	< 1.0	< 1.2	< 1.3	< 1.0	< 2.4	< 1.1	< 1.1	< 1.3	< 2.5	< 1.2	< 1.2	< 1.3	< 1.2	< 1.4	< 1.1	< 1.2	< 1.2	< 1.3	< 1.2	< 1.2	< 1.2	< 1.2	< 1.3	< 1.4	< 1.4	< 1.3
Vanadium	--	--	mg/Kg	--	**46**	**41**	**33**	**35**	**39**	**41**	**47**	**61**	**37**	**44**	**43**	**47**	**32**	**41**	**51**	**50**	**46**	**56**	**25**	**37**	**42**	**49**	**48**	**44**	**56**	**53**
Zinc	--	--	mg/Kg	--	**68**	**68**	**160**	**45**	**44**	**62**	**73**	**79**	**100**	**96**	**82**	**180**	**69**	**63**	**82**	**92**	**81**	**110**	**93**	**28**	**79**	**56**	**68**	**54**	**62**	**48**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1] - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
[2] - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
[3] - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location / Sample Date / Depth Interval (ft) / Units	SC-0129 8/2/1999 (16, floor)	SC-0130 8/2/1999 (4.5, floor)	SC-0132 8/2/1999 (14, floor)	SC-0133 8/3/1999 (4.5, floor)	SC-0137 8/4/1999 (10, wall)	SC-0138 8/4/1999 (10, wall)	SC-0140 8/9/1999 (20, wall)	SC-0141 8/9/1999 (20, wall)	SC-0142 8/9/1999 (16, floor)	SC-0143 8/9/1999 (7, floor)	SC-0144 8/9/1999 (7, floor)	SC-0145 8/12/1999 (7, floor)	SC-0146 8/12/1999 (11, floor)	SC-0147 8/12/1999 (20, wall)	SC-0148 8/12/1999 (10, wall)	SC-0151 8/12/1999 (10, wall)	SC-0152 8/12/1999 (11, floor)	SC-0153 8/12/1999 (8, wall)
Volatile Organic Compounds																					
1,1,1-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene, total	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	57,400	648	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	404,000	3,280	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	0.84	0.02	mg/Kg	< 0.0048	< 0.0055	< 0.0046	< 0.0050	< 0.0041	**0.014**	< 0.0057	< 0.0052	< 0.0061	**0.0093**	< 0.0044	< 0.0044	< 0.0041	< 0.0053	< 0.0042	< 0.0048	< 0.0050	< 0.0041
Bromodichloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	32.3	0.969	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	45.9	1.52	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloromethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	7.4	0.257	mg/Kg	< 0.0048	< 0.0055	< 0.0046	< 0.0050	< 0.0041	**0.0051**	< 0.0057	< 0.0052	< 0.0061	< 0.0064	< 0.0044	< 0.0044	< 0.0041	< 0.0053	< 0.0042	< 0.0048	**0.017**	< 0.0041
Methylene Chloride	18.6	0.271	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	3,810	141	mg/Kg	< 0.0048	< 0.0055	< 0.0046	< 0.0050	< 0.0041	< 0.0046	< 0.0057	< 0.0052	< 0.0061	< 0.0064	< 0.0044	< 0.0044	< 0.0041	< 0.0053	< 0.0042	< 0.0048	< 0.0050	< 0.0041
Tetrachloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	2,030	60.6	mg/Kg	< 0.0048	< 0.0055	< 0.0046	< 0.0050	< 0.0041	**0.01**	< 0.0057	< 0.0052	< 0.0061	< 0.0064	< 0.0044	**0.008**	< 0.0041	< 0.0053	< 0.0042	< 0.0048	< 0.0050	< 0.0041
trans-1,3-Dichloropropene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tribromomethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl chloride	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes, total	567	20.5	mg/Kg	< 0.0097	< 0.011	< 0.0092	< 0.010	< 0.0082	**0.02**	< 0.011	< 0.010	< 0.012	< 0.0064	< 0.0088	< 0.0088	< 0.0081	< 0.011	< 0.0083	< 0.0096	**0.076**	< 0.0082
Semivolatile Organic Compounds																					
1,2,4-Trichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol (M&P-Creso	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3`-Dichlorobenzidine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,5,5-trimethyl-2-cyclohexene-1	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	--	--	mg/Kg	< 0.420	< 0.430	< 0.450	< 0.400	< 0.400	< 0.410	< 0.390	< 0.340	< 0.390	< 0.440	< 0.400	< 0.390	< 0.390	< 0.460	< 0.440	< 0.410	< 0.880	< 0.410
4-Nitrophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	mg/Kg	< 0.420	< 0.430	< 0.450	**0.46**	< 0.400	< 0.410	< 0.390	< 0.340	**0.55**	**0.57**	< 0.400	< 0.390	< 0.390	< 0.460	< 0.440	< 0.410	**1.8**	< 0.410

Table 2-4
Existing Soil Conditions
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Parameter	Type 4 Subsurface Soil RRS Protective of the Broad Street Retail Worker	Type 4 Subsurface Soil RRS Protective of the Hotel Worker	Location Sample Date Depth Interval (ft) Units	SC-0129 8/2/1999 (16, floor)	SC-0130 8/2/1999 (4.5, floor)	SC-0132 8/2/1999 (14, floor)	SC-0133 8/3/1999 (4.5, floor)	SC-0137 8/4/1999 (10, wall)	SC-0138 8/4/1999 (10, wall)	SC-0140 8/9/1999 (20, wall)	SC-0141 8/9/1999 (20, wall)	SC-0142 8/9/1999 (16, floor)	SC-0143 8/9/1999 (7, floor)	SC-0144 8/9/1999 (7, floor)	SC-0145 8/12/1999 (7, floor)	SC-0146 8/12/1999 (11, floor)	SC-0147 8/12/1999 (20, wall)	SC-0148 8/12/1999 (10, wall)	SC-0151 8/12/1999 (10, wall)	SC-0152 8/12/1999 (11, floor)	SC-0153 8/12/1999 (8, wall)
Acenaphthylene	--	--	mg/Kg	< 0.420	< 0.430	< 0.450	< 0.400	< 0.400	< 0.410	< 0.390	< 0.340	**1.3**	< 0.440	< 0.400	< 0.390	**0.6**	< 0.460	**1.8**	< 0.410	**5.4**	< 0.410
Anthracene	--	--	mg/Kg	< 0.420	< 0.430	< 0.450	**1**	< 0.400	< 0.410	< 0.390	< 0.340	**3.3**	**1.4**	< 0.400	< 0.390	**0.89**	< 0.460	**1.4**	< 0.410	**8.2**	< 0.410
Benzo(a)anthracene	--	--	mg/Kg	< 0.420	**1.1**	< 0.450	**2.7**	< 0.400	< 0.410	< 0.390	< 0.340	**5.1**	**6.8**	< 0.400	**1.2**	**2**	< 0.460	**3.3**	< 0.410	**4.9**	< 0.410
Benzo(a)pyrene	--	--	mg/Kg	< 0.420	**1.1**	< 0.450	**2.7**	< 0.400	< 0.410	< 0.390	< 0.340	**2.7**	**6**	< 0.400	**1.1**	**1.4**	< 0.460	**2.8**	< 0.410	**3.7**	< 0.410
Benzo(b)fluoranthene	--	--	mg/Kg	< 0.420	**0.91**	< 0.450	**2.5**	< 0.400	< 0.410	< 0.390	< 0.340	**3.4**	**7.8**	< 0.400	**0.98**	**1.1**	< 0.460	**1.9**	< 0.410	**2.2**	< 0.410
Benzo(g,h,i)perylene	--	--	mg/Kg	< 0.420	**0.56**	< 0.450	**1.7**	**0.45**	< 0.410	< 0.390	< 0.340	**2.3**	**5.7**	< 0.400	**0.53**	**0.64**	< 0.460	**1.2**	< 0.410	**1.2**	< 0.410
Benzo(k)fluoranthene	--	--	mg/Kg	< 0.420	**1.3**	< 0.450	**2.2**	< 0.400	< 0.410	< 0.390	< 0.340	**2.8**	**6.1**	< 0.400	**0.5**	**0.84**	< 0.460	**1.7**	< 0.410	**2.9**	< 0.410
Benzoic Acid	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl Alcohol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethoxy)methane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	mg/Kg	< 0.420	**1.2**	< 0.450	**2.8**	< 0.400	< 0.410	< 0.390	< 0.340	**4.7**	**6.6**	< 0.400	**1.1**	**1.8**	< 0.460	**3**	< 0.410	**4.4**	< 0.410
Dibenzo(a,h)anthracene	--	--	mg/Kg	< 0.420	< 0.430	< 0.450	< 0.400	< 0.400	< 0.410	< 0.390	< 0.340	**0.92**	**2.2**	< 0.400	< 0.390	< 0.390	< 0.460	< 0.440	< 0.410	< 0.880	< 0.410
Dibenzofuran	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	mg/Kg	< 0.420	**2.5**	< 0.450	**5.9**	< 0.400	< 0.410	< 0.390	< 0.340	**8.2**	**7.5**	< 0.400	**2.3**	**3.7**	< 0.460	**6.6**	**0.44**	**11**	< 0.410
Fluorene	--	--	mg/Kg	< 0.420	< 0.430	< 0.450	**0.51**	< 0.400	< 0.410	< 0.390	< 0.340	**2.4**	**0.76**	< 0.400	< 0.390	**0.53**	< 0.460	**0.54**	< 0.410	**9.4**	< 0.410
Hexachloro-1,3-butadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	--	--	mg/Kg	< 0.420	**0.59**	< 0.450	**1.6**	< 0.400	< 0.410	< 0.390	< 0.340	**2.5**	**5.9**	< 0.400	**0.59**	**0.79**	< 0.460	**1.4**	< 0.410	**1.1**	< 0.410
m-Dichlorobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	53.9	2.26	mg/Kg	< 0.420	< 0.430	< 0.450	< 0.400	< 0.400	< 0.410	< 0.390	< 0.340	**0.41**	**0.56**	< 0.400	< 0.390	< 0.390	< 0.460	< 0.440	< 0.410	**3.2** [2]	< 0.410
Nitrobenzene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodi-n-propylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Nitrosodiphenylamine	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Chloroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	mg/Kg	< 0.420	**1.4**	< 0.450	**4.3**	< 0.400	< 0.410	< 0.390	< 0.340	**8**	**5.2**	< 0.400	**0.51**	**2.3**	< 0.460	**4.1**	< 0.410	**20**	< 0.410
Phenol	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
P-Nitroaniline	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Inorganic Compounds																					
Aluminum (fume or dust)	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	--	--	mg/Kg	< 2.3	< 2.4	< 2.5	**4.8**	< 2.4	< 2.5	< 2.4	< 2.1	< 2.4	< 2.4	< 2.4	< 2.4	< 2.4	< 2.8	< 2.5	< 2.3	< 2.4	< 2.5
Arsenic	--	--	mg/Kg	**4.3**	**19**	**3.7**	**21**	**4.4**	**3.4**	**4.4**	< 1.0	**9.9**	**16**	**4.5**	**5.4**	**5.1**	< 1.4	**4.2**	< 1.1	**6.7**	**8.7**
Barium	--	--	mg/Kg	**110**	**490**	**160**	**64**	**110**	**79**	**67**	**26**	**110**	**340**	**170**	**150**	**68**	**30**	**230**	**18**	**230**	**94**
Beryllium	--	--	mg/Kg	**0.9**	**0.79**	**1.4**	**0.73**	**0.97**	**0.77**	**0.76**	< 0.42	**0.8**	**1.1**	**1.1**	**0.9**	**0.78**	**0.58**	**1.1**	< 0.45	**0.76**	< 0.50
Cadmium	--	--	mg/Kg	< 0.58	**0.64**	< 0.62	< 0.62	< 0.61	< 0.62	< 0.60	< 0.52	< 0.60	< 0.61	< 0.60	< 0.59	< 0.60	< 0.69	< 0.61	< 0.57	< 0.61	< 0.62
Calcium metal	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	--	--	mg/Kg	**27**	**31**	**30**	**34**	**28**	**25**	**29**	**8.8**	**26**	**17**	**25**	**23**	**27**	**9**	**20**	**7**	**27**	**33**
Cobalt	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	--	mg/Kg	**16**	**25**	**19**	**42**	**18**	**15**	**15**	**3.4**	**18**	**29**	**16**	**16**	**15**	**3.8**	**16**	**3.8**	**19**	**24**
Cyanide	--	--	mg/Kg	< 1.3	< 1.3	< 1.4	**3.3**	**5.2**	< 1.2	**1.2**	< 1.0	**1.6**	**6.5**	< 1.2	< 1.2	< 1.2	**1.4**	**2.3**	**4.9**	**8**	**1.9**
Iron	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	mg/Kg	**14**	**73**	**15**	**180**	**14**	**8.7**	**11**	**3.7**	**24**	**64**	**16**	**16**	**19**	**3.1**	**15**	**2.6**	**20**	**72**
Magnesium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	--	mg/Kg	**0.037**	**0.11**	**0.032**	**0.21**	**0.045**	**0.029**	**0.034**	< 0.021	**0.12**	**0.57**	**0.035**	**0.056**	**0.056**	< 0.025	**0.05**	**0.22**	**0.053**	**0.44**
Nickel	--	--	mg/Kg	**16**	**21**	**19**	**17**	**16**	**13**	**11**	**5.3**	**13**	**15**	**12**	**12**	**10**	< 5.6	**12**	< 4.5	**14**	**7.6**
Potassium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	--	mg/Kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.0	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.4	< 1.2	< 1.1	< 1.2	< 1.2
Sodium	--	--	mg/Kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	mg/Kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.0	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2	< 1.4	< 1.2	< 1.1	< 1.2	< 1.2
Vanadium	--	--	mg/Kg	**39**	**45**	**46**	**41**	**55**	**54**	**57**	**19**	**43**	**31**	**45**	**45**	**40**	**22**	**39**	**15**	**53**	**52**
Zinc	--	--	mg/Kg	**74**	**160**	**89**	**190**	**77**	**53**	**47**	**12**	**70**	**130**	**53**	**52**	**50**	**17**	**45**	**12**	**62**	**64**

Notes:
mg/Kg - milligrams per kilogram
ft - feet
bold - analyte detected
bold and shaded - analyte concentration exceeds the referenced RRS
[1] - analyte concentration exceeds the Tier 4 RRS - Broad Street Retail Worker
[2] - analyte concentration exceeds the Tier 4 RRS - Hotel Worker
[3] - analyte concentratoin exceeds the Tier 4 RRS - Construction Worker

Table 2-5
Delineation Concentrations
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Site Constituents[1]	12-8-108(B) Notification Concentration Soil[2] mg/kg	12-8-108(C) 2 x LDL GW[3] ug/L	12-8-108(C) 2 x LDL Soil[3] mg/kg	12-8-108(D) Reported Background Soil[4] mg/kg	12-8-108(E) Type 1 RRS[5] GW ug/L	12-8-108(E) Type 1 RRS[5] Soil[6] mg/kg	Delineation Concentrations for Site COI: Groundwater, ug/L Standard	Groundwater, ug/L Reference	Soil, mg/kg Standard	Soil, mg/kg Reference
Volatile Organic Compounds										
2-Butanone (MEK)	0.79	NC	NC	not listed	2000	0.79	NC		NC	
Acetone	2.74	NC	NC	not listed	4000	400	NC		NC	
Benzene*	0.02	0.5	0.005	not listed	5	0.5	5	Type 1 RRS	0.5	Type 1 RRS
Carbon Disulfide	DL[7]	NC	NC	not listed	4000	400	NC		NC	
Chlorobenzene	4.18	NC	NC	not listed	100	10	NC		NC	
Chloroform	0.68	NC	NC	not listed	80	8	NC		NC	
Ethylbenzene	20	0.22	0.005	not listed	700	70	700	Type 1 RRS	70	Type 1 RRS
Isopropylbenzene	21.88	NA	NC	not listed	5(a)	21.88	5	Type 1 RRS	NC	
Methylene Chloride	0.08	NC	NC	not listed	5	0.5	NC		NC	
Styrene	14	NA	0.005	not listed	100	14	100	Type 1 RRS	14	Type 1 RRS
Toluene*	14.40	0.66	0.005	not listed	1000	100	1000	Type 1 RRS	100	Type 1 RRS
Xylenes, total*	20	0.4	0.0076	not listed	10000	1000	10000	Type 1 RRS	1000	Type 1 RRS
Semivolatile Organic Compounds										
2,4-Dimethylphenol	1.51	7.6	NC	not listed	700	70	700	Type 1 RRS	NC	
2-Methylnaphthalene	--	NC	NC	not listed	10(a)	1	NC		NC	
2-Methylphenol	3.8	1.68	NC	not listed	10(a)	3.8	10	Type 1 RRS	NC	
3&4-Methylphenol (M&P-Cresol)	3.8	NC	NC	not listed	10(a)	3.8	NC		NC	
4-Methylphenol*	3.80	2.4	0.68	not listed	10(a)	3.8	10	Type 1 RRS	3.8	Type 1 RRS
Acenaphthene	300	NA	0.68	not listed	2000	300	2000	Type 1 RRS	300	Type 1 RRS
Acenaphthylene	130	1.6	0.68	not listed	10(a)	130	10	Type 1 RRS	130	Type 1 RRS
Anthracene	500	NC	0.68	not listed	10(a)	500	NC		500	Type 1 RRS
Benzo(a)anthracene*	5	NC	0.68	not listed	0.1	5	NC		5	Type 1 RRS
Benzo(b)fluoranthene*	5	NC	0.68	not listed	0.2	5	NC		5	Type 1 RRS
Benzo(k)fluoranthene*	5	NC	0.68	not listed	10(a)	5	NC		5	Type 1 RRS
Benzo(g,h,i)perylene	500	NC	0.68	not listed	10(a)	500	NC		500	Type 1 RRS
Benzo(a)pyrene*	1.64	NC	0.68	not listed	0.2	1.64	NC		1.64	Type 1 RRS
Benzoic acid	1000	NC	NC	not listed	10(a)	1000	NC		NC	
Bis(2-ethylhexyl)phthalate	50	NC	NC	not listed	10(a)	50	NC		NC	
Chrysene*	5	NC	0.68	not listed	0.2(b)	5	NC		5	Type 1 RRS
Carbazole	--	NA	NC	not listed	10(a)	1	10	Type 1 RRS	NC	
Dibenzo(a,h)anthracene*	5	NC	0.68	not listed	0.3	2	NC		5	Notification Conc
Dibenzofuran	--	NA	NC	not listed	10(a)	0.1	10	Type 1 RRS	NC	
Diethyl phthalate	0.74	NA	NC	not listed	5000	500	5000	Type 1 RRS	NC	
Di-n-octyl phthalate	50	NC	NC	not listed	700	70	NC		NC	
Fluoranthene	500	NC	0.68	not listed	1000	500	NC		500	Type 1 RRS
Fluorene	360	NA	0.68	not listed	1000	360	1000	Type 1 RRS	360	Type 1 RRS
Indeno(1,2,3-cd)pyrene*	5	NC	0.68	not listed	0.4	5	NC		5	Type 1 RRS
Naphthalene*	100	1.32	0.68	not listed	20	100	20	Type 1 RRS	100	Type 1 RRS
Phenanthrene*	110	1.46	0.68	not listed	10(a)	110	10	Type 1 RRS	110	Type 1 RRS
Phenol	50	NA	NC	not listed	4000	400	4000	Type 1 RRS	NC	
Pyrene	500	NC	NC	not listed	1000	500	NC		NC	
Metals										
Antimony*	10	NC	0.0042	7.8	6(b)	4	NC		10	Notification Conc
Arsenic*	41	NA	1.44	15	10	20	10	Type 1 RRS	41	Notification Conc
Barium*	500	NC	NA	234	2000	1000	NC		1000	Type 1 RRS
Beryllium	3	NA	0.3	1.5	4	2	4	Type 1 RRS	3	Notification Conc
Cadmium	39	NC	0.0011	1.6	5	2	NC		39	Notification Conc
Chromium	1200	NA	NA	47	100	100	100	Type 1 RRS	1200	Notification Conc
Cobalt*	25NR	NC		not listed	NR	20	NC		25	Notification Conc
Copper*	1500	NC	NA	24	1300	100	NC		1500	Notification Conc
Cyanide*	10	10	0.0024	<0.67	200	20	200	Type 1 RRS	20	Type 1 RRS
Lead*	400	NA	NA	70	15	75	15	Type 1 RRS	400	Notification Conc
Mercury	17	NC	0.024	0.46	2	0.5	NC		17	Notification Conc
Nickel	420	NA	20.6	18	100	50	100	Type 1 RRS	420	Notification Conc
Selenium*	36	NC	NC	2.3	50	2	NC		36	Notification Conc
Silver	10	NC	0.0022	0.59	100	2	NC		10	Notification Conc
Thallium	10	NC	0.0022	0.80	2(b)	2	NC		10	Notification Conc
Vanadium*	100NR	NC	NA	52	200	100	NC		100	Type 1 RRS
Zinc	2800	NC	NA	169	2000	100	NC		2800	Notification Conc

Notes:

12-8-108 is the rule from Part 3 of the Voluntary Remediation Program Act and describes the following standards and policies may be considered and used in connection with the investigation and remediation of a voluntary remediation property.

[1] Site Constituents listed include all constituents detected in existing soil at the site (post-remediation). Constituent concentrations may or may not exceed Notification Conce

[2] Values obtained from table of Regulated Substances and Soil Concentrations that trigger Notification, Rule 391-3-19-APPENDIX I.

[3] Value is equal to twice the LDL, where the LDL is equal to the PQL for methods SW8260B & SW6010B.

[4] Background concentrations obtained from the 2004 Compliance Status Report, Table 4-1.

[5] Values are equal to the Residential Cleanup Standards (Type 1 RRS) - Rule 391-3-19, Appendix III - Media Target Concentrations and Standard Exposure Assumptions.

[6] If no Type 1 RRS exists for soil, the higher value of (1) the Notification Concentration or (2) the groundwater Type 1 RRS (mg/L) x 100 will be used.

*Existing constituent concentrations in soil exceed the Notification Concentration based on maximum concentration detected in soil.

Bold chemicals are considered current groundwater constituents of interest (COI) under the October 2010 HSRA groundwater monitoring report.

-- No Notification Concentration listed in Rule 391-3-19, Appendix I - Regulated Substances and Soil Concentrations that Trigger Notification.

"NA" is not analyzed.

"NC" not considered a COI for this medium based on the original GW COI list from the 2004 Compliance Status Report or the Soil COI list from the 1999 Soil Removal Completion Report - OU1.

"Not listed" indicates a background value is not listed for the constituent in the given source.

"NR" value is for reference only; not a regulated substance.

"LDL" is the lower detection limit.

(a) No Type 1 RRS is listed; therefore, the Type 1 RRS equals the Detection Limit (DL).

(b) Health-based drinking criterion for this substance/analyte is lower than the currently achievable DL. The DL or background will be the Type 1 RRS.

Table 2-6
Human Health Exposure Pathway Analysis
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Receptor	Location	Exposure Medium	Exposure Pathway	Include or Exclude in the Risk Assessment	Rationale for Inclusion or Exclusion in Risk Assessment
Current/ Future Broad Street Retail Building Worker					
Retail Worker	Off-Site	Surface Soil (0-2 ft)	Ingestion	Exclude	Surface soil is not impacted with former MGP contaminants. Extensive soil remediation/excavation conducted in 1999 and 2000 successfully removed MGP-related source material from the surface. The Site is underlain by 20-25 feet of clean fill material. Therefore, the pathway is incomplete for all receptors potentially exposed to surface soils.
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		
		Unsaturated Subsurface Soil (2-20 ft)	Ingestion	Exclude	Extensive soil remediation/excavation activities conducted at the Site have resulted in the removal of the majority of MGP-related source material from the subsurface (at depths potentially contacted by various receptors) and the replacement of 20-25 ft of clean fill material. Therefore, this pathway is incomplete.
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		This pathway is considered potentially complete but insignificant. Residual volatile constituents in deep unexcavated soil (> 20-25 ft bgs) may migrate upward through the soil column. However, the inhalation of volatiles in ambient air is considered insignificant due to attenuation through the vadose zone, the rapid air exchange and large mixing zone, which significantly dilutes concentrations found in ambient air.
			Inhalation of Volatiles in Indoor Air	**Include**	**Retail workers may be exposed to subsurface soil volatiles that have migrated into indoor air during their workday.**
		Groundwater	Ingestion	Exclude	Retail workers do not contact groundwater during their activities. Groundwater at the Site is neither used as a drinking water source nor is it likely to be used as such in the future. AGLC has implemented deed restrictions which prohibit groundwater use for drinking water or any use other than for monitoring purposes. In addition, the municipal water is supplied to the area.
			Dermal contact		
			Inhalation of Volatiles in Ambient Air		This pathway is considered potentially complete but insignificant. Inhalation of volatiles in ambient air is considered insignificant due to attenuation through the soil column, the rapid air exchange and large mixing zone, which significantly dilutes concentrations found in ambient air.
			Inhalation of Volatiles in Indoor Air	**Include**	**Retail workers may be exposed to groundwater volatiles that have migrated into indoor air during their workday.**
		Surface Water (Oostanaula River)	Ingestion	Exclude	Retail workers do not contact surface water at the Oostanaula River during their workday.
			Dermal Contact		
		Sediment (Oostanaula River)	Ingestion	Exclude	Retail workers do not contact sediment at the Oostanaula River during their workday.
			Dermal Contact		
Current/Future Hotel Worker					
Hotel Worker	On-Site	Surface Soil (0-2 ft)	Ingestion	Exclude	Surface soil is not impacted with former MGP contaminants. Extensive soil remediation/excavation conducted in 1999 and 2000 successfully removed the majority of MGP-related source material from the subsurface. The Site is underlain by 20-25 feet of clean material. Therefore, the pathway is incomplete for all receptors potentially exposed to surface soils.
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		
		Unsaturated Subsurface Soil (2-20 ft)	Ingestion	Exclude	Extensive soil remediation/excavation activities conducted at the Site have resulted in the removal of the majority of MGP-related source material from the subsurface (at depths potentially contacted by various receptors) and the replacement of 20-25 ft of clean fill material. Therefore, this pathway is incomplete.
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		This pathway is considered potentially complete but insignificant. Residual volatile constituents in deep unexcavated soil (> 20-25 ft bgs) may migrate upward through the soil column. However, the inhalation of volatiles in ambient air is considered insignificant due to attenuation through the vadose zone, the rapid air exchange and large mixing zone, which significantly dilutes concentrations found in ambient air.
			Inhalation of Volatiles in Indoor Air	**Include**	**Hotel workers may be exposed to subsurface soil volatiles that have migrated into indoor air of the hotel during their workday.**
		Groundwater	Ingestion	Exclude	Hotel workers do not contact groundwater during their activities. Groundwater at the Site is neither used as a drinking water source nor is it likely to be used as such in the future. AGLC has implemented deed restrictions which prohibit groundwater use for drinking water or any use other than for monitoring purposes. In addition, the municipal water is supplied to the area.
			Dermal contact		
			Inhalation of Volatiles in Ambient Air		This pathway is considered potentially complete but insignificant. Inhalation of volatiles in ambient air is considered insignificant due to attenuation through the soil column, the rapid air exchange and large mixing zone, which significantly dilutes concentrations found in ambient air.
			Inhalation of Volatiles in Indoor Air	**Include**	**Hotel workers may be exposed to groundwater volatiles that have migrated into indoor air of the hotel during their workday.**
		Surface Water (Oostanaula River)	Ingestion	Exclude	Hotel workers can not contact surface water or sediment while on the hotel property.
			Dermal Contact		
		Sediment (Oostanaula River)	Ingestion	Exclude	
			Dermal Contact		

Table 2-6
Human Health Exposure Pathway Analysis
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Receptor	Location	Exposure Medium	Exposure Pathway	Include or Exclude in the Risk Assessment	Rationale for Inclusion or Exclusion in Risk Assessment
Current/ Future Construction/ Excavation Worker					
Construction/Excavation Worker	On-Site/ Off-Site	Surface Soil (0-2 ft)	**Ingestion**	**Include**	**Surface soil is not impacted with former MGP contaminants. Extensive soil remediation/excavation conducted in 1999 and 2000 successfully removed MGP-related source material from the surface. The Site is underlain by 20-25 feet of clean fill material. Regardless, ingestion and inhalation of particulates/volatiles will be quantitatively evaluated for construction/excavation worker activities near utility corridors and beneath West 1st Street.**
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		
		Unsaturated Subsurface Soil (2-20 ft)	**Ingestion**	**Include**	**Extensive soil remediation/excavation activities conducted at the Site have resulted in the removal of the majority of MGP-related source material from the subsurface (at depths potentially contacted by various receptors) and the replacement of 20-25 ft of clean fill material. Regardless, ingestion and inhalation of particulates/volatiles will be quantitatively evaluated for construction/excavation worker activities near utility corridors and beneath West 1st Street.**
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		
			Inhalation of Volatiles in Indoor Air	Exclude	Construction activities take place outdoors. Therefore, construction workers are not exposed to indoor air.
		Groundwater	Ingestion	Exclude	Depth to groundwater at the Site is approximately 20-25 ft bgs and greater than the typical depth of excavation (i.e., 15 ft). Therefore, construction/excavation workers do not encounter Site groundwater during excavation activities.
			Dermal contact		
			Inhalation of Volatiles in Ambient Air	Exclude	Although construction/excavation workers may encounter groundwater volatiles while working in a trench, the pathway is considered insignificant due to attenuation through the vadose zone, and the rapid mixing and dispersion in the atmosphere.
			Inhalation of Volatiles in Indoor Air	Exclude	Construction activities take place outdoors. Therefore, construction workers are not exposed to indoor air.
		Surface Water (Oostanaula River)	Ingestion	Exclude	Construction workers do not contact surface water and sediment at the Oostanaula River during their activities.
			Dermal Contact		
		Sediment (Oostanaula River)	Ingestion	Exclude	
			Dermal Contact		
Future Resident (Adult & Child)					
Resident (Adult & Child)	On-Site	Surface Soil (0-2 ft)	Ingestion	Exclude	Surface soil is not impacted with former MGP contaminants. Extensive soil remediation/excavation conducted in 1999 and 2000 successfully removed the majority of MGP-related source material from the subsurface. The Site is underlain by 20-25 feet of clean material. In addition, deed restrictions are in place prohibiting use of the Site for residential purposes.
			Dermal contact		
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		
		Unsaturated Subsurface Soil (2-20 ft)	Ingestion	Exclude	Extensive soil remediation/excavation activities conducted at the Site have resulted in the removal of the majority of MGP-related source material from the subsurface (at depths potentially contacted by various receptors) and the replacement of 20-25 ft of clean fill material. Therefore, this pathway is incomplete. In addition, deed restrictions are in place prohibiting residential use of the Site.
			Dermal contact		
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		
			Inhalation of Volatiles in Indoor Air		Deed restrictions are in place prohibiting residential use of the Site.
		Groundwater	Ingestion	Exclude	Groundwater at the Site is neither used as a drinking water source nor is it likely to be used as such in the future. AGLC has implemented deed restrictions which prohibit groundwater use for drinking water or any use other than for monitoring purposes. In addition, the municipal water is supplied to the area.
			Dermal contact		
			Inhalation of Volatiles in Ambient Air		This pathway is considered potentially complete but insignificant. Inhalation of volatiles in ambient air is considered insignificant due to attenuation through the soil column, the rapid air exchange and large mixing zone, which significantly dilutes concentrations found in ambient air.
			Inhalation of Volatiles in Indoor Air	Exclude	Deed restrictions are in place prohibiting residential use of the Site.
		Surface Water (Oostanaula River)	Ingestion	Exclude	Although nearby residents may contact surface water and sediments at the Oostanaula River as recreationalists, these media have not been adversely affected by former MGP constituents, as impacted groundwater is contained onsite and the groundwater evaluation shows strong evidence of intrinsic biodegradation occurring naturally. Downgradient wells indicate no evidence of off-site migration toward the Oostanaula River; therefore, river media are not affected by potential discharge of groundwater constituents.
			Dermal Contact		
		Sediment (Oostanaula River)	Ingestion	Exclude	
			Dermal Contact		

Table 2-6
Human Health Exposure Pathway Analysis
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Receptor	Location	Exposure Medium	Exposure Pathway	Include or Exclude in the Risk Assessment	Rationale for Inclusion or Exclusion in Risk Assessment
Current/Future Recreational User (Adult and Adolescent)					
Recreational User (Adult and Adolescent)	Off-Site	Surface Soil (0-2 ft)	Ingestion	Exclude	Surface soil has been extensively remediated and is not impacted with former MGP-constituents. In addition, current/future off-site recreationalists are not exposed to surface soil from the Site.
			Dermal contact		
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		
		Unsaturated Subsurface Soil (2-20 ft)	Ingestion	Exclude	Recreationalists do not contact subsurface soils during their activities.
			Dermal contact		
			Inhalation of Particulates		
			Inhalation of Volatiles in Ambient Air		Former MGP related constituents have not migrated off-site and therefore, subsurface soils are not impacted. In addition, the inhalation of volatiles in ambient air is considered insignificant due to the rapid air exchange and large mixing zone, which significantly dilutes concentrations found in ambient air.
			Inhalation of Volatiles in Indoor Air		Recreational activities take place outdoors and therefore, users are not exposed to indoor air.
		Groundwater	Ingestion	Exclude	Recreationalists do not contact groundwater.
			Dermal contact		
			Inhalation of Volatiles in Ambient Air		Former MGP related constituents have not migrated off-site and therefore, groundwater is not impacted. In addition, the inhalation of volatiles in ambient air is considered insignificant due to attenuation in the vadose zone, the rapid air exchange and large mixing zone, which significantly dilutes concentrations found in ambient air.
			Inhalation of Volatiles in Indoor Air		Recreationalist activities take place outdoors. Therefore, recreational users are not exposed to indoor air.
		Surface Water (Oostanaula River)	Ingestion	Exclude	Recreationalists may contact surface water and sediments at the Oostanaula River. However, these media have not been adversely affected by former MGP constituents, as impacted groundwater is contained onsite and the groundwater evaluation shows strong evidence of intrinsic biodegradation occurring naturally. Downgradient wells indicate no evidence of off-site migration toward the Oostanaula River; therefore, river media are not affected by potential discharge of groundwater constituents. Former impacted sediments have been removed and remaining sediments capped.
			Dermal Contact		
		Sediment (Oostanaula River)	Ingestion	Exclude	
			Dermal Contact		

Notes:
bgs - below ground surface

Table 2-7
Summary of Soil Locations Identified for Construction/Excavation Worker Contact
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Sample ID [a]	Depth Interval (ft bgs)	Notes
GP-127	16-19	
GP-131	5-9, 15-18, 18-22	
GP-321	5.5-6.5, 16-18	
GP-322	7-9	
SB-15A	18-20	
SC-1	2.5	W
SC-2	5	F
SC-151	10	W
SC-152	11	F
SC-153	8	W
SC-154	18	W
SC-156	8	W
SC-158	8	W
SC-159	14	W
SC-161	14	W
SC-162	16	F
SC-164	18	W
SC-166	18	W
SC-171	5	W
SC-172	5	W
SC-173	11	F
SC-174	5	W
SC-175	5	W
SC-177	8	W

Notes:

[a] Soil Samples within 20 feet of West 1st Steet Right-of-Way and utility corridors.

W - wall sample

F - floor sample

Table 2-8
Selection Process for Construction/Excavation Worker Surface and Unsaturated Subsurface Soil Constituents of Interest (COI) for Direct Contact
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Unsaturated Surface and Subsurface Soil Analyte [a]	CAS	# Samples	# Detects	Detect Freq	Max Detect Conc (mg/kg)	Type 1 RRS Soil (mg/kg)	Soil COI Construction/Excavation Worker
4-Methylphenol	106-44-5	18	3	16.67%	20	3.8	COI-MDC>SL
Antimony	7440-36-0	27	27	100.00%	5.3	4	COI-MDC>SL
Arsenic	7440-38-2	28	28	100.00%	27	20	COI-MDC>SL
Benzene	71-43-2	28	12	42.86%	0.51	0.5	COI-MDC>SL
Benzo(a)anthracene	56-55-3	29	19	65.52%	75	5	COI-MDC>SL
Benzo(a)pyrene	50-32-8	29	19	65.52%	57	1.64	COI-MDC>SL
Benzo(b)fluoranthene	205-99-2	29	18	62.07%	49	5	COI-MDC>SL
Benzo(k)fluoranthene	207-08-9	29	19	65.52%	38	5	COI-MDC>SL
Chrysene	218-01-9	29	19	65.52%	66	5	COI-MDC>SL
Cobalt	7440-48-4	9	9	100.00%	22	20	COI-MDC>SL
Copper	7440-50-8	28	28	100.00%	190	100	COI-MDC>SL
Cyanide	57-12-5	28	28	100.00%	160	20	COI-MDC>SL
Dibenzo(a,h)anthracene	53-70-3	29	14	48.28%	20	2	COI-MDC>SL
Dibenzofuran	132-64-9	4	4	100.00%	0.43	0.1	COI-MDC>SL
Indeno(1,2,3-cd)pyrene	193-39-5	29	17	58.62%	28	5	COI-MDC>SL
Lead	7439-92-1	28	28	100.00%	810	75	COI-MDC>SL
Mercury	7439-97-6	28	28	100.00%	5.6	0.5	COI-MDC>SL
Naphthalene	91-20-3	29	14	48.28%	440	100	COI-MDC>SL
Phenanthrene	85-01-8	29	19	65.52%	270	110	COI-MDC>SL
Zinc	7440-66-6	28	28	100.00%	730	100	COI-MDC>SL
2,4-Dimethylphenol	105-67-9	7	7	100.00%	1.5	70	Not a COI-MDC<SL
2-Butanone	78-93-3	9	9	100.00%	0.036	0.79	Not a COI-MDC<SL
2-Methylnaphthalene	91-57-6	4	4	100.00%	0.43	1	Not a COI-MDC<SL
2-Methylphenol	95-48-7	7	7	100.00%	1.5	3.8	Not a COI-MDC<SL
3&4-Methylphenol (M&P-Cresol)	1319-77-3	4	4	100.00%	1.5	3.8	Not a COI-MDC<SL
Acenaphthene	83-32-9	29	13	44.83%	23	300	Not a COI-MDC<SL
Acenaphthylene	208-96-8	29	15	51.72%	32	130	Not a COI-MDC<SL
Acetone	67-64-1	9	9	100.00%	0.34	400	Not a COI-MDC<SL
Anthracene	120-12-7	29	16	55.17%	100	500	Not a COI-MDC<SL
Barium	7440-39-3	28	28	100.00%	380	1000	Not a COI-MDC<SL
Benzo(g,h,i)perylene	191-24-2	29	17	58.62%	20	500	Not a COI-MDC<SL
Benzoic Acid	65-85-0	1	1	100.00%	0.036	1000	Not a COI-MDC<SL
Beryllium	7440-41-7	28	28	100.00%	1	2	Not a COI-MDC<SL

Table 2-8
Selection Process for Construction/Excavation Worker Surface and Unsaturated Subsurface Soil Constituents of Interest (COI) for Direct Contact
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Unsaturated Surface and Subsurface Soil Analyte [a]	CAS	# Samples	# Detects	Detect Freq	Max Detect Conc (mg/kg)	Type 1 RRS Soil (mg/kg)	Soil COI Construction/Excavation Worker
Bis(2-ethylhexyl)phthalate	117-81-7	7	7	100.00%	1.5	50	Not a COI-MDC<SL
Cadmium	7440-43-9	28	28	100.00%	0.83	2	Not a COI-MDC<SL
Carbon Disulfide	75-15-0	9	9	100.00%	0.04	400	Not a COI-MDC<SL
Chlorobenzene	108-90-7	4	4	100.00%	0.013	10	Not a COI-MDC<SL
Chloroform	67-66-3	4	4	100.00%	0.013	8	Not a COI-MDC<SL
Chromium	7440-47-3	28	28	100.00%	40	100	Not a COI-MDC<SL
Diethyl phthalate	84-66-2	1	1	100.00%	0.39	500	Not a COI-MDC<SL
Di-n-octyl phthalate	117-84-0	1	1	100.00%	0.39	70	Not a COI-MDC<SL
Ethylbenzene	100-41-4	28	11	39.29%	0.21	70	Not a COI-MDC<SL
Fluoranthene	206-44-0	29	21	72.41%	160	500	Not a COI-MDC<SL
Fluorene	86-73-7	29	15	51.72%	110	360	Not a COI-MDC<SL
Methylene Chloride	75-09-2	9	9	100.00%	0.024	0.5	Not a COI-MDC<SL
Nickel	7440-02-0	28	28	100.00%	18	50	Not a COI-MDC<SL
Phenol	108-95-2	7	7	100.00%	1.5	400	Not a COI-MDC<SL
Pyrene	129-00-0	10	10	100.00%	16	500	Not a COI-MDC<SL
Selenium	7782-49-2	9	9	100.00%	1.3	2	Not a COI-MDC<SL
Silver	7440-22-4	28	28	100.00%	1.6	2	Not a COI-MDC<SL
Styrene	100-42-5	28	9	32.14%	0.013	14	Not a COI-MDC<SL
Tetrachloroethylene	127-18-4	9	9	100.00%	0.013	0.5	Not a COI-MDC<SL
Thallium	7440-28-0	28	28	100.00%	1.6	2	Not a COI-MDC<SL
Toluene	108-88-3	28	13	46.43%	0.25	100	Not a COI-MDC<SL
Vanadium	7440-62-2	28	28	100.00%	63	100	Not a COI-MDC<SL
Xylenes, total	1330-20-7	28	12	42.86%	12	1000	Not a COI-MDC<SL

Notes:
Shading indicates analytes identified as COI.
[a] Unsaturated subsurface soil is defined as the vadose zone soil interval from 2 feet bgs to 20 feet bgs, which is the average depth to groundwater at the Site.
COI = constituent of interest
MDC = maximum detected concentration
mg/kg = milligrams per kilogram
SL = screening level

Table 2-9
Selection Process for Indoor Worker Unsaturated Subsurface Soil Constituents of Interest (COI) for Vapor Intrusion
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Unsaturated Subsurface Soil Analyte [a]	CAS	Volatile? [b]	# Samples	# Detects	Detect Freq	Max Detect Conc (mg/kg)	VI COI
2-Butanone	78-93-3	y	77	2	2.60%	0.048	COI - volatile and detected
2-Methylnaphthalene	91-57-6	y	42	4	9.52%	2.7	COI - volatile and detected
Acenaphthene	83-32-9	y	195	13	6.67%	23	COI - volatile and detected
Acenaphthylene	208-96-8	y	195	24	12.31%	32	COI - volatile and detected
Acetone	67-64-1	y	76	30	39.47%	1.5	COI - volatile and detected
Anthracene	120-12-7	y	195	32	16.41%	100	COI - volatile and detected
Benzene	71-43-2	y	191	25	13.09%	7.1	COI - volatile and detected
CALC-BTEX	CALC-BTEX	y	25	25	100.00%	0.0114	COI - volatile and detected [c]
Carbon Disulfide	75-15-0	y	76	9	11.84%	0.39	COI - volatile and detected
Chlorobenzene	108-90-7	y	35	2	5.71%	0.001	COI - volatile and detected
Dibenzofuran	132-64-9	y	35	4	11.43%	3.1	COI - volatile and detected
Ethylbenzene	100-41-4	y	191	11	5.76%	0.21	COI - volatile and detected
Fluorene	86-73-7	y	195	22	11.28%	110	COI - volatile and detected
Methylene Chloride	75-09-2	y	76	1	1.32%	0.024	COI - volatile and detected
Naphthalene	91-20-3	y	195	18	9.23%	440	COI - volatile and detected
Pyrene	129-00-0	y	85	27	31.76%	26	COI - volatile and detected
Styrene	100-42-5	y	184	3	1.63%	0.009	COI - volatile and detected
Toluene	108-88-3	y	191	23	12.04%	0.085	COI - volatile and detected
Xylenes, total	1330-20-7	y	191	15	7.85%	12	COI - volatile and detected
4-Methylphenol	106-44-5	n	186	2	1.08%	1.8	Not a COI-analyte is not volatile
Aluminum (fume or dust)	7429-90-5	n	60	60	100.00%	32700	Not a COI-analyte is not volatile
Antimony	7440-36-0	n	201	25	12.44%	19.6	Not a COI-analyte is not volatile
Arsenic	7440-38-2	n	202	197	97.52%	38	Not a COI-analyte is not volatile
Barium	7440-39-3	n	202	202	100.00%	960	Not a COI-analyte is not volatile
Benzo(a)anthracene	56-55-3	n	194	59	30.41%	75	Not a COI-analyte is not volatile
Benzo(a)pyrene	50-32-8	n	195	60	30.77%	57	Not a COI-analyte is not volatile
Benzo(b)fluoranthene	205-99-2	n	195	60	30.77%	49	Not a COI-analyte is not volatile
Benzo(g,h,i)perylene	191-24-2	n	195	49	25.13%	19	Not a COI-analyte is not volatile
Benzo(k)fluoranthene	207-08-9	n	195	60	30.77%	43	Not a COI-analyte is not volatile
Benzoic Acid	65-85-0	n	7	2	28.57%	0.048	Not a COI-analyte is not volatile
Beryllium	7440-41-7	n	202	156	77.23%	1.9	Not a COI-analyte is not volatile
Bis(2-ethylhexyl)phthalate	117-81-7	n	50	3	6.00%	0.24	Not a COI-analyte is not volatile

Table 2-9
Selection Process for Indoor Worker Unsaturated Subsurface Soil Constituents of Interest (COI) for Vapor Intrusion
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Unsaturated Subsurface Soil Analyte [a]	CAS	Volatile? [b]	# Samples	# Detects	Detect Freq	Max Detect Conc (mg/kg)	VI COI
Cadmium	7440-43-9	n	201	28	13.93%	1.6	Not a COI-analyte is not volatile
Calcium metal	7440-70-2	n	60	60	100.00%	270000	Not a COI-analyte is not volatile
CALC-PAH	CALC-PAH	n	25	25	100.00%	8.76	Not a COI-analyte is not volatile
CALC-SVOC	CALC-SVOC	n	25	25	100.00%	8.76	Not a COI-analyte is not volatile
CALC-VOC	CALC-VOC	n	25	25	100.00%	0.408	Not a COI-analyte is not volatile
CALC-wPAH	CALC-wPAH	n	25	25	100.00%	4.19	Not a COI-analyte is not volatile
Chromium	7440-47-3	n	202	202	100.00%	150	Not a COI-analyte is not volatile
Chrysene	218-01-9	n	195	60	30.77%	66	Not a COI-analyte is not volatile
Cobalt	7440-48-4	n	81	80	98.77%	22.6	Not a COI-analyte is not volatile
Copper	7440-50-8	n	202	202	100.00%	710	Not a COI-analyte is not volatile
Cyanide	57-12-5	n	196	56	28.57%	450	Not a COI-analyte is not volatile
Dibenzo(a,h)anthracene	53-70-3	n	195	24	12.31%	11	Not a COI-analyte is not volatile
Fluoranthene	206-44-0	n	195	68	34.87%	160	Not a COI-analyte is not volatile
Indeno(1,2,3-cd)pyrene	193-39-5	n	195	50	25.64%	28	Not a COI-analyte is not volatile
Iron	7439-89-6	n	60	60	100.00%	46000	Not a COI-analyte is not volatile
Lead	7439-92-1	n	201	201	100.00%	810	Not a COI-analyte is not volatile
Magnesium	7439-95-4	n	60	60	100.00%	7200	Not a COI-analyte is not volatile
Manganese	7439-96-5	n	60	60	100.00%	1900	Not a COI-analyte is not volatile
Mercury	7439-97-6	n	200	168	84.00%	5.6	Not a COI-analyte is not volatile
Nickel	7440-02-0	n	201	197	98.01%	42	Not a COI-analyte is not volatile
Phenanthrene	85-01-8	n	195	60	30.77%	270	Not a COI-analyte is not volatile
Potassium	7440-09-7	n	60	60	100.00%	3150	Not a COI-analyte is not volatile
Selenium	7782-49-2	n	81	28	34.57%	18	Not a COI-analyte is not volatile
Silver	7440-22-4	n	201	1	0.50%	0.59	Not a COI-analyte is not volatile
Sodium	7440-23-5	n	60	53	88.33%	1200	Not a COI-analyte is not volatile
Thallium	7440-28-0	n	201	6	2.99%	1.3	Not a COI-analyte is not volatile
Vanadium	7440-62-2	n	201	201	100.00%	74	Not a COI-analyte is not volatile
Zinc	7440-66-6	n	202	202	100.00%	730	Not a COI-analyte is not volatile
1,1,1-Trichloroethane	71-55-6	y	35	0	0.00%		Not a COI-not detected
1,1,2,2-Tetrachloroethane	79-34-5	y	35	0	0.00%		Not a COI-not detected
1,1,2-Trichloroethane	79-00-5	y	35	0	0.00%		Not a COI-not detected

Table 2-9
Selection Process for Indoor Worker Unsaturated Subsurface Soil Constituents of Interest (COI) for Vapor Intrusion
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Unsaturated Subsurface Soil Analyte [a]	CAS	Volatile? [b]	# Samples	# Detects	Detect Freq	Max Detect Conc (mg/kg)	VI COI
1,1-Dichloroethane	75-34-3	y	34	0	0.00%		Not a COI-not detected
1,1-Dichloroethylene	75-35-4	y	34	0	0.00%		Not a COI-not detected
1,2,4-Trichlorobenzene	120-82-1	y	7	0	0.00%		Not a COI-not detected
1,2-Dichlorobenzene	95-50-1	y	7	0	0.00%		Not a COI-not detected
1,2-Dichloroethane	107-06-2	y	35	0	0.00%		Not a COI-not detected
1,2-Dichloroethene, total	540-59-0	y	34	0	0.00%		Not a COI-not detected
1,2-Dichloropropane	78-87-5	y	35	0	0.00%		Not a COI-not detected
1,4-Dichlorobenzene	106-46-7	y	7	0	0.00%		Not a COI-not detected
2,4,5-Trichlorophenol	95-95-4	n	7	0	0.00%		Not a COI-not detected
2,4,6-Trichlorophenol	88-06-2	n	7	0	0.00%		Not a COI-not detected
2,4-Dichlorophenol	120-83-2	n	7	0	0.00%		Not a COI-not detected
2,4-Dimethylphenol	105-67-9	n	50	0	0.00%		Not a COI-not detected
2,4-Dinitrophenol	51-28-5	n	7	0	0.00%		Not a COI-not detected
2,4-Dinitrotoluene	121-14-2	n	7	0	0.00%		Not a COI-not detected
2,6-Dinitrotoluene	606-20-2	n	7	0	0.00%		Not a COI-not detected
2-Chloronaphthalene	91-58-7	y	35	0	0.00%		Not a COI-not detected
2-Chlorophenol	95-57-8	y	7	0	0.00%		Not a COI-not detected
2-Hexanone	591-78-6	n	35	0	0.00%		Not a COI-not detected
2-Methylphenol	95-48-7	n	50	0	0.00%		Not a COI-not detected
2-Nitroaniline	88-74-4	n	7	0	0.00%		Not a COI-not detected
2-Nitrophenol	88-75-5	n	7	0	0.00%		Not a COI-not detected
3&4-Methylphenol (M&P-Cresol)	1319-77-3		18	0	0.00%		Not a COI-not detected
3,3`-Dichlorobenzidine	91-94-1	n	7	0	0.00%		Not a COI-not detected
3,5,5-trimethyl-2-cyclohexene-1-one	78-59-1	n	7	0	0.00%		Not a COI-not detected
3-Nitroaniline	99-09-2	n	7	0	0.00%		Not a COI-not detected
4,6-Dinitro-2-methylphenol	534-52-1	n	7	0	0.00%		Not a COI-not detected
4-Bromophenyl phenyl ether	101-55-3	n	7	0	0.00%		Not a COI-not detected
4-Chloro-3-methylphenol	59-50-7	n	7	0	0.00%		Not a COI-not detected
4-Chlorophenyl phenyl ether	7005-72-3	n	7	0	0.00%		Not a COI-not detected
4-Methyl-2-Pentanone	108-10-1	y	35	0	0.00%		Not a COI-not detected

Table 2-9
Selection Process for Indoor Worker Unsaturated Subsurface Soil Constituents of Interest (COI) for Vapor Intrusion
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Unsaturated Subsurface Soil Analyte [a]	CAS	Volatile? [b]	# Samples	# Detects	Detect Freq	Max Detect Conc (mg/kg)	VI COI
4-Nitrophenol	100-02-7	n	7	0	0.00%		Not a COI-not detected
Benzyl Alcohol	100-51-6	n	7	0	0.00%		Not a COI-not detected
Benzyl butyl phthalate	85-68-7	n	7	0	0.00%		Not a COI-not detected
Bis(2-Chloroethoxy)methane	111-91-1	n	7	0	0.00%		Not a COI-not detected
Bis(2-Chloroethyl)ether	111-44-4	y	7	0	0.00%		Not a COI-not detected
Bis(2-chloroisopropyl)ether	108-60-1	y	7	0	0.00%		Not a COI-not detected
Bromodichloromethane	75-27-4	y	35	0	0.00%		Not a COI-not detected
Bromomethane	74-83-9	y	34	0	0.00%		Not a COI-not detected
Carbon tetrachloride	56-23-5	y	35	0	0.00%		Not a COI-not detected
Chlorodibromomethane	124-48-1	y	35	0	0.00%		Not a COI-not detected
Chloroethane	75-00-3	y	34	0	0.00%		Not a COI-not detected
Chloroform	67-66-3	y	34	0	0.00%		Not a COI-not detected
Chloromethane	74-87-3	y	34	0	0.00%		Not a COI-not detected
cis-1,3-Dichloropropene	10061-01-5	y	32	0	0.00%		Not a COI-not detected
Diethyl phthalate	84-66-2	n	7	0	0.00%		Not a COI-not detected
Dimethyl phthalate	131-11-3	n	7	0	0.00%		Not a COI-not detected
Di-n-butyl phthalate	84-74-2	n	7	0	0.00%		Not a COI-not detected
Di-n-octyl phthalate	117-84-0	n	7	0	0.00%		Not a COI-not detected
Hexachloro-1,3-butadiene	87-68-3	y	7	0	0.00%		Not a COI-not detected
Hexachlorobenzene	118-74-1	y	7	0	0.00%		Not a COI-not detected
Hexachlorocyclopentadiene	77-47-4	y	7	0	0.00%		Not a COI-not detected
Hexachloroethane	67-72-1	y	7	0	0.00%		Not a COI-not detected
m-Dichlorobenzene	541-73-1	y	7	0	0.00%		Not a COI-not detected
Nitrobenzene	98-95-3	y	7	0	0.00%		Not a COI-not detected
n-Nitrosodi-n-propylamine	621-64-7	n	7	0	0.00%		Not a COI-not detected
n-Nitrosodiphenylamine	86-30-6	n	7	0	0.00%		Not a COI-not detected
P-Chloroaniline	106-47-8	n	7	0	0.00%		Not a COI-not detected
Pentachlorophenol	87-86-5	n	7	0	0.00%		Not a COI-not detected
Phenol	108-95-2	n	50	0	0.00%		Not a COI-not detected
P-Nitroaniline	100-01-6	n	7	0	0.00%		Not a COI-not detected

Table 2-9
Selection Process for Indoor Worker Unsaturated Subsurface Soil Constituents of Interest (COI) for Vapor Intrusion
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Unsaturated Subsurface Soil Analyte [a]	CAS	Volatile? [b]	# Samples	# Detects	Detect Freq	Max Detect Conc (mg/kg)	VI COI
Tetrachloroethylene	127-18-4	y	77	0	0.00%		Not a COI-not detected
trans-1,3-Dichloropropene	10061-02-6	y	32	0	0.00%		Not a COI-not detected
Tribromomethane	75-25-2	y	35	0	0.00%		Not a COI-not detected
Trichloroethylene	79-01-6	y	35	0	0.00%		Not a COI-not detected
Vinyl Acetate	108-05-4	y	7	0	0.00%		Not a COI-not detected
Vinyl Chloride	75-01-4	y	34	0	0.00%		Not a COI-not detected

Notes:
Shading indicates analytes identified as COI
[a] Unsaturated subsurface soil is defined as the vadose zone soil interval from 2 feet bgs to 20 feet bgs, which is the average depth to groundwater at the Site.
[b] USEPA defines a volatile as a compound with a Henry's Law constant greater than 1E-05 atm-m^3/mol and a molecular weight less than 200 g/mol.
[c] Analyte is made up of a mixture containing, benzene, toluene, ethylbenzene and xylenes, total, which are already COI. Therefore, quantitative evaluation of CALC-BTEX is not conducted.
COI = constituent of interest
MDC = maximum detected concentration
mg/kg = milligrams per kilogram
n = no
NA = not available
SL = screening level
y = yes

Table 2-10
Selection Process for Groundwater Constituents of Interest (COI)
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Groundwater Analyte	CAS	Volatile? [a]	# Samples	# Detects	Detect Freq	Max Detect Conc (mg/L)	Type 3/Type 1 RRS (mg/L) [EPD 2010]	USEPA VI SL (mg/L) [USEPA 2002]	Type 3 RRS COI	VI COI
Benzene	71-43-2	y	18	3	16.67%	3	0.005	0.014	COI-MDC>SL	COI - volatile and detected
Naphthalene	91-20-3	y	18	3	16.67%	1.2	0.02	0.15	COI-MDC>SL	COI - volatile and detected
2,4-Dimethylphenol	105-67-9	n	18	2	11.11%	26	0.7		COI-MDC>SL	Not a COI-analyte is not volatile
Cyanide	57-12-5	y	24	15	62.50%	0.4	0.2		COI-MDC>SL	COI - volatile and detected
Methane	74-82-8	y	18	14	77.78%	1.9			Not a COI, SL NA	COI - volatile and detected
Acenaphthylene	208-96-8	y	18	0	0.00%				Not a COI, Not Detected	Not a COI, Not Detected
Methyl Ethyl Benzene	98-82-8	y	18	0	0.00%			0.0084	Not a COI, Not Detected	Not a COI, Not Detected
Phenanthrene	85-01-8	n	18	0	0.00%				Not a COI, Not Detected	Not a COI-analyte is not volatile
Oxygen	7782-44-7		18	18	100.00%	1.7			Not a COI, SL NA	Not a COI (O_2 is quality parameter)
Ferrous Iron	15438-31-0	n	18	3	16.67%	8.9			Not a COI, SL NA	Not a COI-analyte is not volatile
Iron	7439-89-6	n	18	17	94.44%	18			Not a COI, SL NA	Not a COI-analyte is not volatile
2-Methylphenol	95-48-7	n	18	2	11.11%	45			Not a COI, SL NA	Not a COI-analyte is not volatile
3&4-Methylphenol (M&P-Cresol)	1319-77-3	n	18	2	11.11%	1			Not a COI, SL NA	Not a COI-analyte is not volatile
Ethylbenzene	100-41-4	y	18	1	5.56%	0.022	0.7	0.7	Not a COI-MDC<SL	Not a COI-MDC<SL
Toluene	108-88-3	y	18	3	16.67%	0.4	1	1.5	Not a COI-MDC<SL	Not a COI-MDC<SL
Xylenes, total	1330-20-7	y	18	3	16.67%	0.58	10	22	Not a COI-MDC<SL	Not a COI-MDC<SL

Notes:
Shading indicates analytes identified as COI
[a] USEPA defines a volatile as a compound with a Henry's Law constant greater than 1x10-5 atm-m^3/mol and a molecular weight less than 200 g/mol.
COI = constituent of interest
MDC = maximum detected concentration
mg/L = milligrams per liter
n = no
NA = not available
SL = screening level
y = yes

References:

EPD 2010. Groundwater Type 3 RRS values are the same as Type 1 RRS values, as presented in Table 1 of Appendix III. Comparison of Existing Contamination to Risk Reduction Standards. 391-3-19-.07. Georgia Department of Natural Resources, Environmental Protection Division. Available online at: www.gaepd.org/Documents/hsraguideCSRRRS.html

USEPA 2002. Draft Guidance for Evaluating Vapor Intrusion from Subsurface Soil and Groundwater. November 2002. Table 2b (Cancer Target Risk Level = 1E-05)

Table 2-11
Summary of Chemical-Specific and Toxicity Information for Construction/Excavation Constituents of Interest (COI)
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Construction/ Excavation COI	Volatile?	Noncancer Oral Reference Dose (mg/kg-d)		Noncancer Inhalation Reference Concentration [a] (mg/m^3)		Cancer Oral Slope Factor $(mg/kg\text{-}d)^{-1}$		Cancer Inhalation Unit Risk Value [a] $(ug/m^3)^{-1}$	
4-Methylphenol	n	5.00E-03	HEAST	6.00E-01	CalEPA	NA		NA	
Antimony	n	4.00E-04	IRIS	NA		NA		NA	
Arsenic	n	3.00E-04	IRIS	1.50E-05	CalEPA	1.50E+00	IRIS	4.30E-03	IRIS
Benz(a)anthracene	n	NA		NA		7.30E-01	ECAO	1.10E-04	CalEPA
Benzene	y	4.00E-03	IRIS	3.00E-02	IRIS	5.50E-02	IRIS	7.80E-06	IRIS
Benzo(a)pyrene	n	NA		NA		7.30E+00	IRIS	1.10E-03	CalEPA
Benzo(b)fluoranthene	n	NA		NA		7.30E-01	ECAO	1.10E-04	CalEPA
Benzo(k)fluoranthene	n	NA		NA		7.30E-02	ECAO	1.10E-04	CalEPA
Chrysene	n	NA		NA		7.30E-03	ECAO	1.10E-05	CalEPA
Cobalt	n	3.00E-04	PPRTV	6.00E-06	PPRTV	NA		9.00E-03	PPRTV
Copper	n	4.00E-02	HEAST	NA		NA		NA	
Cyanide, Available	n	2.00E-02	IRIS	NA		NA		NA	
Dibenz(a,h)anthracene	n	NA		NA		7.30E+00	ECAO	1.20E-03	CalEPA
Dibenzofuran	y	1.00E-03	X	NA		NA		NA	
Indeno(1,2,3-cd)pyrene	n	NA		NA		7.30E-01	ECAO	1.10E-04	CalEPA
Lead	n	NA		NA		NA		NA	
Mercury	n	1.60E-04	CalEPA	3.01E-04	IRIS	NA		NA	
Naphthalene	y	2.00E-02	IRIS	3.00E-03	IRIS	NA		3.40E-05	CalEPA
Phenanthrene	n	NA		NA		NA		NA	
Zinc	n	3.00E-01	IRIS	NA		NA		NA	

Notes:
[a] All toxicological information from U.S. Environmental Protection Agency's November 2010 Regional Screening Level Table, available online at: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm
CalEPA = California Environmental Protection Agency
COI = constituent of interest
ECAO = Environmental Criteria and Assessment Office
HEAST = Health Effects Assessment Table
IRIS = USEPA's Integrated Risk Information System
n = not volatile
NA = not available
PPRTV = Provisional Peer Reviewed Toxicity Value
X = PPRTV Appendix
y = volatile

Table 2-12
Summary of Chemical-Specific Information for Vapor Intrusion Constituents of Interest (COI)
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Vapor Intrusion COI	Media of Concern	Cancer Inhalation Unit Risk Value [a] $(ug/m^3)^{-1}$		Inhalation Noncancer Reference Concentration [a] (mg/m^3)		USEPA Maximum Contaminant Level (MCL) (mg/L)	Dair[b] (cm^2/s)	Dwat [b] (cm^2/s)	H [b] (unitless)	koc [b] $(g\text{-}H_20/g\text{-}C)$	Csat (mg/kg)	S [b] $(mg/L\text{-}H_20)$
2-Butanone	VI (Subsurface Soil)	NA		5.00E+00	IRIS	NAp	NAp	NAp	NAp	NAp	NAp	NAp
2-Methylnaphthalene	VI (Subsurface Soil)	NA		NA		NAp	NAp	NAp	NAp	NAp	NAp	NAp
Acenaphthene	VI (Subsurface Soil)	NA		NA		NAp	NAp	NAp	NAp	NAp	NAp	NAp
Acenaphthylene	VI (Subsurface Soil)	NA		NA		NAp	NAp	NAp	NAp	NAp	NAp	NAp
Acetone	VI (Subsurface Soil)	NA		3.10E+01	ATSDR	NAp	NAp	NAp	NAp	NAp	NAp	NAp
Anthracene	VI (Subsurface Soil)	NA		NA		NAp	NAp	NAp	NAp	NAp	NAp	NAp
Benzene	VI (Subsurface Soil; Groundwater)	7.80E-06	IRIS	3.00E-02	IRIS	0.005	8.80E-02	9.80E-06	2.28E-01	5.89E+01	3.17E+02	1.75E+03
Carbon Disulfide	VI (Subsurface Soil)	NA		7.00E-01	IRIS	NAp	NAp	NAp	NAp	NAp	NAp	NAp
Chlorobenzene	VI (Subsurface Soil)	NA		5.00E-02	PPRTV	NAp	NAp	NAp	NAp	NAp	NAp	NAp
Cyanide	VI (Groundwater)	NA		NA		0.2	NAp	NAp	NAp	NAp	NAp	NAp
Dibenzofuran	VI (Subsurface Soil)	NA		NA		NAp	NAp	NAp	NAp	NAp	NAp	NAp
Ethylbenzene	VI (Subsurface Soil)	2.50E-06	CalEPA	1.00E+00	IRIS	NAp	NAp	NAp	NAp	NAp	NAp	NAp
Fluorene	VI (Subsurface Soil)	NA		NA		NAp	NAp	NAp	NAp	NAp	NAp	NAp
Methane	VI (Groundwater)	NA		NA		NA	NAp	NAp	NAp	NAp	NAp	NAp
Methylene Chloride	VI (Subsurface Soil)	4.70E-07	IRIS	1.00E+00	ATSDR	NAp	NAp	NAp	NAp	NAp	NAp	NAp
Naphthalene	Subsurface Soil; Groundwater	3.40E-05	CalEPA	3.00E-03	IRIS	NA	5.90E-02	7.50E-06	1.98E-02	2.00E+03	1.25E+02	3.10E+01
Pyrene	VI (Subsurface Soil)	NA		NA		NAp	NAp	NAp	NAp	NAp	NAp	NAp
Styrene	VI (Subsurface Soil)	NA	CalEPA	1.00E+00	IRIS	NAp	NAp	NAp	NAp	NAp	NAp	NAp
Toluene	VI (Subsurface Soil)	NA	CalEPA	5.00E+00	IRIS	NAp	NAp	NAp	NAp	NAp	NAp	NAp
Xylenes, total	VI (Subsurface Soil)	NA	CalEPA	7.00E-01	CalEPA	NAp	NAp	NAp	NAp	NAp	NAp	NAp

Notes:

[a] All toxicological information from U.S. Environmental Protection Agency's November 2010 Regional Screening Level Table, available online at: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm.
[b] All chemical-specific information from U.S. Environmental Protection Agency. 1996. Soil Screening Guidance: User's Guide. Office of Emergency and Remedial Response, Washington, D.C. EPA540/R-96/018.
[c] Soil Saturation Limit is calculated by EPA's Johnson and Ettinger Vapor Intrusion Model, SL-ADV-Feb04.xlsm based on site-specific geotechnical information as presented in Table 2-9.
Shaded analytes do not have inhalation toxicity information available; therefore, Type 4 RRS values can not be calculated.
ATSDR = Agency for Toxic Substances and Disease Registry
CalEPA = California Environmental Protection Agency
COI = constituent of interest
Dair = Diffusion coefficient in air
Dwat = Diffusion coefficient in water
H = Henry's law constant
IRIS = USEPA's Integrated Risk Information System
k_{oc} = Carbon-water sorption coefficient
NA = not available
NAp = not applicable
PPRTV = Provisional Peer Reviewed Toxicity Value
S = Pure component solubility in water

Table 2-13
Exposure Assumptions for the Current/Future On-Site and Off-Site Construction/Excavation Worker
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

General Assumptions	Value	Reference
TRL (cancer target risk level)	1.00E-05	Default value [EPD, 2010]
BW (body weight)	70 kg	standard default exposure factor [USEPA, 1991; EPD, 2010]
AT (averaging times):		
Carcinogenic effects	70 years	life expectancy; recommended exposure factor [USEPA, 1993; EPD, 2010]
Chronic effects (noncarc.)	1 yr	Professional judgement based on duration of future land disturbing activities in utility corridors or beneath West 1st Street
Indoor Air Exposure Assumptions		
EF (exposure frequency)	250 days/yr	standard default exposure factor for workers [USEPA, 1991; EPD, 2010]
ED (exposure duration)	1 yr	Professional judgement based on duration of future land disturbing activities in utility corridors or beneath West 1st Street
Incidental Ingestion of Soil		
IR (ingestion rate)	50 mg/day	recommended inhalation rate for workers [EPD, 2010]
Inhalation of Particulates and Volatiles in Ambient Air		
IR (inhalation rate)	0.833 m^3/hr	recommended inhalation rate for workers [EPD, 2010]
ET (exposure time)	8 hr/day	Assumes a normalized 8 hour working day for a 40-hour work week, every week for 25 years [professional judgement]
Particulate Emission Factor (PEF),	2.16E-10 kg/m^3	recommended particulate emission factor for non-volatiles [EPD, 2010]
Volatilization Factor (VF) - Benzene	3.59E-04 kg/m^3	Chemical-specific soil volatilization factor [USEPA, 2000]
Volatilization Factor (VF) - Dibenzofuran	1.54E-06 kg/m^3	Chemical-specific soil volatilization factor [USEPA, 2000]
Volatilization Factor (VF) - Naphthalene	2.31E-05 kg/m^3	Chemical-specific soil volatilization factor [USEPA, 2000]

References:

EPD, 2010. Comparison of Existing Contamination to Risk Reduction Standards. 391-3-19-.07. Georgia Department of Natural Resources, Georgia Environmental Protection Division (EPD). Available online at: http://www.gaepd.org/Documents/hsraguideCSRRRS.html.

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.6-03. March.

USEPA, 1993. Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure, Draft, dated November 4, 1993.

USEPA, 2000. Chemical-specific information from Region IX Preliminary Remediation Goal (PRG) Table.

Table 2-14
Adult Lead Model Inputs and Resulting Type 4 Risk Reduction Standards for the Construction/Excavation Worker
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Exposure Variable	Description of Exposure Variable	Unit	Value and Reference	
$PbB_{fetal, 0.95}$	95th percentile PbB in fetus	ug/dL	10	[a]
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9	[a]
BKSF	Biokinetic Slope Factor	[ug/dL] / [ug/day]	0.4	[a]
GSD_i	Geometric standard deviation PbB	--	1.80	[b]
PbB_0	Baseline PbB	ug/dL	1.00	[c]
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.050	[d]
$AF_{S, D}$	Absorption fraction (same for soil and dust)	--	0.12	[a]
$EF_{S, D}$	Exposure frequency (same for soil and dust)	days/yr	250	[d]
$AT_{S, D}$	Averaging time (same for soil and dust)	days/yr	365	[e]
Type 4 RRS	**Risk Reduction Standard in Soil for Lead, Construction/ Excavation Worker**	**mg/kg**	**1,962**	**[f]**

Notes:

Type 4 RRS = Site-specific non-residential Risk Reduction Standard

[a] EPA recommended default values (EPA 2003).

[b] Geometric standard deviation of blood lead level (GSD_i) recommended value of 1.8 for entire US population (EPA 2009a).

[c] Baseline blood lead level (PbB_0) recommended value of 1.0 ug/dL for entire US population (EPA 2009a).

[d] Recommended default exposure assumption for non-residential exposure (EPD 2010).

[e] Total period during which soil contact may occur; 365 days/year is recommended for continuing long-term exposures (over one year in duration).

[f] RBCL calculated using EPA's ALM worksheet (EPA 2009b) based on Equations 3 and 4 in EPA 2003:

$$\text{Type 4 RRS} = \frac{([PbB_{95}\,fetal/(R*(GSD_i^{1.645})]) - PbB_0)*AT_{S,D}}{BKSF*(IR_S*AF_{S,D}*EF_{S,D})}$$

References:

1. EPA 2003. *Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil. Technical Review Workgroup for Lead.* Final. EPA-540-R-03-001. January.

2. EPA 2009a. Transmittal of Uptake of the Adult Lead Methodology's Default Baseline Blood Lead Concentrations and Geometric Standard Deviation Parameters Memorandum from James E. Woolford, Director Office of Superfund Remediation and Technology Innovation. June 26, 2009.

3. EPA 2009b. *Calculations of Preliminary Remediation Goals (PRGs) Lead worksheet.* EPA Technical Review Workgroup for Lead, Adult Lead Committee. June 21, 2009. Available at: www.epa.gov/superfund/health/contaminants/lead/products/ALM_2009.xls.

4. EPD 2010. Comparison of Existing Contamination to Risk Reduction Standards. 391-3-19-.07. Georgia Department of Natural Resources, Georgia Environmental Protection Division (EPD). Available online at: http://www.gaepd.org/Documents/hsraguideCSRRRS.html.

Table 2-15
Exposure Assumptions for the Current/Future On-Site Retail Commercial/Industrial Worker
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

General Assumptions	Value	Reference
TRL (cancer target risk level)	1.00E-05	Default value [EPD 2010]
BW (body weight)	70 kg	standard default exposure factor [USEPA 1991; EPD 2010]
AT (averaging times):		
Carcinogenic effects	70 years	life expectancy; recommended exposure factor [USEPA 1993; EPD 2010]
Chronic effects (noncarc.)	25 yrs	standard default exposure factor for workers [USEPA 1991; EPD 2010]
Indoor Air Exposure Assumptions		
EF (exposure frequency)	250 days/yr	standard default exposure factor for workers [USEPA 1991; EPD 2010]
		the J&E model does not allow modifications to ET or IR; therefore, the EF was modified using the following equation:
EF (exposure frequency) - ADJUSTED	83.3 days/yr	*ADJUSTED EF (days/year) = {[IR (0.833 m^3/hr) x ET (8 hr/day)] / Default IR (20 m^3/day)} x EF (250 days/yr)*
ED (exposure duration)	25 yrs	standard default exposure factor for workers [USEPA 1991; EPD 2010]
Inhalation of Volatiles in Indoor Air		
IR (inhalation rate)	0.833 m^3/hr	recommended inhalation rate for workers [EPD 2010]
ET (exposure time)	8 hr/day	Assumes a normalized 8-hour working day for a 40-hour work week, every week for 25 years [professional judgment]

References:

EPD 2010. Comparison of Existing Contamination to Risk Reduction Standards. 391-3-19-.07. Georgia Department of Natural Resources, Georgia Environmental Protection Division. Available online at: http://www.gaepd.org/Documents/hsraguideCSRRRS.html.

USEPA 1991. Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.6-03. March.

USEPA 1993. Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure, Draft, dated November 4, 1993.

Table 2-16
Summary of J Modeling Input Parameters
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Site Input Parameters	Soil/GW Input Parameters														
	Stratum A Soil Type	Thickness of Soil Stratum A	Stratum A Total Soil Porosity	Stratum A Water-Filled Porosity	Stratum A Soil Bulk Density	Stratum B Soil Type	Thickness of Soil Stratum B	Stratum B Total Soil Porosity	Stratum B Water-Filled Porosity	Stratum B Soil Bulk Density	Depth Below Grade to Subsurface Soil Impacts	Depth Below Grade to Groundwater	SCS Soil Type Directly Above Groundwater Sample	SCS Soil Stratum Directly Above Groundwater Sample	Average Soil/GW Temp.
Source	Site-specific [a]	Site-specific [a]	USEPA, 2004	USEPA, 2004	USEPA, 2004	Site-specific [a]	Site-specific [a]	USEPA, 2004	USEPA, 2004	USEPA, 2004	Site-specific [b]	Site-specific [b]	Site-specific	Site-specific	USEPA, 2004; Figure 8
Units	NA	cm	Unitless	Unitless	g/cm^3	(cm)	cm	Unitless	Unitless	g/cm^3	(cm)	(cm)	NA	(A, B, or C)	degree C
Hotel	Sand (S)	244	0.375	0.054	1.66	Sandy Clay (SC)	366	0.385	0.197	1.63	230	610	Sandy Clay (SC)	B	16.7
Broad Street Retail Bldg	Sand (S)	244	0.375	0.054	1.66	Sandy Clay (SC)	366	0.385	0.197	1.63	488	610	Sandy Clay (SC)	B	16.7

Site Input Parameters	Industrial Building Input Parameters, Basement Construction								
	Depth below grade to bottom of enclosed space floor	Building Enclosed Space Floor Thickness	Building Soil-Bldg. Pressure Differential	Building Enclosed Space Floor Length	Building Enclosed Space Floor Width	Building Enclosed Space Height	Indoor Air Exchange Rate (commercial)	Floor- Wall Seam Crack Width	Soil Vapor Flux into Building (Qsoil)
Source	USEPA, 2004	USEPA, 2004	USEPA, 2004	Site-specific [c]	Site-specific [c]	Site-specific [c]	ASTM, 1995	USEPA, 2004 [d]	USEPA, 2004
Units	cm	cm	$g/cm\text{-}s^2$	cm	cm	cm	1/hr	cm	L/min
Hotel	200	10	40	5,791	2,526	1097	0.828	220	5
Broad Street Retail Bldg	200	10	40	4,572	1,981	731	0.828	0.1	5

Notes:

[a] Soil types and depths of Strata A and B assumed to be 8 ft (244 cm), and 12 ft (366 cm), respectively. These values based on Figure 9, Cross-Section B-B' in the area of SB-416 and SB-415 (AECOM 2009).

[b] Depth to groundwater is 20 ft (610 cm). Near the Hotel, depth below grade to subsurface soil impacts assumed to start one foot below Hotel's basement (230 cm). Near the Parcel 12 building, subsoil impacts start at 16 ft bgs (GP-321); therefore, depth below grade to subsurface soil impacts start at 16 ft (488 cm).

[c] 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 (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.

[d] Hotel basement is approximately 25% dirt floor and 75% slab floor. The floor-wall seam crack width (rcrack) was estimated to account for this variation per USEPA's User's Guide (USEPA 2004) assuming a crack to total area ratio (η) of 0.25. The floor-wall seam crack width was adjusted over the entire building footprint to account for the area of open floor, where rcrack = 0.25 (total building area / total building perimeter). The Broad Street retail building assumes the default floor-wall seam crack width as the basement is 100% slab floor.
S = Sand
SC = Sandy Clay

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.

ASTM 1995. American Society for Testing and Materials, Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites. ASTM Designation: E 1739-95. November.

USEPA 2004. User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Washington, D.C. Rev: Feb 22.

Table 2-17
Calculated Type 4 Subsurface Soil Risk Reduction Standards Protective of a Construction/Excavation Worker and Comparison to Maximum Detected Concentration
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Construction/ Excavation Worker Soil COI	CAS	Cancer Risk-Based Subsurface Soil RRS [a] (mg/kg)	Noncancer Risk-Based Subsurface Soil RRS [b] (mg/kg)	Final Type 4 Subsurface Soil RRS (mg/kg)	Basis	Maximum Detected Concentration (MDC) (mg/kg)	Is MDC > Type 4 RRS?
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 = Type 4 RRS could not be calculated because inhalation toxicity information is not available for anthracene.
NC = based on noncarcinogenic effects
RRS = Risk Reduction Standard

Table 2-18
Calculated Type 4 Subsurface Soil Risk Reduction Standards Protective of Indoor Air
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Subsurface Soil COI	CAS	Cancer Risk-Based Subsurface Soil RRS [a] (mg/kg)	Noncancer Risk-Based Subsurface Soil RRS [b] (mg/kg)	Final Type 4 Subsurface Soil RRS (mg/kg)	Basis
HOTEL WORKER					
2-Butanone	78-93-3	NA	648	**648**	**NC**
2-Methylnaphthalene	91-57-6	NA	NA	**NA**	
Acenaphthene	83-32-9	NA	NA	**NA**	
Acenaphthylene	208-96-8	NA	NA	**NA**	
Acetone	67-64-1	NA	3,280	**3,280**	**NC**
Anthracene	120-12-7	NA	NA	**NA**	
Benzene	71-43-2	0.02	0.17	**0.02**	**C**
Carbon Disulfide	75-15-0	NA	0.97	**0.97**	**NC**
Chlorobenzene	108-90-7	NA	1.52	**1.52**	**NC**
Dibenzofuran	132-64-9	NA	NA	**NA**	
Ethylbenzene	100-41-4	0.26	23	**0.26**	**C**
Fluorene	86-73-7	NA	NA	**NA**	
Methylene Chloride	75-09-2	0.27	4.55	**0.27**	**C**
Naphthalene	91-20-3	2.26	8.24	**2.26**	**C**
Pyrene	129-00-0	NA	NA	**NA**	
Styrene	100-42-5	NA	141	**141**	**NC**
Toluene	108-88-3	NA	60.6	**60.6**	**NC**
Xylenes, total	1330-20-7	NA	20.5	**20.5**	**NC**
BROAD STREET RETAIL WORKER					
2-Butanone	78-93-3	NA	57,400	**57,400**	**NC**
2-Methylnaphthalene	91-57-6	NA	NA	**NA**	
Acenaphthene	83-32-9	NA	NA	**NA**	
Acenaphthylene	208-96-8	NA	NA	**NA**	
Acetone	67-64-1	NA	404,000	**404,000**	**NC**
Anthracene	120-12-7	NA	NA	**NA**	
Benzene	71-43-2	0.84	6.99	**0.84**	**C**
Carbon Disulfide	75-15-0	NA	32.3	**32.3**	**NC**
Chlorobenzene	108-90-7	NA	45.9	**45.9**	**NC**
Dibenzofuran	132-64-9	NA	NA	**NA**	
Ethylbenzene	100-41-4	7.4	660	**7.4**	**C**
Fluorene	86-73-7	NA	NA	**NA**	
Methylene Chloride	75-09-2	18.6	312	**18.6**	**C**
Naphthalene	91-20-3	53.9	196	**53.9**	**C**
Pyrene	129-00-0	NA	NA	**NA**	
Styrene	100-42-5	NA	3,810	**3,810**	**NC**
Toluene	108-88-3	NA	2,030	**2,030**	**NC**
Xylenes, total	1330-20-7	NA	567	**567**	**NC**

Notes:
[a] Assumes a Cancer Target Risk Level of 1E-05.
[b] Assumes a Noncancer Hazard Quotient of 1.0.
C = based on carcinogenic effects
COI = constituent of interest
mg/kg = milligrams per kilogram
NA = Type 4 RRS could not be calculated because inhalation toxicity information is not available for anthracene.
NC = based on noncarcinogenic effects
RRS = Risk Reduction Standard

Table 2-19
Calculated Type 4 Groundwater Risk Reduction Standards Protective of Indoor Air
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Groundwater COI	CAS	Cancer Risk-Based Groundwater RRS [a] (mg/L)	Noncancer Risk-Based Groundwater RRS [b] (mg/L)	Final Type 4 Groundwater RRS (mg/L)	Basis
HOTEL WORKER					
Benzene	71-43-2	36.5	305	**36.5**	C
Cyanide	57-12-5	NA	NA	**NA**	
Methane	74-82-8	NA	NA	**NA**	
Naphthalene	91-20-3	29.0	106	**29.0**	C
BROAD STREET RETAIL WORKER					
Benzene	71-43-2	24.9	208	**24.9**	C
Cyanide	57-12-5	NA	NA	**NA**	
Methane	74-82-8	NA	NA	**NA**	
Naphthalene	91-20-3	24.2	88.3	**24.2**	C

Notes:
[a] Assumes a Cancer Target Risk Level of 1E-05.
[b] Assumes a Noncancer Hazard Quotient of 1.0.
C = based on carcinogenic effects
COI = constituent of interest
mg/L = milligrams per liter
RRS = Risk Reduction Standard

Table 2-20
Summary of Calculated Type 4 Subsurface Soil and Groundwater Risk Reduction Standards Protective of Indoor Air
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

COI	CAS	Final Type 4 Subsurface Soil RRS (mg/kg)	Basis	Final Type 4 Groundwater RRS (mg/L)	Basis
HOTEL WORKER					
2-Butanone	78-93-3	**648**	**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	**3,280**	**NC**	**Not a COI**	
Anthracene	120-12-7	**NA**		**Not a COI**	
Benzene	71-43-2	**0.02**	**C**	**36.5**	**C**
Carbon Disulfide	75-15-0	**0.969**	**NC**	**Not a COI**	
Chlorobenzene	108-90-7	**1.52**	**NC**	**Not a COI**	
Cyanide	57-12-5	**Not a COI**		**NA**	
Dibenzofuran	132-64-9	**NA**		**Not a COI**	
Ethylbenzene	100-41-4	**0.257**	**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	**0.271**	**C**	**Not a COI**	
Naphthalene	91-20-3	**2.26**	**C**	**29.0**	**C**
Pyrene	129-00-0	**NA**		**Not a COI**	
Styrene	100-42-5	**141**	**NC**	**Not a COI**	
Toluene	108-88-3	**60.6**	**NC**	**Not a COI**	
Xylenes, total	1330-20-7	**20.5**	**NC**	**Not a COI**	
BROAD STREET RETAIL WORKER					
2-Butanone	78-93-3	**57,400**	**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	**404,000**	**NC**	**Not a COI**	
Anthracene	120-12-7	**NA**		**Not a COI**	
Benzene	71-43-2	**0.84**	**C**	**24.9**	**C**
Carbon Disulfide	75-15-0	**32.3**	**NC**	**Not a COI**	
Chlorobenzene	108-90-7	**45.9**	**NC**	**Not a COI**	
Cyanide	57-12-5	**Not a COI**		**NA**	
Dibenzofuran	132-64-9	**NA**		**Not a COI**	
Ethylbenzene	100-41-4	**7.4**	**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	**18.6**	**C**	**Not a COI**	
Naphthalene	91-20-3	**53.9**	**C**	**24.2**	**C**
Pyrene	129-00-0	**NA**		**Not a COI**	
Styrene	100-42-5	**3,810**	**NC**	**Not a COI**	
Toluene	108-88-3	**2,030**	**NC**	**Not a COI**	
Xylenes, total	1330-20-7	**567**	**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 = Type 4 RRS could not be calculated because inhalation toxicity information is not available for anthracene.
RRS = Risk Reduction Standard

Table 2-21
Summary of Subsurface Soil Sample Locations Near Buildings of Concern
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Sample Location	Within 100 feet of Hotel?	Within 100 feet of Broad St Retail Bldgs?
GP-118	NO	NO
GP-125	NO	NO
GP-126	NO	NO
GP-127	YES	YES
GP-131	NO	NO
GP-132	NO	NO
GP-133	NO	NO
GP-303	YES	NO
GP-304	NO	YES
GP-305	NO	NO
GP-306	NO	NO
GP-307	YES	NO
GP-308	YES	NO
GP-310	NO	NO
GP-311	YES	YES
GP-312	NO	NO
GP-313	NO	NO
GP-314	NO	NO
GP-315	NO	NO
GP-316	NO	NO
GP-317	NO	NO
GP-318	YES	NO
GP-319	YES	YES
GP-320	YES	YES
GP-321	YES	YES
GP-322	YES	YES
GP-323	NO	NO
GP-324	YES	NO
GP-325	YES	NO
GP-326	YES	NO
GP-327	YES	NO
GP-329	NO	NO
GP-330	YES	NO
GP-331	YES	NO
GP-332	NO	YES
GP-333	NO	YES
GP-334	NO	YES
HA-101	YES	NO
HA-102	YES	NO
HA-103	YES	NO
HA-105	YES	NO
HA-106A	YES	NO
HA-106B	YES	NO
HA-107	YES	NO
HA-108	YES	NO

Table 2-21
Summary of Subsurface Soil Sample Locations Near Buildings of Concern
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Sample Location	Within 100 feet of Hotel?	Within 100 feet of Broad St Retail Bldgs?
HA-200	YES	NO
HA-201	NO	NO
HA-202	YES	NO
HA-203	NO	NO
HA-204	YES	NO
HA-205	NO	NO
HA-206	NO	NO
HA-207	YES	NO
HA-210	NO	NO
HA-212	NO	NO
HA-213	NO	NO
HA-214	NO	NO
HA-302	NO	NO
HA-303	NO	NO
HA-304	NO	NO
MW-01R	NO	NO
MW-04R	NO	NO
MW-09A	YES	YES
MW-09B	YES	YES
MW-10	YES	NO
MW-11	NO	NO
MW-12	NO	NO
MW-13	YES	NO
SB-01A	NO	NO
SB-01B	NO	NO
SB-02IIC	YES	NO
SB-03A	NO	NO
SB-03B	NO	NO
SB-04IIB	NO	NO
SB-09A	NO	NO
SB-09B	NO	NO
SB-102	NO	NO
SB-10B	NO	NO
SB-11A	NO	NO
SB-11B	NO	NO
SB-13A	NO	NO
SB-13B	NO	NO
SB-14A	NO	NO
SB-15A	NO	YES
SC-0001	NO	NO
SC-0002	NO	NO
SC-0003	NO	NO
SC-0006	NO	NO
SC-0007	NO	NO

Table 2-21
Summary of Subsurface Soil Sample Locations Near Buildings of Concern
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Sample Location	Within 100 feet of Hotel?	Within 100 feet of Broad St Retail Bldgs?
SC-0008	NO	NO
SC-0011	NO	NO
SC-0012	NO	NO
SC-0013	NO	NO
SC-0014	NO	NO
SC-0016	NO	NO
SC-0019	NO	NO
SC-0020	NO	NO
SC-0021	NO	NO
SC-0022	NO	NO
SC-0024	NO	NO
SC-0025	NO	NO
SC-0026	NO	NO
SC-0027	NO	NO
SC-0028	NO	NO
SC-0029	NO	NO
SC-0032	NO	NO
SC-0033	NO	NO
SC-0038	NO	NO
SC-0040	NO	NO
SC-0042	NO	NO
SC-0049	NO	YES
SC-0051	NO	YES
SC-0052	NO	NO
SC-0054	NO	NO
SC-0055	NO	NO
SC-0056	NO	NO
SC-0057	NO	NO
SC-0060	NO	NO
SC-0062	NO	NO
SC-0063	NO	NO
SC-0064	YES	NO
SC-0065	YES	NO
SC-0066	YES	NO
SC-0067	YES	NO
SC-0068	NO	NO
SC-0073	YES	NO
SC-0074	YES	NO
SC-0075	YES	NO
SC-0076	NO	NO
SC-0077	NO	NO
SC-0077A	NO	NO
SC-0078	NO	NO
SC-0079	NO	NO

Table 2-21
Summary of Subsurface Soil Sample Locations Near Buildings of Concern
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Sample Location	Within 100 feet of Hotel?	Within 100 feet of Broad St Retail Bldgs?
SC-0079A	NO	NO
SC-0080	NO	NO
SC-0081	YES	NO
SC-0082	YES	NO
SC-0086	YES	NO
SC-0087	YES	NO
SC-0088	YES	NO
SC-0089	YES	NO
SC-0090	NO	NO
SC-0091	NO	NO
SC-0092	NO	NO
SC-0093	NO	NO
SC-0094R	NO	NO
SC-0095R	NO	NO
SC-0096	NO	NO
SC-0097	NO	NO
SC-0098	NO	NO
SC-0100	NO	NO
SC-0101	NO	NO
SC-0102	NO	NO
SC-0103	NO	NO
SC-0104	YES	NO
SC-0106	NO	NO
SC-0107	NO	NO
SC-0108	YES	NO
SC-0109	YES	NO
SC-0111	NO	NO
SC-0113	YES	NO
SC-0117	YES	NO
SC-0118	NO	NO
SC-0119	YES	NO
SC-0120	YES	NO
SC-0121	NO	NO
SC-0122	NO	NO
SC-0123	NO	NO
SC-0124	YES	NO
SC-0125	YES	NO
SC-0126	YES	NO
SC-0127	YES	NO
SC-0128	YES	NO
SC-0129	NO	NO
SC-0130	YES	NO
SC-0132	YES	NO
SC-0133	YES	NO

Table 2-21
Summary of Subsurface Soil Sample Locations Near Buildings of Concern
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Sample Location	Within 100 feet of Hotel?	Within 100 feet of Broad St Retail Bldgs?
SC-0137	YES	NO
SC-0138	YES	NO
SC-0140	NO	NO
SC-0141	NO	NO
SC-0142	NO	NO
SC-0143	NO	NO
SC-0144	NO	NO
SC-0145	NO	YES
SC-0146	NO	NO
SC-0147	NO	YES
SC-0148	YES	NO
SC-0151	YES	NO
SC-0152	YES	NO
SC-0153	YES	YES
SC-0154	YES	YES
SC-0155	YES	YES
SC-0156	NO	YES
SC-0158	NO	YES
SC-0159	NO	YES
SC-0160	NO	YES
SC-0161	NO	YES
SC-0162	NO	YES
SC-0163	NO	YES
SC-0164	NO	YES
SC-0165	NO	YES
SC-0166	NO	YES
SC-0167	NO	YES
SC-0168	NO	NO
SC-0169	NO	NO
SC-0170	NO	NO
SC-0171	YES	YES
SC-0172	YES	YES
SC-0173	YES	YES
SC-0174	YES	YES
SC-0175	YES	YES
SC-0177	NO	YES
SC-0178	YES	NO
SC-0179	YES	NO
SC-0181	YES	NO
SS-04	NO	YES

Table 2-22
Subsurface Soil EPCs for Samples within 100 ft of the Hotel
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

COI	Cas	Number of Samples	Number of Detections	Detection Frequency (%)	Max Concentration (mg/kg)	Max Reporting Limit (mg/kg)	Average Of Concentration (mg/kg)	Type of Distribution	Statistical Method	95% UCL (mg/kg) [a]	Exposure Point Concentration (mg/kg)	Basis for EPC	Notes
2-Butanone	78-93-3	28	0	0		0.029	0.008017857	NA	NA	NA	0.0145	1/2 RL	Less than 5 detections - 95% UCL calculation not appropriate
Acetone	67-64-1	27	6	22.22	0.13	0.057	0.026462963	Nonparametric	95% KM (t) UCL	0.0364	0.0364	95% UCL	95% UCL calculated with ProUCL v4.0
Benzene	71-43-2	71	14	19.72	7.1	0.014	0.109206338	Nonparametric	95% KM (Chebyshev) UCL	0.559	0.559	95% UCL	95% UCL calculated with ProUCL v4.0
Carbon Disulfide	75-15-0	28	3	10.71	0.39	0.014	0.018892857	NA	NA	NA	0.39	MDC	Less than 5 detections - 95% UCL calculation not appropriate
Chlorobenzene	108-90-7	18	2	11.11	0.001	0.014	0.005805556	NA	NA	NA	0.001	MDC	Less than 5 detections - 95% UCL calculation not appropriate
Ethylbenzene	100-41-4	71	8	11.27	0.21	0.014	0.009390141	Nonparametric	95% KM (t) UCL	0.0145	0.0145	95% UCL	95% UCL calculated with ProUCL v4.0
Methylene Chloride	75-09-2	28	0	0		0.015	0.004953571	NA	NA	NA	0.0075	1/2 RL	Less than 5 detections - 95% UCL calculation not appropriate
Naphthalene	91-20-3	71	12	16.90	74	4.3	2.285211268	Nonparametric	95% KM (t) UCL	4.442	4.442	95% UCL	95% UCL calculated with ProUCL v4.0
Styrene	100-42-5	69	0	0		0.014	0.003604348	NA	NA	NA	0.007	1/2 RL	Less than 5 detections - 95% UCL calculation not appropriate
Toluene	108-88-3	71	8	11.27	0.03	0.25	0.005970423	Nonparametric	95% KM (t) UCL	0.00401	0.00401	95% UCL	95% UCL calculated with ProUCL v4.0
Xylenes, total	1330-20-7	71	9	12.68	2.2	0.027	0.04461338	Nonparametric	95% KM (t) UCL	0.102	0.102	95% UCL	95% UCL calculated with ProUCL v4.0

Notes:
[a] Subsurface soil data for each COI were analyzed using EPA statistical software, ProUCL version 4.1 (available online at http://www.epa.gov/nerlesd1/tsc/form.htm).
EPC = exposure point concentration
KM = Kaplan-Meier Method
UCL = upper confidence limit
COI = constituent of interest
mg/kg = milligrams per kilogram

Table 2-23
Subsurface Soil EPCs for Samples within 100 ft of Broad St Retail Buildings
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

COI	Cas	Number of Samples	Number of Detections	Detection Frequency (%)	Max Concentration (mg/kg)	Max Reporting Limit (mg/kg)	Average Of Concentration (mg/kg)	Type of Distribution	Statistical Method	95% UCL (mg/kg) [a]	Exposure Point Concentration (mg/kg)	Basis for EPC	Notes
2-Butanone	78-93-3	8	0	0		0.029	0.008625	NA	NA	NA	0.0145	1/2 RL	Less than 10 samples - 95% UCL calculation not appropriate
Acetone	67-64-1	8	2	25	0.1	0.057	0.030375	NA	NA	NA	0.1	MDC	Less than 10 samples - 95% UCL calculation not appropriate
Benzene	71-43-2	26	6	23.08	0.51	0.25	0.037157692	Nonparametric	95% KM (t) UCL	0.0671	0.0671	95% UCL	95% UCL calculated with ProUCL v4.0
Carbon Disulfide	75-15-0	8	1	12.5	0.39	0.013	0.05223125	NA	NA	NA	0.39	MDC	Less than 10 samples - 95% UCL calculation not appropriate
Chlorobenzene	108-90-7	4	0	0		0.013	0.0055	NA	NA	NA	0.0065	1/2 RL	Less than 10 samples - 95% UCL calculation not appropriate
Ethylbenzene	100-41-4	26	3	11.54	0.21	0.25	0.028978846	NA	NA	NA	0.21	MDC	Less than 5 detections - 95% UCL calculation not appropriate
Methylene Chloride	75-09-2	8	1	12.5	0.024	0.013	0.0064	NA	NA	NA	0.024	MDC	Less than 10 samples - 95% UCL calculation not appropriate
Naphthalene	91-20-3	26	6	23.08	440	1.5	19.1425	Nonparametric	95% KM (t) UCL	50.5	50.5	95% UCL	95% UCL calculated with ProUCL v4.0
Styrene	100-42-5	26	0	0		0.22	0.007344231	NA	NA	NA	0.11	1/2 RL	Less than 5 detections - 95% UCL calculation not appropriate
Toluene	108-88-3	26	6	23.08	0.085	0.25	0.022926923	Nonparametric	95% KM (BCA) UCL	0.0244	0.0244	95% UCL	95% UCL calculated with ProUCL v4.0
Xylenes, total	1330-20-7	26	4	15.38	12	0.51	0.589905769	NA	NA	NA	12	MDC	Less than 5 detections - 95% UCL calculation not appropriate

Notes:
[a] Subsurface soil data for each COI were analyzed using EPA statistical software, ProUCL version 4.1 (available online at http://www.epa.gov/nerlesd1/tsc/form.htm).
EPC = exposure point concentration
KM = Kaplan-Meier Method
UCL = upper confidence limit
COI = constituent of interest
mg/kg = milligrams per kilogram

Table 2-24
Comparison of Type 4 RRS for Subsurface Soil Protective of Vapor Intrusion to EPCs
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Soil Vapor Intrusion COI	Subsurface Soil EPC (mg/kg) [a]		Type 4 RRS - Hotel (mg/kg)	Type 4 RRS - Broad St Retail (mg/kg)
	Within 100 ft of Hotel	Within 100 ft of Broad St Retail Bldgs		
2-Butanone	0.0145	0.0145	**648**	**57,400**
Acetone	0.0364	0.1	**3,280**	**404,000**
Benzene	0.559	0.0671	**0.02**	**0.84**
Carbon Disulfide	0.39	0.39	**0.969**	**32.3**
Chlorobenzene	0.001	0.0065	**1.52**	**45.9**
Ethylbenzene	0.0145	0.21	**0.257**	**7.4**
Methylene Chloride	0.0075	0.024	**0.271**	**18.6**
Naphthalene	4.442	50.5	**2.26**	**53.9**
Styrene	0.007	0.11	**141**	**3,810**
Toluene	0.00401	0.0244	**60.6**	**2,030**
Xylenes, total	0.102	12	**20.5**	**567**

Notes:
[a] Subsurface soil data for each COI were analyzed using EPA statistical software, ProUCL version 4.1 (available online at http://www.epa.gov/nerlesd1/tsc/form.htm).
EPC = exposure point concentration
mg/kg = milligrams per kilogram

Table 2-25
Comparison of Type 4 RRS for Subsurface Soil Protective of Vapor Intrusion within 100 ft of Hotel to Historical Soil Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Subsurface Soil COI	Cas	Units	Type 4 RRS - Hotel	GP-127 1/24/1996 16-19	GP-318 12/16/1998 11-13	GP-319 12/17/1998 7-9	GP-321 12/17/1998 16-18	GP-321 12/17/1998 5.5-6.5	GP-322 12/18/1998 7-9	GP-324 12/19/1998 12-14	GP-325 12/19/1998 10-12	GP-326 12/19/1998 10-12	GP-327 12/20/1998 12-14	GP-331 12/21/1998 16-18	HA-101 2/7/1996 1-3	HA-102 2/7/1996 1-3	HA-102 2/7/1996 5-7	HA-103 2/7/1996 1-3	HA-103 2/7/1996 5-6	HA-105 2/8/1996 1-3	HA-107 2/12/1996 1-3
Benzene	71-43-2	mg/kg	0.02	< 0.012	**0.0096**	**0.022**	**0.08**	< 0.0038	< 0.0037	< 0.0044	< 0.0043	< 0.0047	< 0.0043	**0.0055**	< 0.013	< 0.012	< 0.014	< 0.013	< 0.014	< 0.013	< 0.013
Naphthalene	91-20-3	mg/kg	2.26	< 0.38	< 0.41	**0.78**	**47**	< 0.39	< 1.5	< 0.4	< 0.41	< 0.41	< 0.42	< 0.42	**1.8**	**8.1**	**0.54**	**0.3**	< 0.44	< 0.42	< 0.42

Notes:
bold = analyte detected
shading indicates concentration exceeds RRS
mg/kg = milligrams per kilogram
COI = constituent of interest
RRS = Risk Reduction Standard

Table 2-25
Comparison of Type 4 RRS for Subsurface Soil Protective of Vapor Intrusion within 100 ft of Hotel to Historical Soil Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Subsurface Soil COI	Cas	Units	HA-107 2/12/1996 3-4	HA-108 2/12/1996 10-11	HA-108 2/12/1996 1-3	HA-108 2/12/1996 5-7	HA-200 9/8/1997 2-5	HA-204 9/9/1997 2-5	MW-09A 2/24/1996 13-15	MW-09A 2/24/1996 17-19	MW-10 2/26/1996 11-13	MW-10 2/26/1996 15-17	MW-13 2/28/1996 1-3	MW-13 2/28/1996 5-7	SC-0064 7/9/1999 3-3	SC-0065 7/9/1999 3-3	SC-0066 7/9/1999 3-3	SC-0067 7/9/1999 3-3	SC-0073 7/14/1999 7.5-7.5	SC-0074 7/14/1999 7.5-7.5	SC-0075 7/14/1999 12.5-12.5	SC-0081 7/14/1999 18-18
Benzene	71-43-2	mg/kg	< 0.013	< 0.013	< 0.013	< 0.012	< 0.0064	< 0.0057	< 0.012	< 0.013	< 0.013	< 0.012	< 0.013	< 0.013	< 0.0045	< 0.0046	< 0.0059	< 0.0041	< 0.0035	< 0.0038	< 0.0046	< 0.0058
Naphthalene	91-20-3	mg/kg	< 0.43	< 0.43	< 0.42	< 0.41	< 0.42	< 0.38	< 0.4	< 0.42	**5.1**	< 0.41	< 0.42	< 0.44	< 0.41	**2.1**	< 0.35	< 0.43	< 0.4	< 0.38	< 0.39	**1.2**

Notes:
bold = analyte detected
shading indicates concentration exceeds RRS
mg/kg = milligrams per kilogram
COI = constituent of interest
RRS = Risk Reduction Standard

Table 2-25
Comparison of Type 4 RRS for Subsurface Soil Protective of Vapor Intrusion within 100 ft of Hotel to Historical Soil Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Subsurface Soil COI	Cas	Units	SC-0082 7/14/1999 12.5-12.5	SC-0086 7/20/1999 6-6	SC-0087 7/20/1999 12-12	SC-0088 7/20/1999 12-12	SC-0089 7/20/1999 12-12	SC-0104 7/19/1999 20-20	SC-0108 7/23/1999 14-14	SC-0109 7/23/1999 14-14	SC-0113 7/23/1999 5-5	SC-0117 7/26/1999 10-10	SC-0119 7/27/1999 14-14	SC-0120 7/27/1999 16-16	SC-0124 7/29/1999 14-14	SC-0125 7/29/1999 7-7	SC-0126 7/29/1999 10-10	SC-0127 7/29/1999 15-15	SC-0130 8/2/1999 4.5-4.5	SC-0132 8/2/1999 14-14	SC-0137 8/4/1999 10-10	SC-0138 8/4/1999 10-10
Benzene	71-43-2	mg/kg	< 0.0044	< 0.0049	< 0.0053	< 0.0075	**0.011**	< 0.0046	< 0.0049	< 0.006	**7.1**	< 0.0043	**0.16**	< 0.0045	< 0.0054	**0.012**	**0.013**	**0.022**	< 0.0055	< 0.0046	< 0.0041	**0.014**
Naphthalene	91-20-3	mg/kg	< 0.43	< 0.41	< 0.4	< 0.39	< 0.42	< 0.41	< 0.41	< 0.42	< 0.44	< 0.41	< 0.41	< 0.43	< 0.44	< 0.42	< 0.46	< 0.45	< 0.43	< 0.45	< 0.4	< 0.41

Notes:
bold = analyte detected
shading indicates concentration exceeds RRS
mg/kg = milligrams per kilogram
COI = constituent of interest
RRS = Risk Reduction Standard

Table 2-25
Comparison of Type 4 RRS for Subsurface Soil Protective of Vapor Intrusion within 100 ft of Hotel to Historical Soil Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Subsurface Soil COI	Cas	Units	SC-0148 8/12/1999 10-10	SC-0151 8/12/1999 10-10	SC-0152 8/12/1999 11-11	SC-0153 8/12/1999 8-8	SC-0154 8/12/1999 18-18	SC-0171 8/28/1999 5-5	SC-0172 8/28/1999 5-5	SC-0173 8/28/1999 11-11	SC-0174 8/28/1999 5-5	SC-0175 8/28/1999 5-5	SC-0178 8/31/1999 7-7	SC-0179 9/1/1999 7-7	SC-0181 9/1/1999 7-7
Benzene	71-43-2	mg/kg	< 0.0042	< 0.0048	< 0.005	< 0.0041	< 0.0065	< 0.013	< 0.0054	< 0.0059	< 0.0053	< 0.0078	**0.028**	**0.012**	**0.048**
Naphthalene	91-20-3	mg/kg	< 0.44	< 0.41	**3.2**	< 0.41	< 0.39	< 0.48	< 0.49	< 0.42	< 0.41	< 0.51	**3.3**	< 4.3	**74**

Notes:
bold = analyte detected
shading indicates concentration exceeds RRS
mg/kg = milligrams per kilogram
COI = constituent of interest
RRS = Risk Reduction Standard

Table 2-26
Comparison of Type 4 RRS for Groundwater Protective of Vapor Intrusion to April 2010 Groundwater Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Groundwater VI COI	Units	Type 4 Vapor Intrusion RRS - Hotel Worker	Type 4 Vapor Intrusion RRS - Broad Street Retail Worker	MW-09A 4/14/2010	MW-09B 4/15/2010	MW-14A 4/13/2010	MW-14A DUP 4/13/2010	MW-401AR 4/15/2010	MW-402A 4/15/2010	MW-402B 4/15/2010
Benzene	ug/L	36,500	24,900	< 5.0	< 5.0	--	--	< 5.0	< 5.0	< 5.0
Naphthalene	ug/L	29,000	24,200	< 10	< 9.4	--	--	< 9.8	< 9.7	< 9.9

Notes:
bold = analyte detected
ug/l = micrograms per liter
COI = constituent of interest
DUP = sample duplicate
RRS = Risk Reduction Standard
VI = vapor intrusion

Table 2-26
Comparison of Type 4 RRS for Groundwater Protective of Vapor Intrusion to April 2010 Groundwater Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Groundwater VI COI	Units	Type 4 Vapor Intrusion RRS - Hotel Worker	Type 4 Vapor Intrusion RRS - Broad Street Retail Worker	MW-403A 4/14/2010	MW-403B 4/14/2010	MW-403B 4/14/2010	MW-404B 4/15/2010	MW-404B DUP 4/15/2010	MW-404R 4/15/2010	MW-405 4/14/2010
Benzene	ug/L	36,500	24,900	< 5.0	< 5.0	--	< 5.0	< 5.0	**110**	< 5.0
Naphthalene	ug/L	29,000	24,200	< 9.5	< 9.5	--	< 9.4	< 9.7	**9.9**	< 10

Notes:
bold = analyte detected
ug/l = micrograms per liter
COI = constituent of interest
DUP = sample duplicate
RRS = Risk Reduction Standard
VI = vapor intrusion

Table 2-26
Comparison of Type 4 RRS for Groundwater Protective of Vapor Intrusion to April 2010 Groundwater Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Groundwater VI COI	Units	Type 4 Vapor Intrusion RRS - Hotel Worker	Type 4 Vapor Intrusion RRS - Broad Street Retail Worker	MW-406A 4/13/2010	MW-406A 4/15/2010	MW-406B 4/13/2010	MW-406C 4/13/2010	MW-501 4/16/2010	MW-503 4/14/2010	MW-504 4/15/2010
Benzene	ug/L	36,500	24,900	--	--	--	--	< 5.0	< 5.0	**3,000**
Naphthalene	ug/L	29,000	24,200	--	--	--	--	< 9.7	< 9.9	**1,200**

Notes:
bold = analyte detected
ug/l = micrograms per liter
COI = constituent of interest
DUP = sample duplicate
RRS = Risk Reduction Standard
VI = vapor intrusion

Table 2-26
Comparison of Type 4 RRS for Groundwater Protective of Vapor Intrusion to April 2010 Groundwater Data
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Groundwater VI COI	Units	Type 4 Vapor Intrusion RRS - Hotel Worker	Type 4 Vapor Intrusion RRS - Broad Street Retail Worker	MW-504 DUP 4/15/2010	MW-505R 4/13/2010	MW-506 4/14/2010	MW-507 4/16/2010	MW-508 4/15/2010
Benzene	ug/L	36,500	24,900	**2,800**	--	< 5.0	< 5.0	< 5.0
Naphthalene	ug/L	29,000	24,200	**1,100**	--	< 9.4	< 9.4	< 9.9

Notes:
bold = analyte detected
ug/l = micrograms per liter
COI = constituent of interest
DUP = sample duplicate
RRS = Risk Reduction Standard
VI = vapor intrusion

Table 2-27
Summary of Oostanaula River Surface Water Data and Comparison to EPA Region 4 Ecological Freshwater Screening Values
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

					sys_loc_code	SW-300	SW-303	SW-306	SW-309	RW	URW	IRW
					sample date	12/29/1998	12/29/1998	12/29/1998	12/29/1998	10/19/2001	11/1/2001	11/1/2001
					sample type code	N	N	N	N	N	N	N
					sys sample code					RW-101901	URW-110101	IRW-110101
					location	Background	Site	Site	Downstream	Baseline/Upstream	Upstream	Work Zone
Analytical Method	**Chemical Name**	**Class**	**Region 4 FWSV (USEPA 2001)**	**Note**	**Units**							
E160.2	Total Suspended Solids	Physical			mg/L	NA	NA	NA	NA	**6.00**	**3.00 J**	**9.00**
SW8270C	1-Methylnaphthalene	PAHs			µg/l	NA	NA	NA	NA	NA	NA	NA
SW8270C	2-Methylnaphthalene	PAHs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Acenaphthene	PAHs	17		µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Acenaphthylene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Anthracene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Benzo(a)anthracene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Benzo(a)pyrene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Benzo(b)fluoranthene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Benzo(g,h,i)perylene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Benzo(k)fluoranthene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Chrysene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Dibenzo(a,h)anthracene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Fluoranthene	PAHs	39.8		µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Fluorene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Indeno(1,2,3-cd)pyrene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Naphthalene	PAHs	62		µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Phenanthrene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8270C	Pyrene	PAHs			µg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10
SW8082	Aroclor 1016	PCBs	0.014		µg/l	NA	NA	NA	NA	< 1	< 1	< 1
SW8082	Aroclor 1221	PCBs	0.014		µg/l	NA	NA	NA	NA	< 2	< 2	< 2
SW8082	Aroclor 1232	PCBs	0.014		µg/l	NA	NA	NA	NA	< 1	< 1	< 1
SW8082	Aroclor 1242	PCBs	0.014		µg/l	NA	NA	NA	NA	< 1	< 1	< 1
SW8082	Aroclor 1248	PCBs	0.014		µg/l	NA	NA	NA	NA	< 1	< 1	< 1
SW8082	Aroclor 1254	PCBs	0.014		µg/l	NA	NA	NA	NA	< 1	< 1	< 1
SW8082	Aroclor 1260	PCBs	0.014		µg/l	NA	NA	NA	NA	< 1	< 1	< 1
SW8081A	1,1,1-Trichloro-2,2-bis (p-Methoxphenyl)-ethane	Pesticide	0.03	NAWQC	µg/l	NA	NA	NA	NA	< 0.5	< 0.5	< 0.5
SW8081A	4,4´-DDD	Pesticide	0.0064		µg/l	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1
SW8081A	4,4´-DDE	Pesticide	10.5		µg/l	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1
SW8081A	4,4´-DDT	Pesticide	0.001		µg/l	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1
SW8081A	Aldrin	Pesticide	0.3		µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8081A	Alpha-bhc	Pesticide	500		µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8081A	Alpha-chlordane	Pesticide	0.0043	chlordane	µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8081A	Beta-BHC	Pesticide	5000		µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8081A	Camphechlor	Pesticide			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8081A	Chlordane	Pesticide	0.0043		µg/l	NA	NA	NA	NA	NA	NA	NA
SW8081A	Delta-BHC	Pesticide			µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8081A	Dieldrin	Pesticide	0.0019		µg/l	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1
SW8081A	Endosulfan I	Pesticide	0.056		µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8081A	Endosulfan II	Pesticide	0.056		µg/l	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1
SW8081A	Endosulfan sulfate	Pesticide	0.056	a-endosulfan	µg/l	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1
SW8081A	Endrin	Pesticide	0.0023		µg/l	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1
SW8081A	Endrin aldehyde	Pesticide	0.0023	endrin	µg/l	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1
SW8081A	Endrin ketone	Pesticide	0.0023	endrin	µg/l	NA	NA	NA	NA	< 0.1	< 0.1	< 0.1
SW8081A	Gamma-BHC	Pesticide	0.08		µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8081A	Gamma-chlordane	Pesticide	0.0043	chlordane	µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8081A	Heptachlor	Pesticide	0.0038		µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8081A	Heptachlor epoxide	Pesticide	0.0038		µg/l	NA	NA	NA	NA	< 0.05	< 0.05	< 0.05
SW8270C	1,2,4-Trichlorobenzene	SVOCs	44.9		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	1,2-Dichlorobenzene	SVOCs	15.8		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	1,4-Dichlorobenzene	SVOCs	11.2		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	2,4,5-Trichlorophenol	SVOCs			µg/l	NA	NA	NA	NA	< 25	< 25	< 25
SW8270C	2,4,6-Trichlorophenol	SVOCs	3.2		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	2,4-Dichlorophenol	SVOCs	36.5		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	2,4-Dimethylphenol	SVOCs	21.2		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	2,4-Dinitrophenol	SVOCs	6.2		µg/l	NA	NA	NA	NA	< 25	< 25	< 25

Table 2-27
Summary of Oostanaula River Surface Water Data and Comparison to EPA Region 4 Ecological Freshwater Screening Values
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

					sys_loc_code	SW-300	SW-303	SW-306	SW-309	RW	URW	IRW
					sample date	12/29/1998	12/29/1998	12/29/1998	12/29/1998	10/19/2001	11/1/2001	11/1/2001
					sample type code	N	N	N	N	N	N	N
					sys sample code					RW-101901	URW-110101	IRW-110101
					location	Background	Site	Site	Downstream	Baseline/Upstream	Upstream	Work Zone
Analytical Method	**Chemical Name**	**Class**	**Region 4 FWSV (USEPA 2001)**	**Note**	**Units**							
SW8270C	2,4-Dinitrotoluene	SVOCs	310		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	2,6-Dinitrotoluene	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	2-Chloronaphthalene	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	2-Chlorophenol	SVOCs	43.8		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	2-Methylphenol	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	2-Nitroaniline	SVOCs			µg/l	NA	NA	NA	NA	< 25	< 25	< 25
SW8270C	2-Nitrophenol	SVOCs	3500		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	3,3`-Dichlorobenzidine	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	3,5,5-trimethyl-2-cyclohexene-1-one	SVOCs	1170		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	3-Nitroaniline	SVOCs			µg/l	NA	NA	NA	NA	< 25	< 25	< 25
SW8270C	4,6-Dinitro-2-methylphenol	SVOCs	2.3		µg/l	NA	NA	NA	NA	< 25	< 25	< 25
SW8270C	4-Bromophenyl phenyl ether	SVOCs	12.2		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	4-Chloro-3-methylphenol	SVOCs	0.3		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	4-Chlorophenyl phenyl ether	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	4-Methylphenol	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	4-Nitrophenol	SVOCs	82.8		µg/l	NA	NA	NA	NA	< 25	< 25	< 25
SW8270C	Benzyl butyl phthalate	SVOCs	22		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Bis(2-Chloroethoxy)methane	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Bis(2-Chloroethyl)ether	SVOCs	2380		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Bis(2-chloroisopropyl)ether	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Bis(2-ethylhexyl)phthalate	SVOCs	0.3		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Carbazole	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Dibenzofuran	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Diethyl phthalate	SVOCs	521		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Dimethyl phthalate	SVOCs	330		µg/l	NA	NA	NA	NA	**4.0 J**	< 10	< 10
SW8270C	Di-n-butyl phthalate	SVOCs	9.4		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Di-n-octyl phthalate	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Hexachloro-1,3-butadiene	SVOCs	0.93		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Hexachlorobenzene	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Hexachlorocyclopentadiene	SVOCs	0.07		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Hexachloroethane	SVOCs	9.8		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	m-Dichlorobenzene	SVOCs	50.2		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Nitrobenzene	SVOCs	270		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	n-Nitrosodi-n-propylamine	SVOCs			µg/l	NA	NA	NA	NA	**5.0 J**	< 10	< 10
SW8270C	n-Nitrosodiphenylamine	SVOCs	58.5		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	P-Chloroaniline	SVOCs			µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	Pentachlorophenol	SVOCs	13		µg/l	NA	NA	NA	NA	< 25	< 25	< 25
SW8270C	Phenol	SVOCs	256		µg/l	NA	NA	NA	NA	< 10	< 10	< 10
SW8270C	P-Nitroaniline	SVOCs			µg/l	NA	NA	NA	NA	< 25	< 25	< 25
SW8260B	1,1,1-Trichloroethane	VOCs	528		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,1,2,2-Tetrachloroethane	VOCs	240		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,1,2-Trichloroethane	VOCs	940		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,1-Dichloroethane	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,1-Dichloroethylene	VOCs	303		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,2,4-Trichlorobenzene	VOCs	44.9		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,2,4-Trimethylbenzene	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,2-Dichlorobenzene	VOCs	15.8		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,2-Dichloroethane	VOCs	2000		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,2-Dichloroethene, total	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,2-Dichloropropane	VOCs	525		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,3,5-Trimethylbenzene	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,4-Dichlorobenzene	VOCs	11.2		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	2-Butanone	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	2-Hexanone	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	4-Methyl-2-Pentanone	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	1,2-Dibromo-3-chloropropane	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Acetone	VOCs			µg/l	NA	NA	NA	NA	< 100	< 100	< 100
SW8260B	Benzene	VOCs	53		µg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
SW8260B	Bromodichloromethane	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Bromomethane	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Butylbenzene	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Carbon Disulfide	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5

Table 2-27
Summary of Oostanaula River Surface Water Data and Comparison to EPA Region 4 Ecological Freshwater Screening Values
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

					sys_loc_code	**SW-300**	**SW-303**	**SW-306**	**SW-309**	**RW**	**URW**	**IRW**
					sample date	**12/29/1998**	**12/29/1998**	**12/29/1998**	**12/29/1998**	**10/19/2001**	**11/1/2001**	**11/1/2001**
					sample type code	**N**	**N**	**N**	**N**	**N**	**N**	**N**
					sys sample code					**RW-101901**	**URW-110101**	**IRW-110101**
					location	**Background**	**Site**	**Site**	**Downstream**	**Baseline/Upstream**	**Upstream**	**Work Zone**
Analytical Method	**Chemical Name**	**Class**	**Region 4 FWSV (USEPA 2001)**	**Note**	**Units**							
SW8260B	Carbon tetrachloride	VOCs	352		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	CFC-11	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	CFC-12	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Chlorobenzene	VOCs	195		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Chlorodibromomethane	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Chloroethane	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Chloroform	VOCs	289		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Chloromethane	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	cis-1,2-Dichloroethene	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Ethylbenzene	VOCs	453		µg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
SW8260B	Hexachloro-1,3-butadiene	VOCs	0.93		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	m,p-Xylene	VOCs			µg/l	NA	NA	NA	NA	--	< 5	< 5
SW8260B	m-Dichlorobenzene	VOCs	50.2		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Methyl Ethyl Benzene	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Methylene Chloride	VOCs	1930		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Methylterbutyl ether	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	o-Xylene	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Styrene	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Tetrachloroethylene	VOCs	84		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Toluene	VOCs	175		µg/l	< 5	< 5	< 5	< 5	< 5	< 5	< 5
SW8260B	trans-1,2-Dichloroethene	VOCs	1350		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	trans-1,3-Dichloropropene	VOCs	24.4		µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Trichloroethylene	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Vinyl Chloride	VOCs			µg/l	NA	NA	NA	NA	< 5	< 5	< 5
SW8260B	Xylenes, total	VOCs			µg/l	< 5	< 5	< 5	< 5	< 5	--	--

Notes:

RW-101901 (10/19/2001) was collected prior to the onset of remedial activities upstream of the remediation zone to establish baseline updtream surface water conditions.
The remaining samples were collected after completion of excavation and backfilling:
URW-110101 - collected upstream of the work zone
IRW-110101 - collected within the work zone (within the silt-curtained dredge zone)
IRWD-110101 - collected within the work zone (within the silt-curtained dredge zone)
DRW-110101 - collected downstream of the work zone
Chemical names cited in notes field indicate a surrogate compound used.
Values presented in bolded text indicate a detected concentration.

- = results reported as total by chemical class; see "Calc" values
-- = not analyzed; evaluated as total xylenes or individual isomer
< = indicates non-detected concentration given at the reporting limit
µg/l = micrograms per liter
FWSV = freshwater screening value
J = estimated value (between the method detection limit and reporting limit)
NA = not applicable
NAWQC = national ambient water quality criteria (freshwater water continuous chronic concentration; USEPA 2009); NAWQCs were applied in the absence of USEPA Region 4 FWSVs.

References:

USEPA 2009. National Recommended Water Quality Criteria. United States Environmental Protection Agency, Office of Water, Office of Science and Technology (4304T) 2009. Accessed online at: http://water.epa.gov/scitech/swguidance/standards/current/index.cfm.

USEPA 2001. Supplemental Guidance to RAGS: Region 4 Bulletins, Ecological Risk Assessment. Originally published November 1995. Website version last updated November 30, 2001: http://www.epa.gov/region4/waste/ots/ecolbul.html.

					sys_loc_code	IRWD	DRW	Baseline			Rock Placement			Final		
					sample date	11/1/2001	11/1/2001	7/30/2008	7/30/2008	7/30/2008	8/4/2008	8/4/2008	8/4/2008	8/6/2008	8/6/2008	8/6/2008
					sample type code	N	N	N	N	N	N	N	N	N	N	N
					sys sample code	IRWD-110101	DRW-110101									
					location	Work Zone	Downstream	Upstream	Work Zone	Downstream	Upstream	Work Zone	Downstream	Upstream	Work Zone	Downstream
Analytical Method	Chemical Name	Class	Region 4 FWSV (USEPA 2001)	Note	Units											
E160.2	Total Suspended Solids	Physical			mg/L	**10.00**	**3.00 J**	**18.00**	**16.00**	**19.00**	**18.00**	**25.00**	**17.00**	**12.00**	**9.50**	**15.00**
SW8270C	1-Methylnaphthalene	PAHs			µg/l	NA	NA	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	2-Methylnaphthalene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Acenaphthene	PAHs	17		µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Acenaphthylene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	< 9.4 U	< 9.4 U	< 9.7 U
SW8270C	Anthracene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Benzo(a)anthracene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Benzo(a)pyrene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Benzo(b)fluoranthene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Benzo(g,h,i)perylene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Benzo(k)fluoranthene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Chrysene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Dibenzo(a,h)anthracene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Fluoranthene	PAHs	39.8		µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Fluorene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Indeno(1,2,3-cd)pyrene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8270C	Naphthalene	PAHs	62		µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	< 9.4 U	< 9.4 U	< 9.7 U
SW8270C	Phenanthrene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	< 9.4 U	< 9.4 U	< 9.7 U
SW8270C	Pyrene	PAHs			µg/l	< 10	< 10	< 9.4 U	< 9.4 U	< 9.4 U	< 9.7 U	< 9.7 U	< 9.7 U	NA	NA	NA
SW8082	Aroclor 1016	PCBs	0.014		µg/l	< 1	< 1	< 0.94 U	< 0.94 U	< 0.94 U	< 0.97 U	< 0.97 U	< 0.97 U	< 0.94 U	< 0.97 U	< 0.94 U
SW8082	Aroclor 1221	PCBs	0.014		µg/l	< 2	< 2	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U
SW8082	Aroclor 1232	PCBs	0.014		µg/l	< 1	< 1	< 0.94 U	< 0.94 U	< 0.94 U	< 0.97 U	< 0.97 U	< 0.97 U	< 0.94 U	< 0.97 U	< 0.94 U
SW8082	Aroclor 1242	PCBs	0.014		µg/l	< 1	< 1	< 0.94 U	< 0.94 U	< 0.94 U	< 0.97 U	< 0.97 U	< 0.97 U	< 0.94 U	< 0.97 U	< 0.94 U
SW8082	Aroclor 1248	PCBs	0.014		µg/l	< 1	< 1	< 0.94 U	< 0.94 U	< 0.94 U	< 0.97 U	< 0.97 U	< 0.97 U	< 0.94 U	< 0.97 U	< 0.94 U
SW8082	Aroclor 1254	PCBs	0.014		µg/l	< 1	< 1	< 0.94 U	< 0.94 U	< 0.94 U	< 0.97 U	< 0.97 U	< 0.97 U	< 0.94 U	< 0.97 U	< 0.94 U
SW8082	Aroclor 1260	PCBs	0.014		µg/l	< 1	< 1	< 0.94 U	< 0.94 U	< 0.94 U	< 0.97 U	< 0.97 U	< 0.97 U	< 0.94 U	< 0.97 U	< 0.94 U
SW8081A	1,1,1-Trichloro-2,2-bis (p-Methoxphenyl)-ethane	Pesticide	0.03	NAWQC	µg/l	< 0.5	< 0.5	< 0.47 U	< 0.47 U	< 0.47 U	< 0.49 U	< 0.49 U	< 0.49 U	< 0.47 U	< 0.49 U	< 0.47 U
SW8081A	4,4´-DDD	Pesticide	0.0064		µg/l	< 0.1	< 0.1	< 0.094 U	< 0.094 U	< 0.094 U	< 0.097 U	< 0.097 U	< 0.097 U	< 0.094 U	< 0.097 U	< 0.094 U
SW8081A	4,4´-DDE	Pesticide	10.5		µg/l	< 0.1	< 0.1	< 0.094 U	< 0.094 U	< 0.094 U	< 0.097 U	< 0.097 U	< 0.097 U	< 0.094 U	< 0.097 U	< 0.094 U
SW8081A	4,4´-DDT	Pesticide	0.001		µg/l	< 0.1	< 0.1	< 0.094 U	< 0.094 U	< 0.094 U	< 0.097 U	< 0.097 U	< 0.097 U	< 0.094 U	< 0.097 U	< 0.094 U
SW8081A	Aldrin	Pesticide	0.3		µg/l	< 0.05	< 0.05	< 0.047 U	< 0.047 U	< 0.047 U	< 0.049 U	< 0.049 U	< 0.049 U	< 0.047 U	< 0.049 U	< 0.047 U
SW8081A	Alpha-bhc	Pesticide	500		µg/l	< 0.05	< 0.05	< 0.047 U	< 0.047 U	< 0.047 U	< 0.049 U	< 0.049 U	< 0.049 U	< 0.047 U	< 0.049 U	< 0.047 U
SW8081A	Alpha-chlordane	Pesticide	0.0043	chlordane	µg/l	< 0.05	< 0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8081A	Beta-BHC	Pesticide	5000		µg/l	< 0.05	< 0.05	< 0.047 U	< 0.047 U	< 0.047 U	< 0.049 U	< 0.049 U	< 0.049 U	< 0.047 U	< 0.049 U	< 0.047 U
SW8081A	Camphechlor	Pesticide			µg/l	< 5	< 5	< 4.7 U	< 4.7 U	< 4.7 U	< 4.9 U	< 4.9 U	< 4.9 U	< 4.7 U	< 4.9 U	< 4.7 U
SW8081A	Chlordane	Pesticide	0.0043		µg/l	NA	NA	< 0.47 U	< 0.47 U	< 0.47 U	< 0.49 U	< 0.49 U	< 0.49 U	< 0.47 U	< 0.49 U	< 0.47 U
SW8081A	Delta-BHC	Pesticide			µg/l	< 0.05	< 0.05	< 0.047 U	< 0.047 U	< 0.047 U	< 0.049 U	< 0.049 U	< 0.049 U	< 0.047 U	< 0.049 U	< 0.047 U
SW8081A	Dieldrin	Pesticide	0.0019		µg/l	< 0.1	< 0.1	< 0.094 U	< 0.094 U	< 0.094 U	< 0.097 U	< 0.097 U	< 0.097 U	< 0.094 U	< 0.097 U	< 0.094 U
SW8081A	Endosulfan I	Pesticide	0.056		µg/l	< 0.05	< 0.05	< 0.047 U	< 0.047 U	< 0.047 U	< 0.049 U	< 0.049 U	< 0.049 U	< 0.047 U	< 0.049 U	< 0.047 U
SW8081A	Endosulfan II	Pesticide	0.056		µg/l	< 0.1	< 0.1	< 0.094 U	< 0.094 U	< 0.094 U	< 0.097 U	< 0.097 U	< 0.097 U	< 0.094 U	< 0.097 U	< 0.094 U
SW8081A	Endosulfan sulfate	Pesticide	0.056	a-endosulfan	µg/l	< 0.1	< 0.1	< 0.094 U	< 0.094 U	< 0.094 U	< 0.097 U	< 0.097 U	< 0.097 U	< 0.094 U	< 0.097 U	< 0.094 U
SW8081A	Endrin	Pesticide	0.0023		µg/l	< 0.1	< 0.1	< 0.094 U	< 0.094 U	< 0.094 U	< 0.097 U	< 0.097 U	< 0.097 U	< 0.094 U	< 0.097 U	< 0.094 U
SW8081A	Endrin aldehyde	Pesticide	0.0023	endrin	µg/l	< 0.1	< 0.1	< 0.094 U	< 0.094 U	< 0.094 U	< 0.097 U	< 0.097 U	< 0.097 U	< 0.094 U	< 0.097 U	< 0.094 U
SW8081A	Endrin ketone	Pesticide	0.0023	endrin	µg/l	< 0.1	< 0.1	< 0.094 U	< 0.094 U	< 0.094 U	< 0.097 U	< 0.097 U	< 0.097 U	< 0.094 U	< 0.097 U	< 0.094 U
SW8081A	Gamma-BHC	Pesticide	0.08		µg/l	< 0.05	< 0.05	< 0.047 U	< 0.047 U	< 0.047 U	< 0.049 U	< 0.049 U	< 0.049 U	< 0.047 U	< 0.049 U	< 0.047 U
SW8081A	Gamma-chlordane	Pesticide	0.0043	chlordane	µg/l	< 0.05	< 0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8081A	Heptachlor	Pesticide	0.0038		µg/l	< 0.05	< 0.05	< 0.047 U	< 0.047 U	< 0.047 U	< 0.049 U	< 0.049 U	< 0.049 U	< 0.047 U	< 0.049 U	< 0.047 U
SW8081A	Heptachlor epoxide	Pesticide	0.0038		µg/l	< 0.05	< 0.05	< 0.047 U	< 0.047 U	< 0.047 U	< 0.049 U	< 0.049 U	< 0.049 U	< 0.047 U	< 0.049 U	< 0.047 U
SW8270C	1,2,4-Trichlorobenzene	SVOCs	44.9		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	1,2-Dichlorobenzene	SVOCs	15.8		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	1,4-Dichlorobenzene	SVOCs	11.2		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	2,4,5-Trichlorophenol	SVOCs			µg/l	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	2,4,6-Trichlorophenol	SVOCs	3.2		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	2,4-Dichlorophenol	SVOCs	36.5		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	2,4-Dimethylphenol	SVOCs	21.2		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	< 9.4 U	< 9.4 U	< 9.7 U
SW8270C	2,4-Dinitrophenol	SVOCs	6.2		µg/l	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-27
Summary of Oostanaula River Surface Water Data and Comparison to EPA Region 4 Ecological Freshwater Screening Values
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

					sys_loc_code	IRWD	DRW	Baseline			Rock Placement			Final		
					sample date	11/1/2001	11/1/2001	7/30/2008	7/30/2008	7/30/2008	8/4/2008	8/4/2008	8/4/2008	8/6/2008	8/6/2008	8/6/2008
					sample type code	N	N	N	N	N	N	N	N	N	N	N
					sys sample code	IRWD-110101	DRW-110101									
					location	Work Zone	Downstream	Upstream	Work Zone	Downstream	Upstream	Work Zone	Downstream	Upstream	Work Zone	Downstream
Analytical Method	**Chemical Name**	**Class**	**Region 4 FWSV (USEPA 2001)**	**Note**	**Units**											
SW8270C	2,4-Dinitrotoluene	SVOCs	310		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	2,6-Dinitrotoluene	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	2-Chloronaphthalene	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	2-Chlorophenol	SVOCs	43.8		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	2-Methylphenol	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	< 9.4 U	< 9.4 U	< 9.7 U
SW8270C	2-Nitroaniline	SVOCs			µg/l	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	2-Nitrophenol	SVOCs	3500		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	3,3`-Dichlorobenzidine	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	3,5,5-trimethyl-2-cyclohexene-1-one	SVOCs	1170		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	3-Nitroaniline	SVOCs			µg/l	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	4,6-Dinitro-2-methylphenol	SVOCs	2.3		µg/l	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	4-Bromophenyl phenyl ether	SVOCs	12.2		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	4-Chloro-3-methylphenol	SVOCs	0.3		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	4-Chlorophenyl phenyl ether	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	4-Methylphenol	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	< 9.4 U	< 9.4 U	< 9.7 U
SW8270C	4-Nitrophenol	SVOCs	82.8		µg/l	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Benzyl butyl phthalate	SVOCs	22		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Bis(2-Chloroethoxy)methane	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Bis(2-Chloroethyl)ether	SVOCs	2380		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Bis(2-chloroisopropyl)ether	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Bis(2-ethylhexyl)phthalate	SVOCs	0.3		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Carbazole	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Dibenzofuran	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Diethyl phthalate	SVOCs	521		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Dimethyl phthalate	SVOCs	330		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Di-n-butyl phthalate	SVOCs	9.4		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Di-n-octyl phthalate	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Hexachloro-1,3-butadiene	SVOCs	0.93		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Hexachlorobenzene	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Hexachlorocyclopentadiene	SVOCs	0.07		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Hexachloroethane	SVOCs	9.8		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	m-Dichlorobenzene	SVOCs	50.2		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Nitrobenzene	SVOCs	270		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	n-Nitrosodi-n-propylamine	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	n-Nitrosodiphenylamine	SVOCs	58.5		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	P-Chloroaniline	SVOCs			µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Pentachlorophenol	SVOCs	13		µg/l	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	Phenol	SVOCs	256		µg/l	< 10	< 10	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8270C	P-Nitroaniline	SVOCs			µg/l	< 25	< 25	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,1,1-Trichloroethane	VOCs	528		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,1,2,2-Tetrachloroethane	VOCs	240		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,1,2-Trichloroethane	VOCs	940		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,1-Dichloroethane	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,1-Dichloroethylene	VOCs	303		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,2,4-Trichlorobenzene	VOCs	44.9		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,2,4-Trimethylbenzene	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,2-Dichlorobenzene	VOCs	15.8		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,2-Dichloroethane	VOCs	2000		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,2-Dichloroethene, total	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,2-Dichloropropane	VOCs	525		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,3,5-Trimethylbenzene	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,4-Dichlorobenzene	VOCs	11.2		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	2-Butanone	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	2-Hexanone	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	4-Methyl-2-Pentanone	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	1,2-Dibromo-3-chloropropane	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Acetone	VOCs			µg/l	< 100	< 100	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Benzene	VOCs	53		µg/l	< 5	< 5	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
SW8260B	Bromodichloromethane	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Bromomethane	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Butylbenzene	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Carbon Disulfide	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2-27
Summary of Oostanaula River Surface Water Data and Comparison to EPA Region 4 Ecological Freshwater Screening Values
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

					sys_loc_code	**IRWD**	**DRW**	**Baseline**				**Rock Placement**			**Final**	
					sample date	**11/1/2001**	**11/1/2001**	**7/30/2008**	**7/30/2008**	**7/30/2008**	**8/4/2008**	**8/4/2008**	**8/4/2008**	**8/6/2008**	**8/6/2008**	**8/6/2008**
					sample type code	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
					sys sample code	**IRWD-110101**	**DRW-110101**									
					location	**Work Zone**	**Downstream**	**Upstream**	**Work Zone**	**Downstream**	**Upstream**	**Work Zone**	**Downstream**	**Upstream**	**Work Zone**	**Downstream**
Analytical Method	**Chemical Name**	**Class**	**Region 4 FWSV (USEPA 2001)**	**Note**	**Units**											
SW8260B	Carbon tetrachloride	VOCs	352		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	CFC-11	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	CFC-12	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Chlorobenzene	VOCs	195		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Chlorodibromomethane	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Chloroethane	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Chloroform	VOCs	289		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Chloromethane	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	cis-1,2-Dichloroethene	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Ethylbenzene	VOCs	453		µg/l	< 5	< 5	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
SW8260B	Hexachloro-1,3-butadiene	VOCs	0.93		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	m,p-Xylene	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	m-Dichlorobenzene	VOCs	50.2		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Methyl Ethyl Benzene	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	< 5.0 U	< 5.0 U	< 5.0 U
SW8260B	Methylene Chloride	VOCs	1930		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Methylterbutyl ether	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	o-Xylene	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Styrene	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Tetrachloroethylene	VOCs	84		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Toluene	VOCs	175		µg/l	< 5	< 5	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U
SW8260B	trans-1,2-Dichloroethene	VOCs	1350		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	trans-1,3-Dichloropropene	VOCs	24.4		µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Trichloroethylene	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Vinyl Chloride	VOCs			µg/l	< 5	< 5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW8260B	Xylenes, total	VOCs			µg/l	--	--	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 5.0 U

Notes:

RW-101901 (10/19/2001) was collected prior to the onset of remedial activities upstream of the remediation zone to establish baseline updtream surface water conditions.

The remaining samples were collected after completion of excavation and backfilling:

URW-110101 - collected upstream of the work zone

IRW-110101 - collected within the work zone (within the silt-curtained dredge zone)

IRWD-110101 - collected within the work zone (within the silt-curtained dredge zone)

DRW-110101 - collected downstream of the work zone

Chemical names cited in notes field indicate a surrogate compound used.

Values presented in bolded text indicate a detected concentration.

- = results reported as total by chemical class; see "Calc" values

-- = not analyzed; evaluated as total xylenes or individual isomer

< = indicates non-detected concentration given at the reporting limit

µg/l = micrograms per liter

FWSV = freshwater screening value

J = estimated value (between the method detection limit and reporting limit)

NA = not applicable

NAWQC = national ambient water quality criteria (freshwater water continuous chronic concentration; USEPA 2009); NAWQCs were applied in the absence of USEPA Region 4 FWSVs.

References:

USEPA 2009. National Recommended Water Quality Criteria. United States Environmental Protection Agency, Office of Water, Office of Science and Technology (4304T) 2009. Accessed online at: http://water.epa.gov/scitech/swguidance/standards/current/index.cfm.

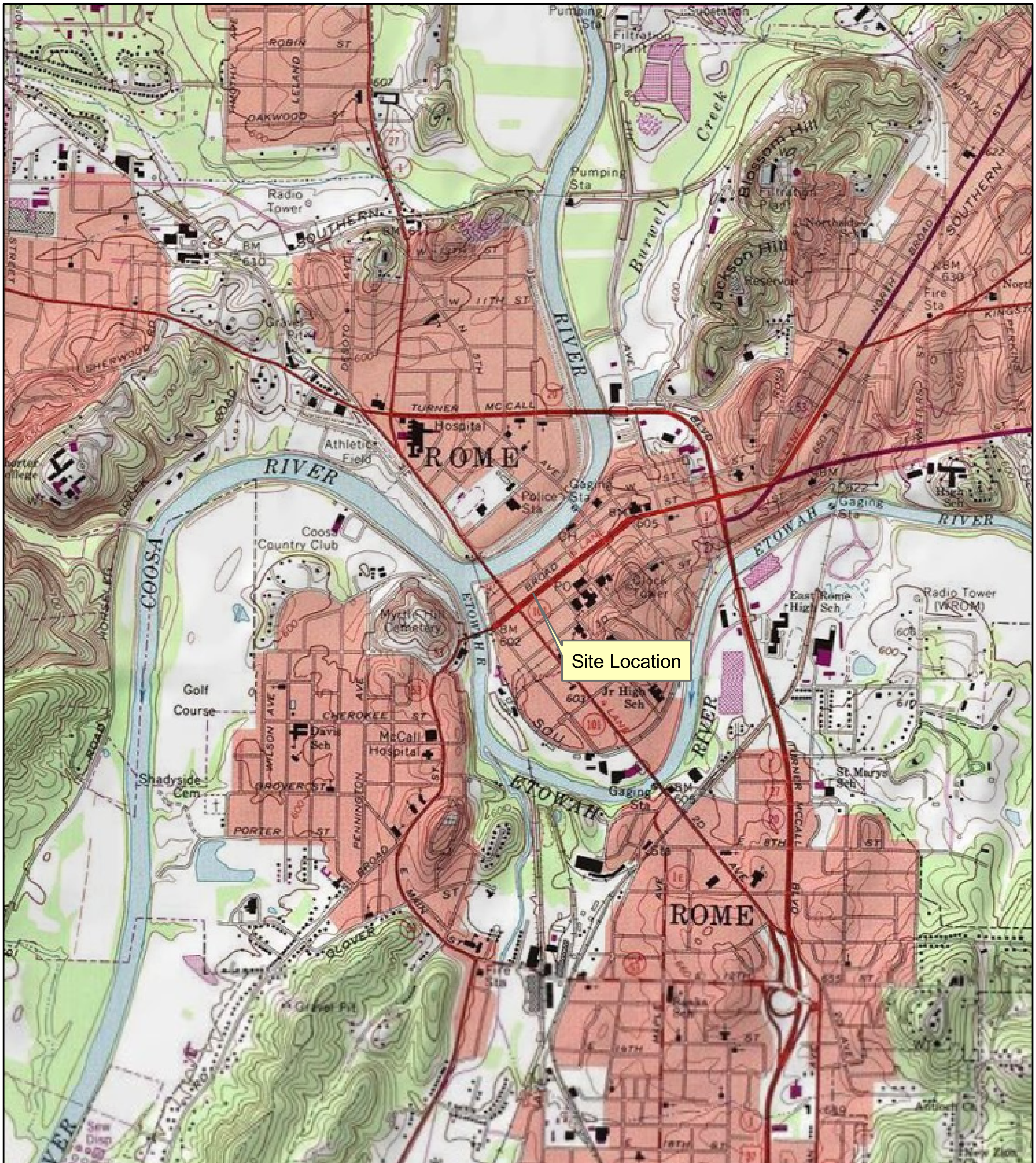
USEPA 2001. Supplemental Guidance to RAGS: Region 4 Bulletins, Ecological Risk Assessment. Originally published November 1995. Website version last updated November 30, 2001: http://www.epa.gov/region4/waste/ots/ecolbul.html.

Table 2-28
Fish Tissue Data from the Oostanaula River Near the Rome Former MGP Site Collected in 2000
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Sample Location / Date Collected / Sample Type / Location	CAS No.		ROME-FI-SB-REF / 8/8/2000 / Investigation / Background		ROME-FI-SB-SITE / 8/8/2000 / Investigation / Site
VOCs (mg/Kg)					
Benzene	71-43-2		NA		NA
Toluene	108-88-3		NA		NA
Ethylbenzene	100-41-4		NA		NA
Xylenes	1330-20-7		NA		NA
Acetone	67-64-1		NA		NA
2-Butanone	78-93-3		NA		NA
Carbon Disulfide	75-15-0		NA		NA
Total BTEX			NA		NA
PAHs (mg/Kg)					
Naphthalene	91-20-3	<	0.06	<	0.06
Acenaphthylene	208-96-8		NA		NA
Acenaphthene	83-32-9	<	0.15	<	0.15
Fluorene	86-73-7	<	0.03	<	0.03
Phenanthrene	85-01-8	<	0.012	<	0.012
Anthracene	120-12-7	<	0.012	<	0.012
Fluoranthene	206-44-0	<	0.03	<	0.03
Pyrene	129-00-0	<	0.03	<	0.03
Benz(a)anthracene	56-55-3	<	0.012	<	0.012
Chrysene	218-01-9	<	0.012	<	0.012
Benzo(b)fluoranthene	205-99-2	<	0.012	<	0.012
Benzo(k)fluoranthene	207-08-9	<	0.012	<	0.012
Benzo(a)pyrene	50-32-8	<	0.012	<	0.012
Indeno(1,2,3-cd)pyrene	193-39-5	<	0.03	<	0.03
Dibenz(a,h)anthracene	53-70-3		NA		NA
Benzo(g,h,i)perylene	191-24-2	<	0.03	<	0.03
Total Carcinogenic PAHs			ND		ND
Total PAHs			ND		ND
Total Metals (mg/Kg)					
Barium	7440-39-3		1.2		5.2
Beryllium	7440-41-7	<	0.36	<	0.4
Cadmium	7440-43-9	<	0.45	<	0.5
Chromium	7440-47-3		1.6	<	1
Copper	7440-50-8	<	1.8	<	2
Lead	7439-92-1	<	0.45		0.5
Mercury (7470)	7439-97-6	<	0.1		0.093
Nickel	7440-02-0	<	3.6	<	4
Zinc	7440-66-6		11		19
Miscellaneous Parameters					
Cyanide, Total (mg/Kg)	57-12-5	<	1	<	1

ND = Not Detected
NA = Not Applicable

Figures



Map Location

Site Location Map

Atlanta Gas Light Company
Former Manufactured Gas Plant
Rome, Georgia

Rome North, GA USGS Topographic Quadrangle (1986)

N

0 2,000 4,000 Feet

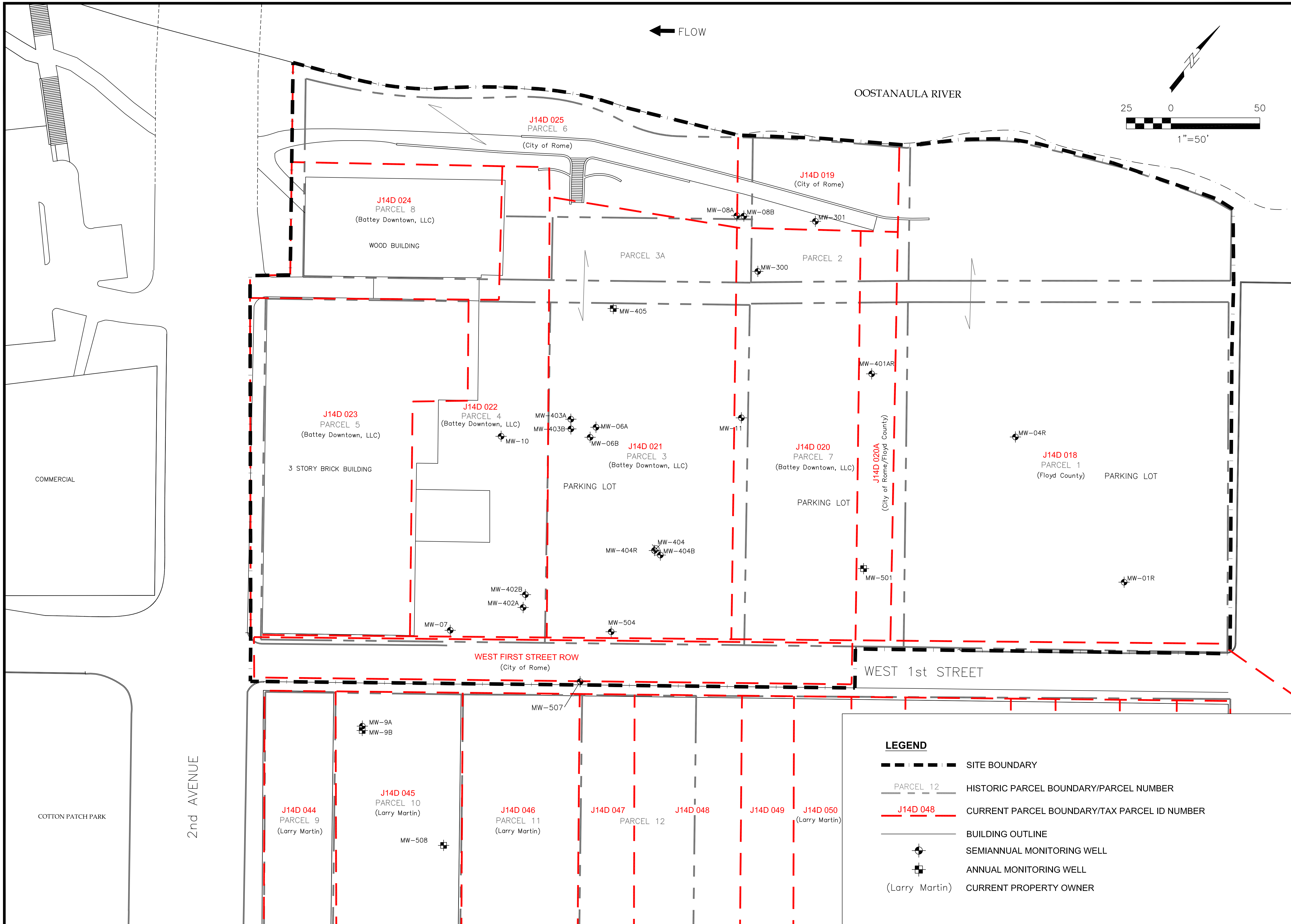
August 11, 2010

60159368.521

Figure 1-1

AECOM

ENVIRONMENT
8540 Colonnade Center Drive, Suite 306
Raleigh, NC 27615
Phone: (919) 872-6600
Fax: (919) 872-7996
Web: http://www.aecom.com



AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

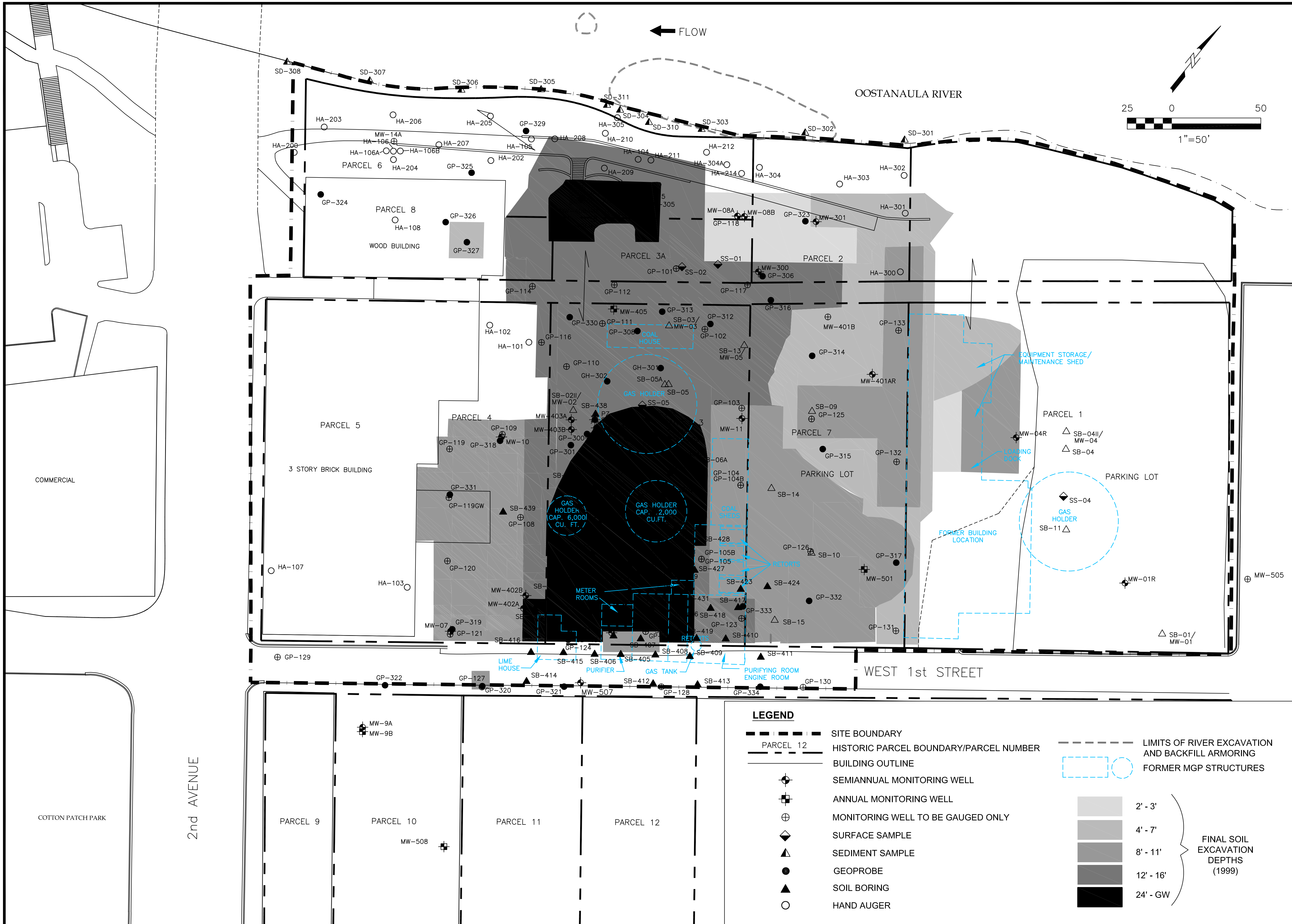
Voluntary Remediation Program
Parcel Location Map

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY: C.J.C.
PROJECT NUMBER: 60159368.521
DATE: 04/28/2011
SCALE: 1"=50'

FIGURE NUMBER: 1-2

SHEET NUMBER: B100489B



AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Site Layout and Historical Sample Locations

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY: C.J.C.

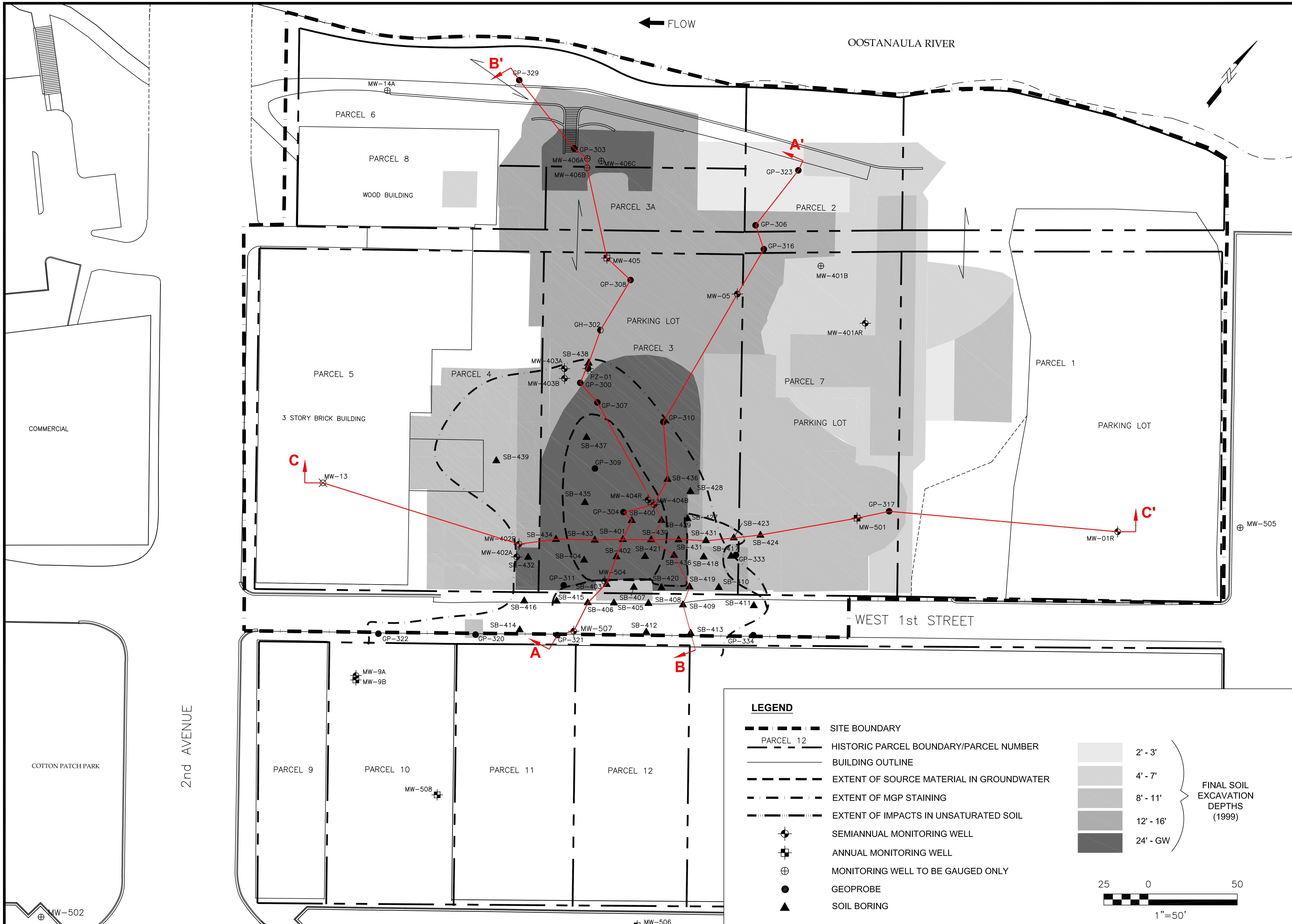
PROJECT NUMBER: 60159368.521

DATE: 04/28/2011

SCALE: 1"=50'

FIGURE NUMBER: 2-1

SHEET NUMBER: B100397B



AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program Cross Section Location Map

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY: C.J.C.

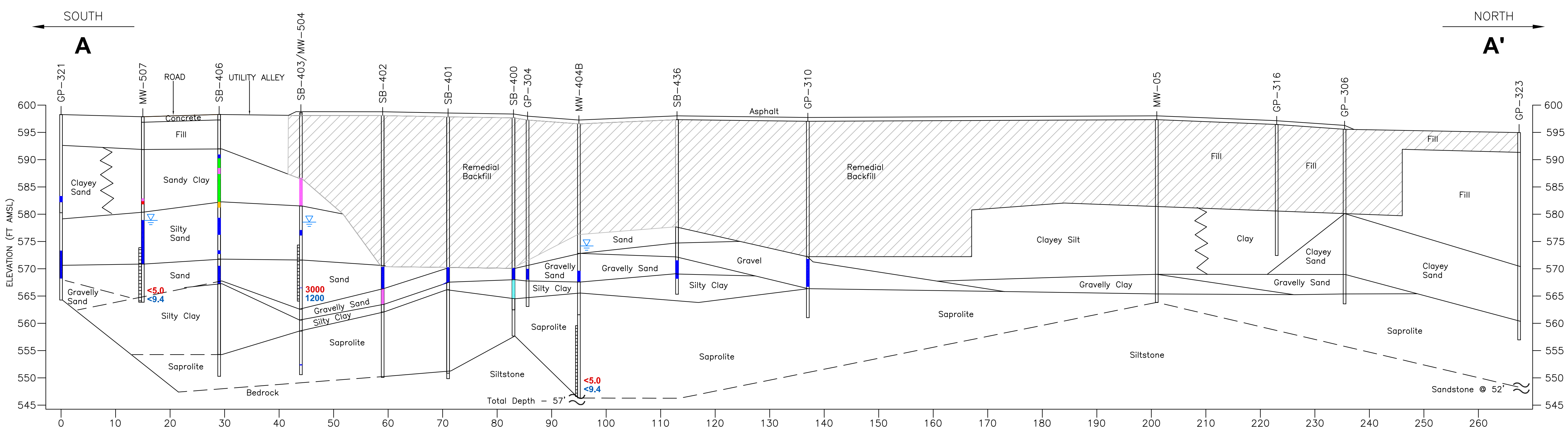
PROJECT NUMBER: 60159368.521

DATE: 04/28/2011

SCALE: 1"=50'

FIGURE NUMBER: 2-2

SHEET NUMBER: B100401B



VISUAL BYPRODUCT-LIKE MATERIAL (BPLM):

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

LEGEND:

- GROUNDWATER ELEVATION MEASURED ON 4/13/10
- PREVIOUS EXCAVATION AREA (APPROXIMATE LIMITS)
- <5.0 BENZENE CONCENTRATION IN MICROGRAMS PER LITER (μg/L)
- <9.4 NAPHTHALENE CONCENTRATION IN MICROGRAMS PER LITER (μg/L)

HORIZONTAL SCALE: 1" = 20'
VERTICAL EXAGGERATION: 1

AECOM
ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

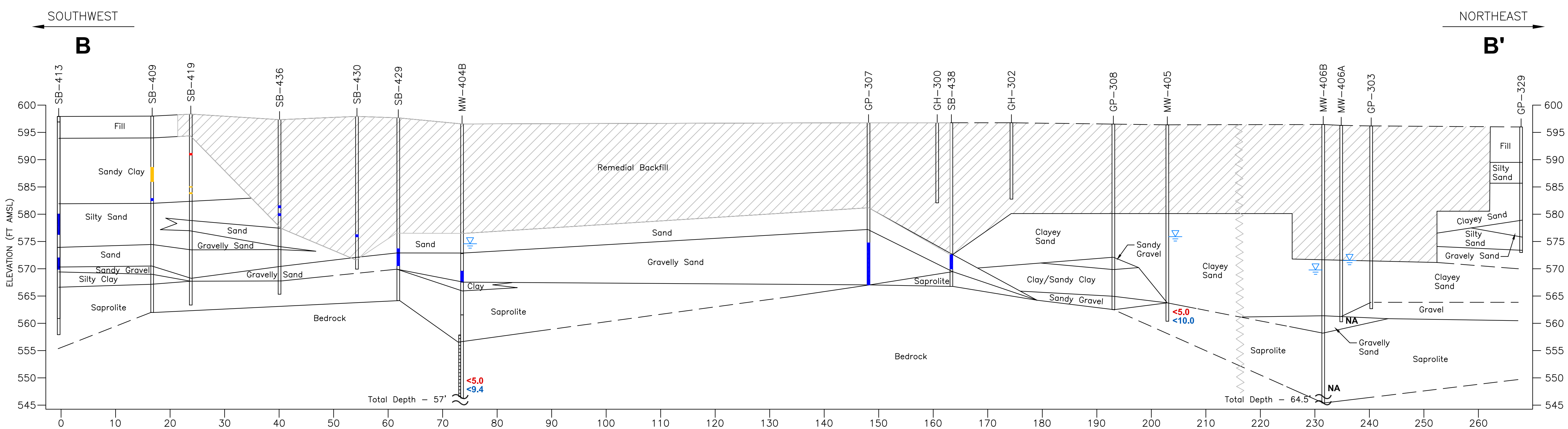
Voluntary Remediation Program
Cross Section A-A'

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY: C.J.C.
PROJECT NUMBER: 60159368.521
DATE: 04/29/2011
SCALE: N.T.S.

FIGURE NUMBER: 2-3

SHEET NUMBER: B100402B



VISUAL BYPRODUCT–LIKE MATERIAL (BPLM):

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

LEGEND:

- GROUNDWATER ELEVATION MEASURED ON 4/13/10
- PREVIOUS EXCAVATION AREA (APPROXIMATE LIMITS)
- <5.0 BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- <9.4 NAPHTHALENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- NA NOT ANALYZED

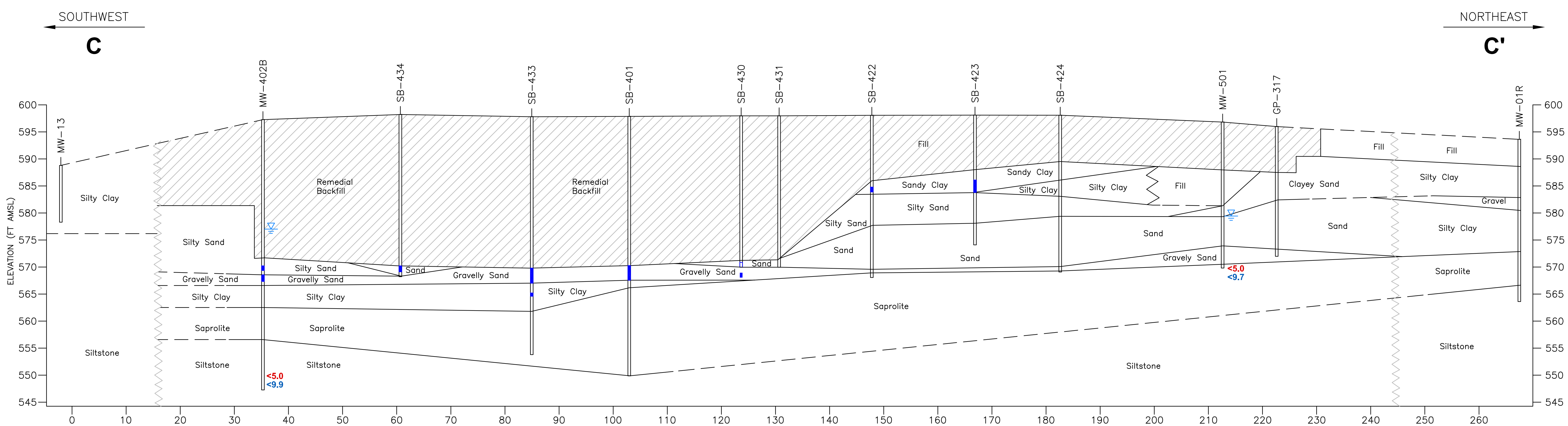
HORIZONTAL SCALE: 1" = 20'
VERTICAL EXAGGERATION: 1

AECOM
ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Cross Section B–B'

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY: C.J.C.
PROJECT NUMBER: 60159368.521
DATE: 04/29/2011
SCALE: N.T.S.
FIGURE NUMBER: 2–4
SHEET NUMBER: B100403B



VISUAL BYPRODUCT-LIKE MATERIAL (BPLM):

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

LEGEND:

- GROUNDWATER ELEVATION MEASURED ON 4/13/10
- PREVIOUS EXCAVATION AREA (APPROXIMATE LIMITS)
- <5.0 BENZENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- <9.4 NAPHTHALENE CONCENTRATION IN MICROGRAMS PER LITER (µg/L)

HORIZONTAL SCALE: 1" = 20'
VERTICAL EXAGGERATION: 1

AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Cross Section C–C'

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

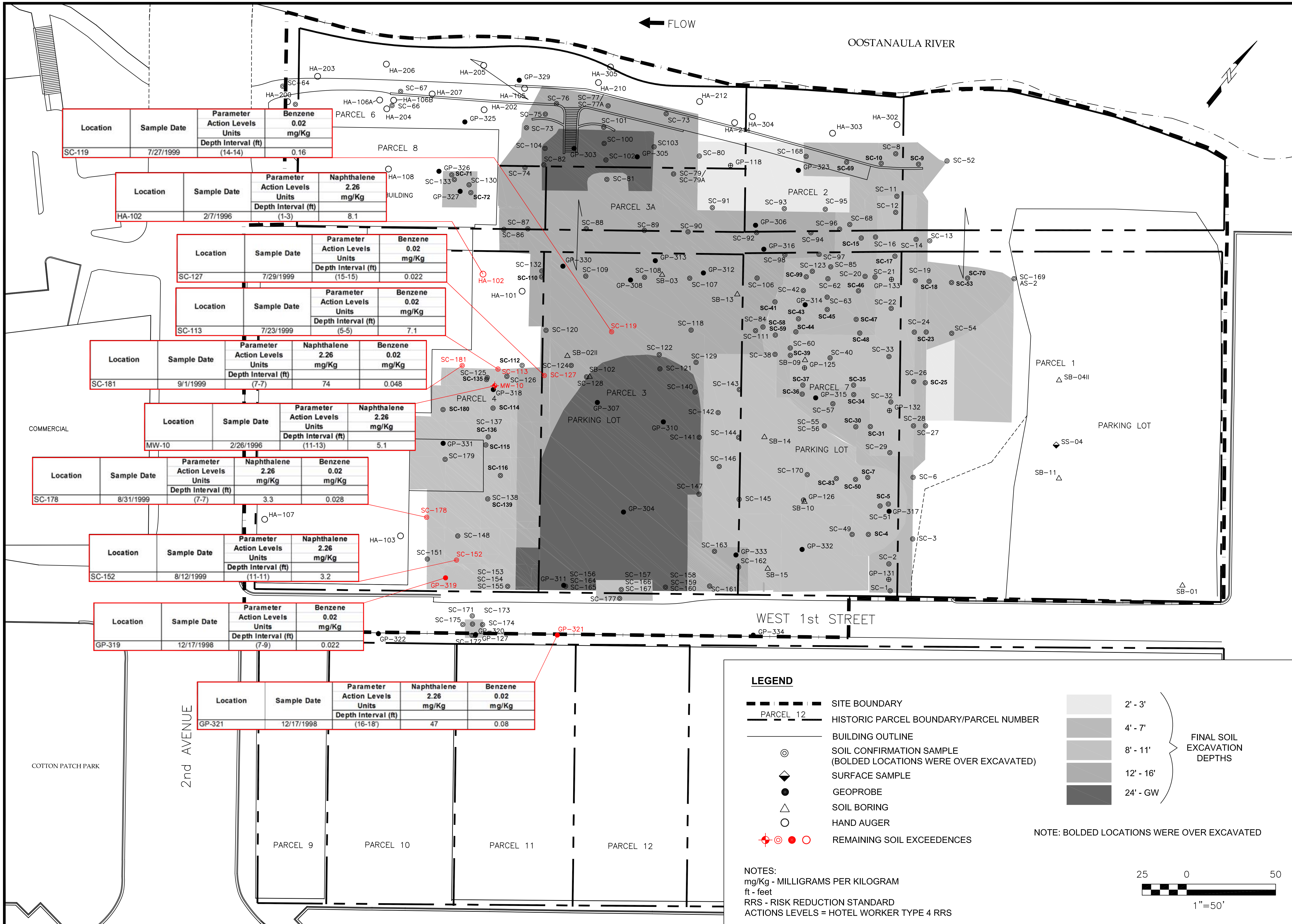
DRAWN BY:	C.J.C.
PROJECT NUMBER:	60159368.521
DATE:	04/29/2011
SCALE:	N.T.S.

FIGURE NUMBER:

2–5

SHEET NUMBER:

B100404B



Location	Sample Date	Parameter	Benzene
		Action Levels	0.02
		Units	mg/Kg
		Depth Interval (ft)	
SC-119	7/27/1999	(14-14)	0.16

Location	Sample Date	Parameter	Naphthalene
		Action Levels	2.26
		Units	mg/Kg
		Depth Interval (ft)	
HA-102	2/7/1996	(1-3)	8.1

Location	Sample Date	Parameter	Benzene
		Action Levels	0.02
		Units	mg/Kg
		Depth Interval (ft)	
SC-127	7/29/1999	(15-15)	0.022

Location	Sample Date	Parameter	Benzene
		Action Levels	0.02
		Units	mg/Kg
		Depth Interval (ft)	
SC-113	7/23/1999	(5-5)	7.1

Location	Sample Date	Parameter	Naphthalene	Benzene
		Action Levels	2.26	0.02
		Units	mg/Kg	mg/Kg
		Depth Interval (ft)		
SC-181	9/1/1999	(7-7)	74	0.048

Location	Sample Date	Parameter	Naphthalene
		Action Levels	2.26
		Units	mg/Kg
		Depth Interval (ft)	
MW-10	2/26/1996	(11-13)	5.1

Location	Sample Date	Parameter	Naphthalene	Benzene
		Action Levels	2.26	0.02
		Units	mg/Kg	mg/Kg
		Depth Interval (ft)		
SC-178	8/31/1999	(7-7)	3.3	0.028

Location	Sample Date	Parameter	Naphthalene
		Action Levels	2.26
		Units	mg/Kg
		Depth Interval (ft)	
SC-152	8/12/1999	(11-11)	3.2

Location	Sample Date	Parameter	Benzene
		Action Levels	0.02
		Units	mg/Kg
		Depth Interval (ft)	
GP-319	12/17/1998	(7-9)	0.022

Location	Sample Date	Parameter	Naphthalene	Benzene
		Action Levels	2.26	0.02
		Units	mg/Kg	mg/Kg
		Depth Interval (ft)		
GP-321	12/17/1998	(16-18')	47	0.08

AECOM
ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Existing Soil Conditions

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY: C.J.C.
PROJECT NUMBER: 60159368.521
DATE: 04/28/2011
SCALE: 1"=50'

FIGURE NUMBER: 2-6

SHEET NUMBER: B100418B

Z:\GIS\Projects\A\AGL-10359\Georgia\Rome_GA\MXD\Voluntary_Remediation_Program\AGL_Voluntary_Remediation_Program_Current_Site_Setting.mxd

AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Current Site Setting

Atlanta Gas Light Company / Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY: J.J.M.

PROJECT NUMBER: 60159368.521

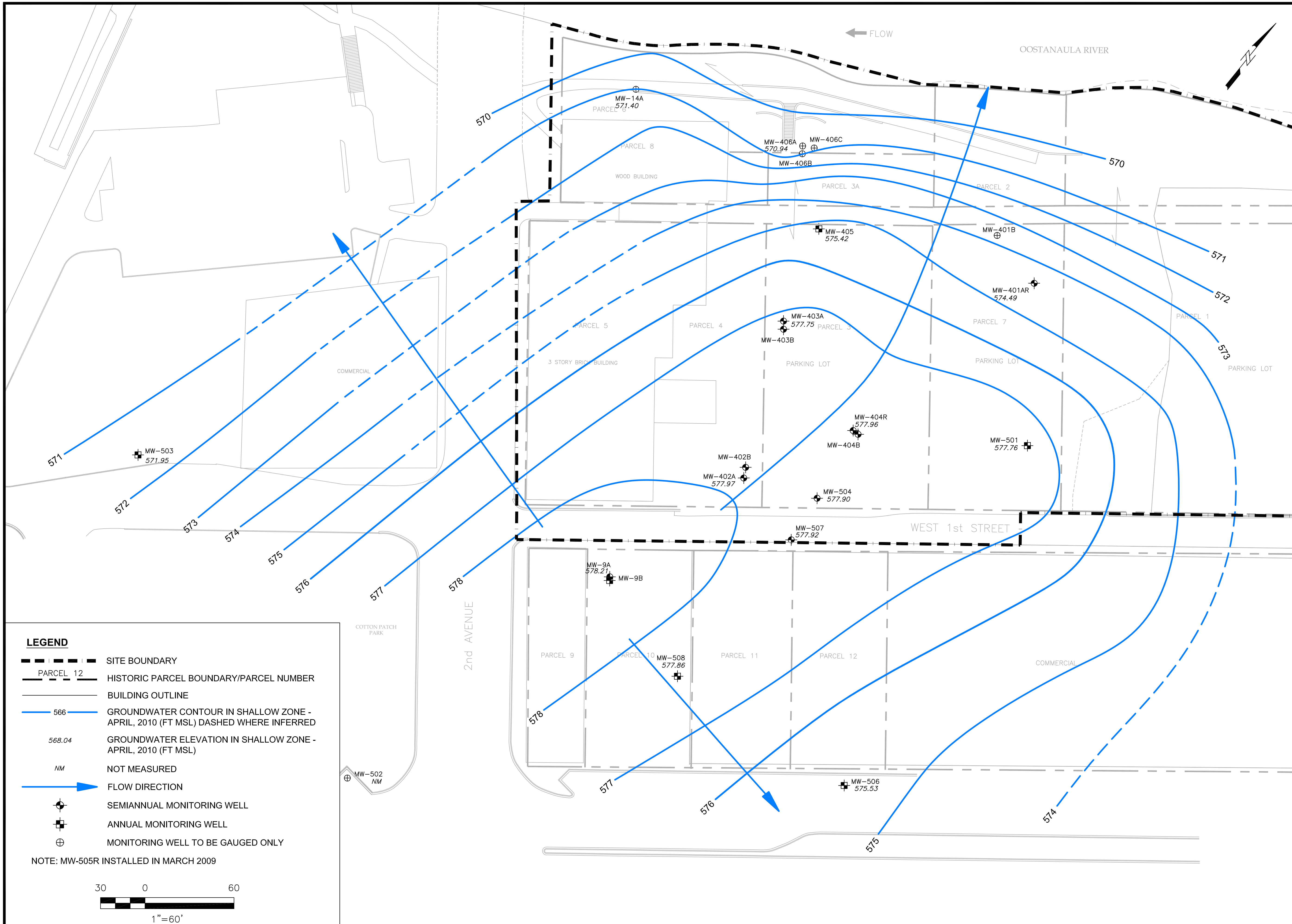
DATE: 05/09/2011

SCALE: 1"=100'

FIGURE NUMBER:

2-7

SHEET NUMBER:



AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Groundwater Elevation Map – Shallow Zone
April 2010

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

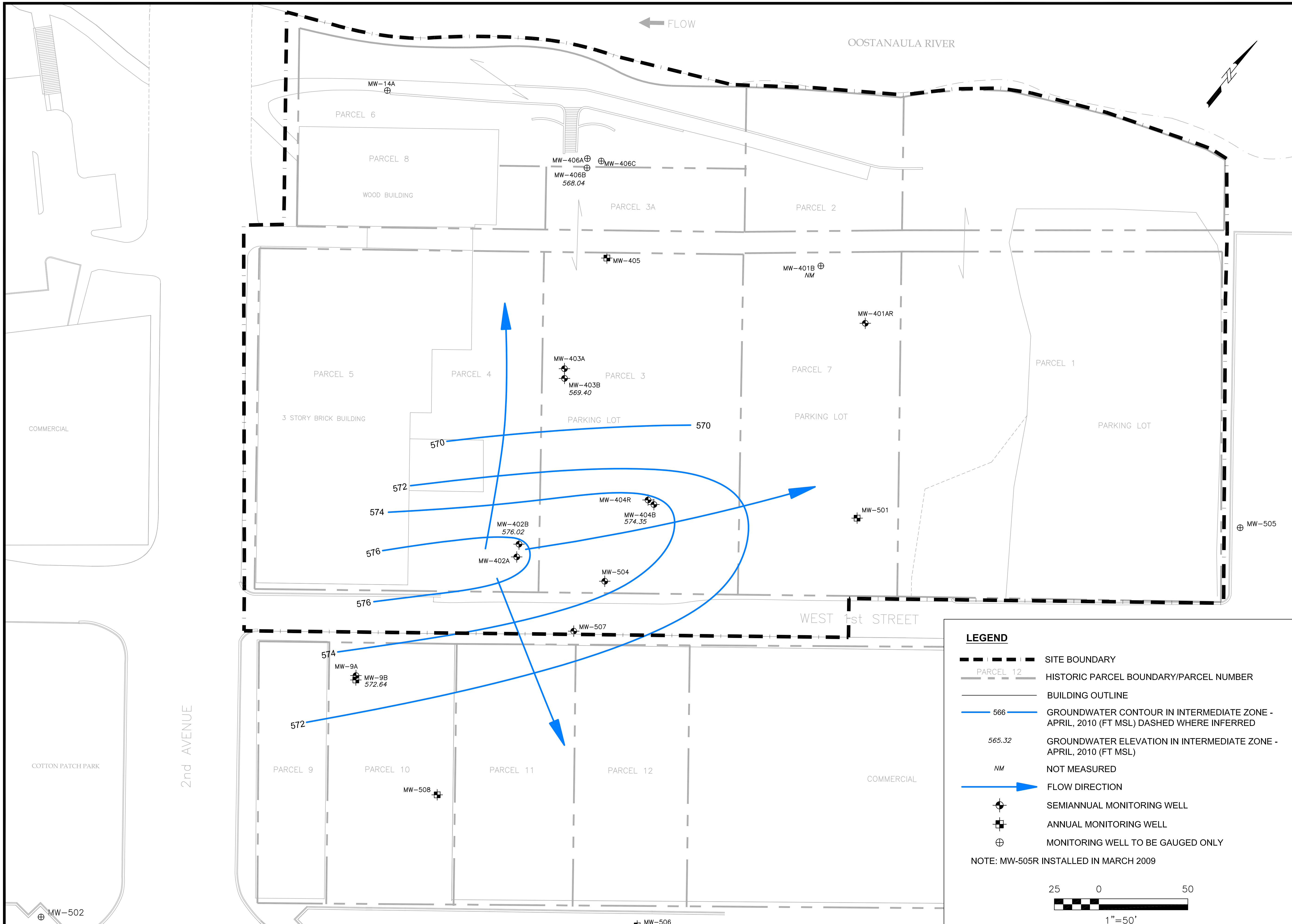
DRAWN BY:	C.J.C.
PROJECT NUMBER:	60159368.521
DATE:	04/28/2011
SCALE:	1"=60'

FIGURE NUMBER:

2-8

SHEET NUMBER:

B100407B



AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Groundwater Elevation Map – Intermediate Zone
April 2010

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY:	C.J.C.
PROJECT NUMBER:	60159368.521
DATE:	04/28/2011
SCALE:	1"=50'

FIGURE NUMBER:
2–9

SHEET NUMBER:
B100407B

LEGEND

- ANNUAL MONITORING WELL
- SEMIANNUAL MONITORING WELL
- MONITORING WELL TO BE GAUGED
- PROPERTY LINE
- 10 — BENZENE ISOCONCENTRATION CONTOUR (µg/L)
- (3,900/1,110) — BENZENE CONCENTRATION IN GROUND WATER (µg/L) / TOTAL BTEX CONCENTRATION IN GROUND WATER (µg/L)
- µg/L — MICROGRAMS PER LITER
- ND — NOT DETECTED
- NA — NOT ANALYZED

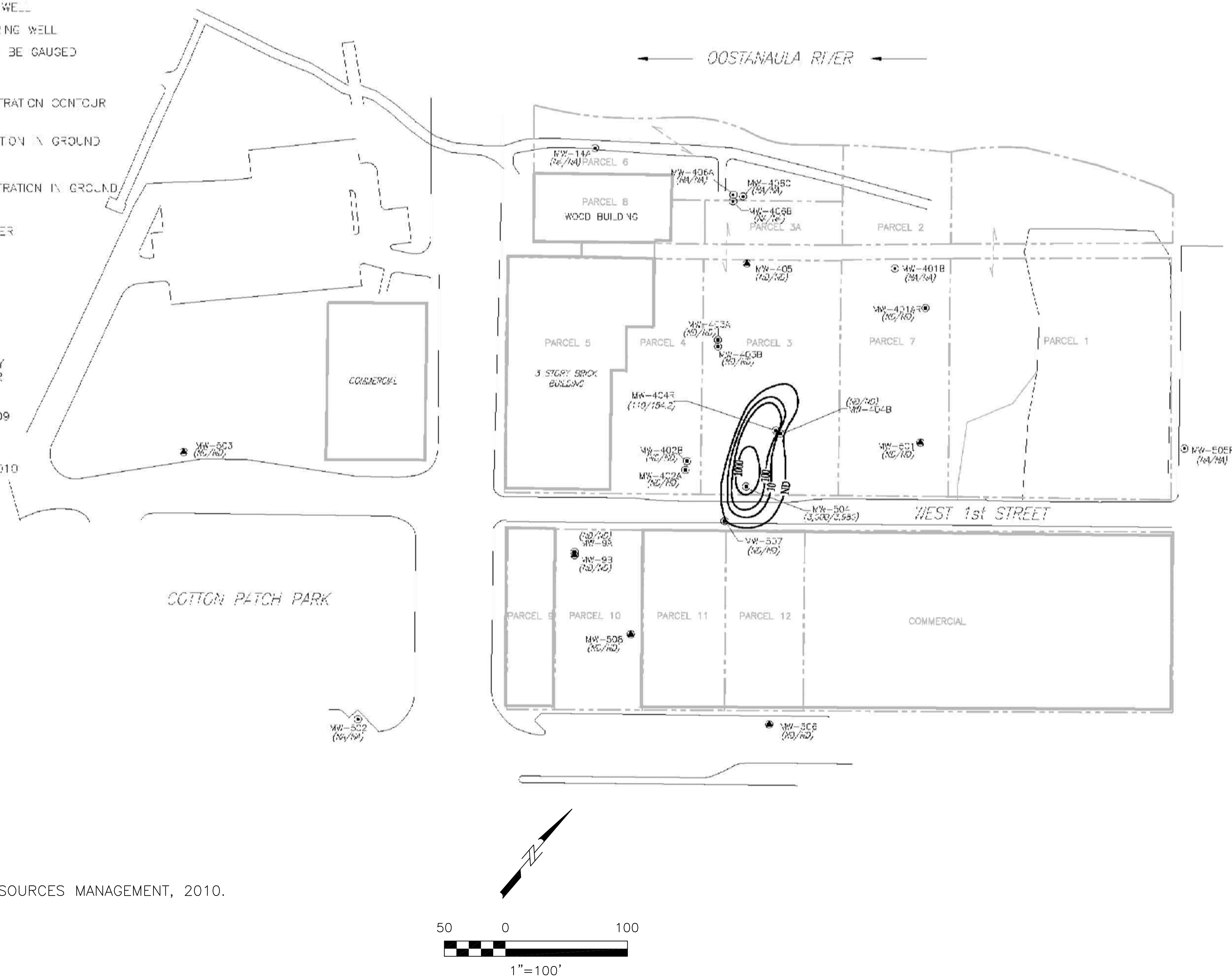
NOTES

HIGHER CONCENTRATION OF PRIMARY AND DUPLICATE SAMPLES USED FOR CONTOURING.

MW-505R INSTALLED IN MARCH 2009

DASHED WHERE INFERRED

ND LIMITS ASSUMED FROM APRIL 2010 SAMPLING EVENT



SOURCE: ENVIRONMENTAL RESOURCES MANAGEMENT, 2010.

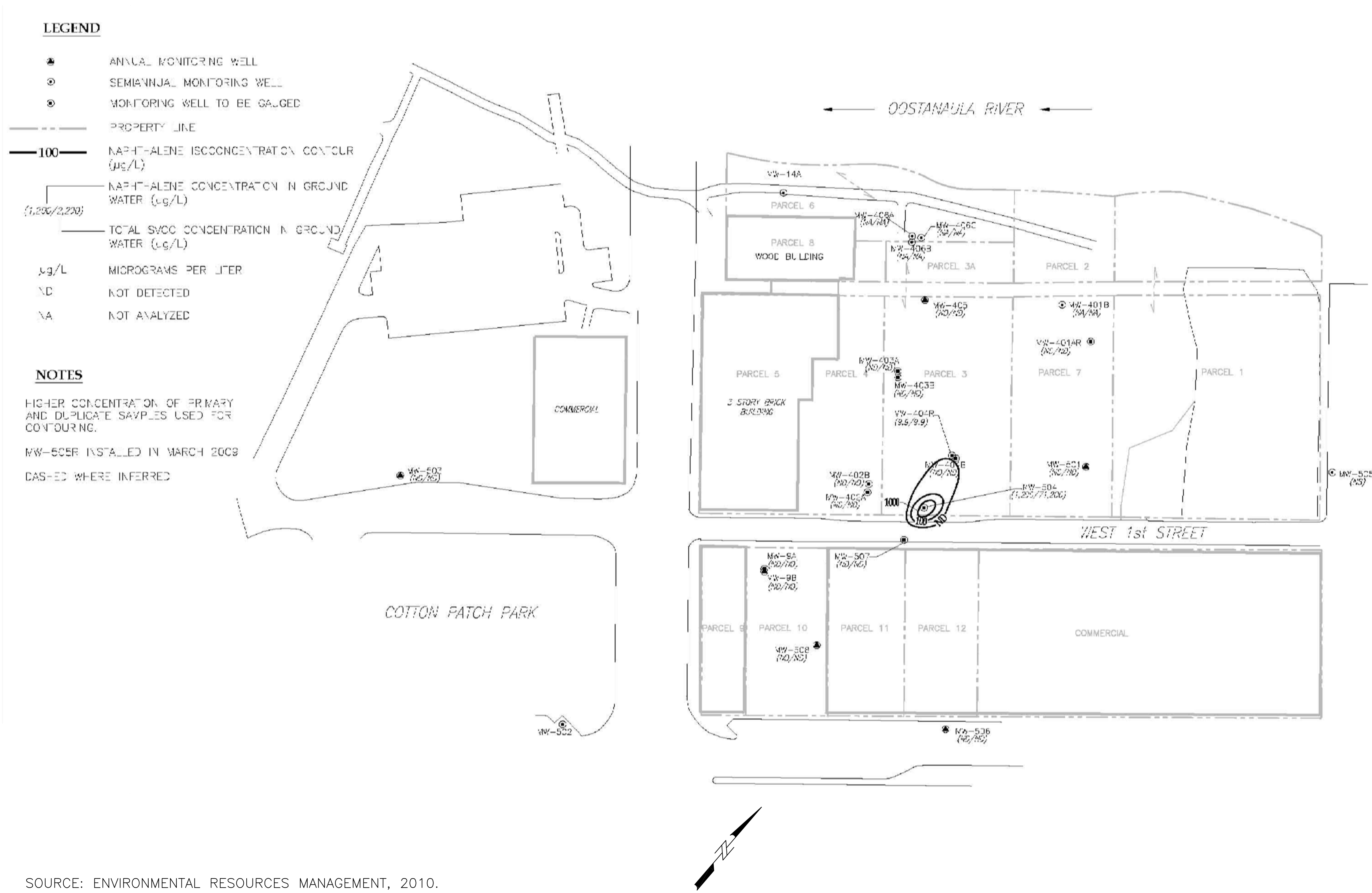
AECOM
ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Benzene/Total BTEX Concentrations in Groundwater April 2010
Semiannual Groundwater Monitoring Report
Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

SCALE:	DATE:	PROJECT NUMBER:	DRAWN BY:
1"=100'	04/28/2011	60159368.521	C.J.C.

FIGURE NUMBER:
2–10

SHEET NUMBER:
B100491B



SOURCE: ENVIRONMENTAL RESOURCES MANAGEMENT, 2010.

50 0 100

1"=100'

AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Naphthalene/Total SVOC Concentrations in Groundwater April 2010
Semiannual Groundwater Monitoring Report
Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

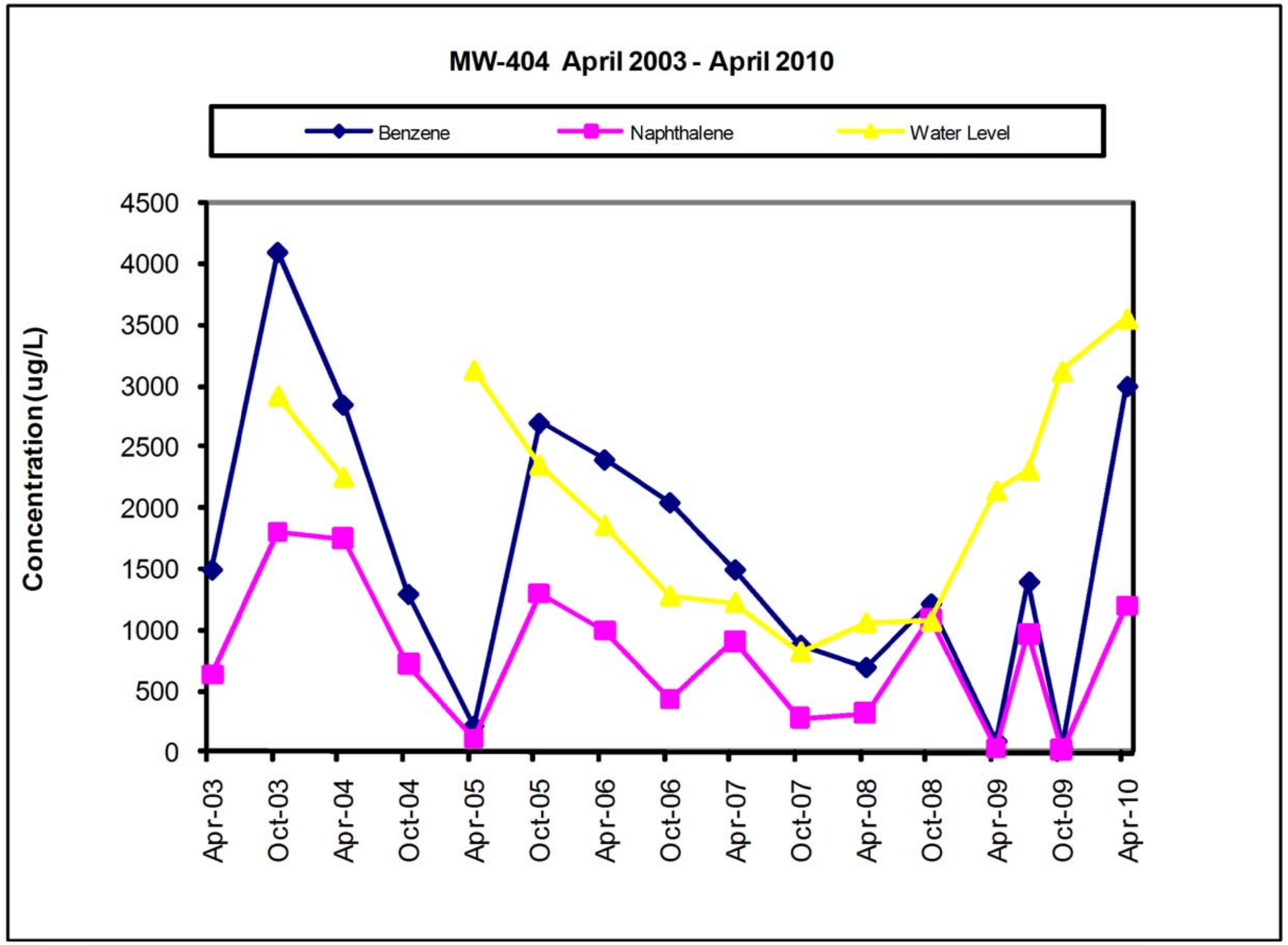
DRAWN BY:	PROJECT NUMBER:	DATE:	SCALE:
C.J.C.	60159368.521	04/28/2011	1"=100'

FIGURE NUMBER:

2–11

SHEET NUMBER:

B100492B



AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program

Historic Benzene and Naphthalene Concentrations – MW-404

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

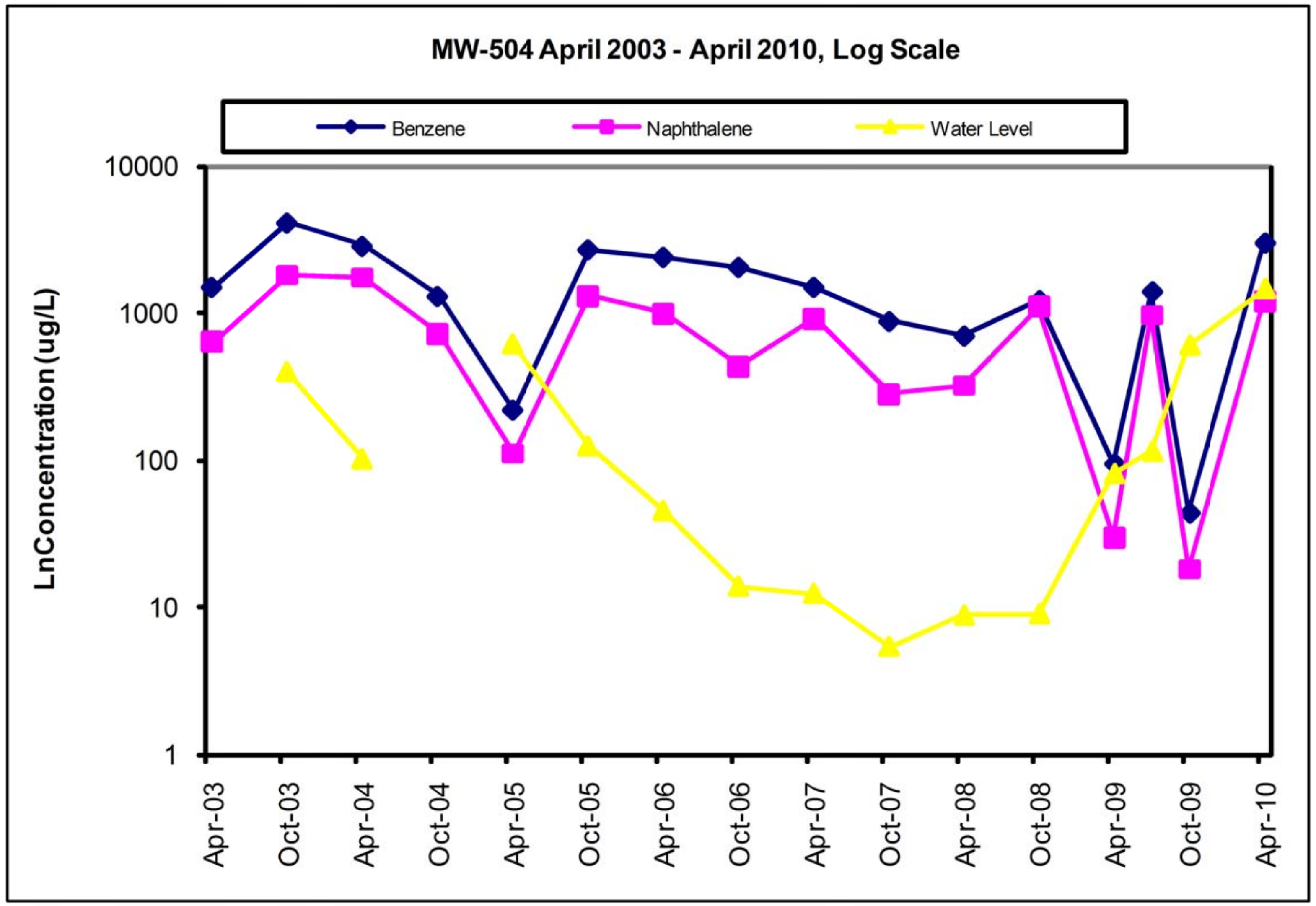
SCALE:	DATE:	PROJECT NUMBER:	DRAWN BY:
NA	04/28/2011	60159368.521	C.J.C.

FIGURE NUMBER:

2–12

SHEET NUMBER:

B100493B



AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

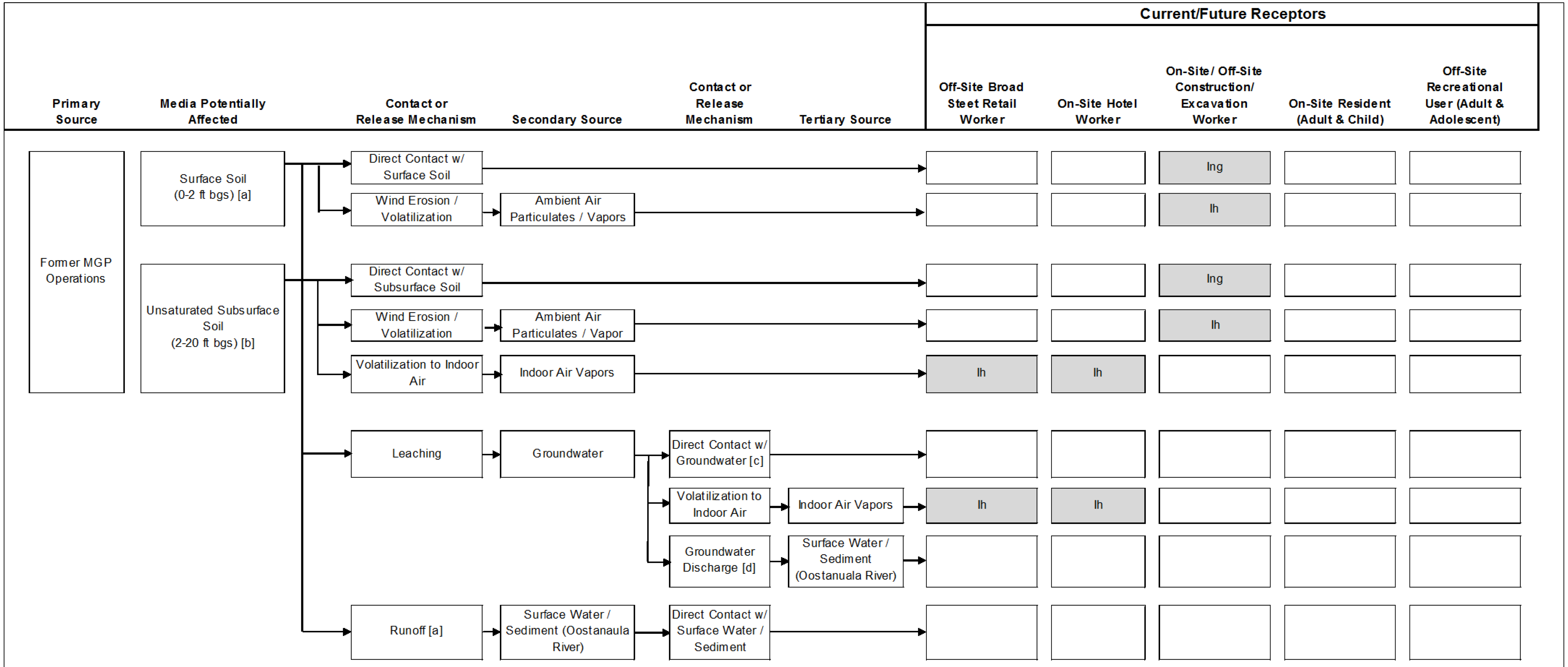
Voluntary Remediation Program
Historic Benzene and Naphthalene Concentractions - MW-504
Semiannual Groundwater Monitoring Report
Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

SCALE: NA
DATE: 04/28/2011
PROJECT NUMBER: 60159368.521
DRAWN BY: C.J.C.

FIGURE NUMBER:
2-13

SHEET NUMBER:
B100494B

Human Health Conceptual Site Model



Notes:
bgs = below ground surface
Ing = Ingestion
Ih = Inhalation
Blank = incomplete exposure pathway not evaluated in the risk assessment
[a] Surface soil is not impacted with former MGP constituents as extensive soil remediation/excavation has occurred at the Site. The Site is underlain by approximately 20-25 feet of clean fill material throughout the majority of the site and 10 feet of clean fill in the southern portion of the Site.
[b] Although residual materials may exist at depths greater than 20-25 ft bgs, these depths are greater than those encountered by most Site receptors.
[c] The depth to groundwater ranges from 20-25 feet bgs feet bgs across the Site, which is deeper than typical excavation depths. Current/future groundwater use as a drinking water source is prohibited by deed restriction. Therefore, the City of Rome supplies municipal water to the area.
[d] Impacted groundwater is contained onsite and groundwater evaluation shows strong evidence of intrinsic biodegradation occurring naturally. Downgradient wells indicate no evidence of off-site migration toward the Oostanuala River; therefore, river media are not affected by potential discharge of groundwater constituents. Former impacted sediments have been removed and remaining sediments capped.

AECOM
ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
Human Health Conceptual Site Model
Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY: C.J.C.
PROJECT NUMBER: 60159368.521
DATE: 04/28/2011
SCALE: NA
FIGURE NUMBER: 2-14
SHEET NUMBER: B100419B

U.S. Fish and Wildlife Service

National Wetlands Inventory

AGLC Rome Site: NWI Wetlands

Aug 5, 2010

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deetwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

Riparian

- Herbaceous
- Forested/Shrub

Riparian Status

- Digital Data

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Extent - the Oostanaula River Segment from Little Dry Creek (at map top) to confluence with Etowah River

AECOM
ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program
National Wetlands Inventory Map of Oostanaula River and Vicinity of Rome Former MGP Site
Semiannual Groundwater Monitoring Report
Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

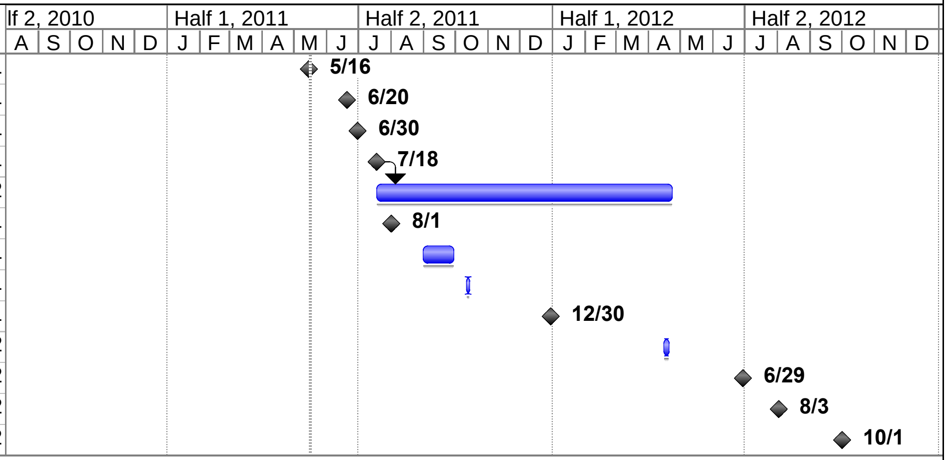
DRAWN BY: C.J.C.
PROJECT NUMBER: 60159368.521
DATE: 04/29/2011
SCALE: NA

FIGURE NUMBER: 2-15

SHEET NUMBER: B100494B

Figure 4-1
Rome VRP Milestone Schedule

ID	Task Name	Start	Finish
1	Submit VRP Application	Mon 5/16/11	Mon 5/16/11
2	Issuance of Permit letter by RFC Development Authority	Mon 6/20/11	Mon 6/20/11
3	Annual Groundwater Monitoring Report	Thu 6/30/11	Thu 6/30/11
4	VRP Approval	Mon 7/18/11	Mon 7/18/11
5	Obtain and Implement Institutional Controls/File O&M Plan	Tue 7/19/11	Mon 4/23/12
6	Submit Vapor Intrusion Study Work Plan	Mon 8/1/11	Mon 8/1/11
7	Vapor Intrusion Study	Thu 9/1/11	Thu 9/29/11
8	Semi-Annual Groundwater Monitoring	Wed 10/12/11	Fri 10/14/11
9	Semi-Annual Groundwater and Project Status Report	Fri 12/30/11	Fri 12/30/11
10	Semi-Annual Groundwater Monitoring	Mon 4/16/12	Fri 4/20/12
11	Semi-Annual Groundwater and Project Status Report	Fri 6/29/12	Fri 6/29/12
12	River Armor Survey	Fri 8/3/12	Fri 8/3/12
13	Submit Compliance Status Report	Mon 10/1/12	Mon 10/1/12



Project: Rome VRP
Date: Mon 5/16/11

Task	Milestone	External Tasks
Split	Summary	External Milestone
Progress	Project Summary	Deadline

Appendix A

Voluntary Remediation Plan Application Form and Checklist

Voluntary Remediation Plan Application Form and Checklist

VRP APPLICANT INFORMATION					
COMPANY NAME	Atlanta Gas Light Company				
CONTACT PERSON/TITLE	Greg Corbett / Director Environment and Sustainability				
ADDRESS	10 Peachtree Place Northeast, Atlanta, Georgia 30309				
PHONE	404 584 3719	FAX	404 584 3499	E-MAIL	gcorbett@aglresources.com

GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP					
NAME	John Jolly			GA PE/PG NUMBER	GA 1817
COMPANY	AECOM Technical Services, Inc.				
ADDRESS	1360 Peachtree St. NE, Suite 500, Atlanta, GA 30309				
PHONE	404-965-9600	FAX	404-965-9605	E-MAIL	john.jolly@aecom.com

APPLICANT'S CERTIFICATION

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

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

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

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

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

*AGLC is considered the qualified application and has secured written consent to enroll the parcels solely owned by Battey Downtown LLC and the City of Rome in the VRP. AGLC is currently coordinating with the Rome-Floyd County Development Authority for enrollment of Parcels J14D 018 and J14D 020A and expects to receive written approval to enroll these parcels in the VRP in May 2011. Qualifying applicant information is included in the VRP Application Form and Checklist in Appendix A.

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

APPLICANT'S SIGNATURE	[signature]		
APPLICANT'S NAME/TITLE (PRINT)	GREG CORBETT DIR ENVIRONMENT SUSTAINABILITY	DATE	5/16/11

QUALIFYING PROPERTY INFORMATION			
TAX PARCEL ID	J14D 020, 021, 022, 023, 024	PROPERTY SIZE (ACRES)	1.905
PROPERTY ADDRESS	100/110 West 2nd Avenue		
CITY	Rome	COUNTY	Floyd
LATITUDE	34°15'14.69"	LONGITUDE	85°10'27.05"
PROPERTY OWNER(S)	Battey Downtown LLC	PHONE #	(706) 291-2988
MAILING ADDRESS	414 E First Ave		
CITY	Rome	STATE/ZIP	Georgia/30161
TAX PARCEL ID	J14D 018	PROPERTY SIZE (ACRES)	1.466
PROPERTY ADDRESS	100/110 West 2nd Avenue		
CITY	Rome	COUNTY	Floyd
LATITUDE	34°15'14.69"	LONGITUDE	85°10'27.05"
PROPERTY OWNER(S)	Floyd County	PHONE #	
MAILING ADDRESS	P.O. Box 946		
CITY	Rome	STATE/ZIP	Georgia/30162
TAX PARCEL ID	J14D 020A	PROPERTY SIZE (ACRES)	0.0867
PROPERTY ADDRESS	100/110 West 2nd Avenue		
CITY	Rome	COUNTY	Floyd
LATITUDE	34°15'14.69"	LONGITUDE	85°10'27.05"
PROPERTY OWNER(S)	Rome-Floyd County Development Authority	PHONE #	
MAILING ADDRESS	P.O. Box 946 and P.O. Box 1433		
CITY	Rome	STATE/ZIP	Georgia/30162
TAX PARCEL ID	N/A (Right-of –Way), J14D 019, 025	PROPERTY SIZE (ACRES)	0.455+0.307 = 1.069
PROPERTY ADDRESS	West First Street between East 2nd Avenue and 3rd Avenue		
CITY	Rome	COUNTY	Floyd
LATITUDE	34°15'14.69"	LONGITUDE	85°10'27.05"
PROPERTY OWNER(S)	City of Rome	PHONE #	(706) 236-4400
MAILING ADDRESS	P. O. Box 1433		
CITY	Rome	STATE/ZIP	Georgia/30162

ITEM #	DESCRIPTION OF REQUIREMENT	Location in VRP (i.e. pg., Table #, Figure #, etc.)	For EPD Comment Only (Leave Blank)
1.	**$5,000 APPLICATION FEE** IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES.	**Submitted with Sept 2010 application**	
2.	**WARRANTY DEED(S)** FOR QUALIFYING PROPERTY.	**Appendix B**	
3.	**TAX PLAT** OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	**Figure 1-2**	
4.	**ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES** OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT	**Included**	

	FORMAT (PDF).		
5.	The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application, a graphic three-dimensional preliminary conceptual site model (CSM) including a preliminary remediation plan with a table of delineation standards, brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; the preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; a **PROJECTED MILESTONE SCHEDULE** for investigation and remediation of the site, and after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan during the preceding period. A Gantt chart format is preferred for the milestone schedule. The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a showing by the participant, that a longer time period is reasonably necessary:	**a. CSM - Section 2.4, Figures 2-1 through 2-13 b. Table of delineation standards – Table 2-5 c. Surface setting – Section 2.4.1, Figure 2-7 d. Subsurface setting – Section 2.4.2, Figures 2-2 through 2-5, 2-8, 2-9 e. Known or suspected sources of contamination – Sections 2.1, 2.2, 2.4.3, 2.4.4, 2.4.5, 2.4.6 f. How contamination might move within the environment – Sections 2.4.7 g. Potential human health and ecological receptors – Section 2.5 and 2.7, Table 2-5, Figure 2-14 h. Complete or incomplete exposure pathways – Sections 2.5.1, 2.7.3 i. Milestone schedule – Section 4.0, Figure 4-1**	
5.a.	Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;	**Completed**	
5.b.	Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;	**Completed**	
5.c.	Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and	**Completed**	
5.d.	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.	**See Schedule in Section 4.0**	

6.	**SIGNED AND SEALED PE/PG CERTIFICATION** AND SUPPORTING DOCUMENTATION: "I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, et seq.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances. Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." John D. Jolly 5/16/11 Printed Name and GA PE/PG Number Date Signature and Stamp JOHN D. JOLLY ★ GEORGIA REGISTERED PROFESSIONAL GEOLOGIST ★ No. 1817	**2[nd] page of the document**	

Appendix B

Warranty Deed

ProTitleUSA.com

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

Property and Ownership Information			
Current Owner's Name	FLOYD COUNTY	Completed Date	5/4/2011
Client Name		Index Date	2/15/2011
Property Address	Rome, GA	Report Type	Current Owner Search
APN# / Parcel # / PIN#	J14D018	County	FLOYD
Short Legal Description	COOSA DIVISION LOTS 73-78	Full Legal Description	See Attached Deed

Vesting Information			
Grantee(s)/Deed Owner	FLOYD COUNTY	Deed Date	12/23/2003
Grantor / Prior Owner	ROME- FLOYD COUNTY DEVELOPMENT AUTHORITY	Recorded Date	12/29/2003
Consideration Amount		Instrument | Book/Page#	1845 / 256
Sale Price		Deed Type	QC
Notes:			
	Chain-of-Title (1)		
Grantee(s)/Deed Owner	n/a	Deed Date	
Grantor / Prior Owner		Recorded Date	
Consideration Amount		Instrument | Book/Page#	
Sale Price		Deed Type	
Notes:			
	Chain-of-Title (2)		
Grantee(s)/Deed Owner	n/a	Deed Date	
Grantor / Prior Owner		Recorded Date	
Consideration Amount		Instrument | Book/Page#	
Sale Price		Deed Type	
	Chain-of-Title (3)		
Grantee(s)/Deed Owner	n/a	Deed Date	
Grantor / Prior Owner		Recorded Date	
Consideration Amount		Instrument | Book/Page#	
Sale Price		Deed Type	
Notes:			

Open Mortgage Information			
Borrower	* no open mortgages found *	Date Signed	
Lender		Date Recorded	
Trustee		Instrument | Book/Page#	
Mortgage Type		Original Amount	
Comments		Mortgage Maturity Date	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Additional Information:			

ProTitleUSA.com

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

Borrower		Date Signed	
Lender		Date Recorded	
Trustee		Instrument | Book/Page#	
Mortgage Type		Original Amount	
Comments		Mortgage Maturity Date	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Additional Information:			
Borrower		Date Signed	
Lender		Date Recorded	
Trustee		Instrument | Book/Page#	
Mortgage Type		Original Amount	
Comments		Mortgage Maturity Date	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Additional Information:			

Active Judgments and Liens			
Doc # or Case# or Bk/Pg	Description	Date Recorded	Amount
	None found		

Tax Year	Property Tax Status				Date (Due | Paid)	Amount
2010	TAX EXEMPT					$
Tax Year	**Property Tax Assessed Value**				**Home Exemption**	**Total Amount**
2010	Land	$	Improvements	$	$	$ 80,810

This title search report was performed in accordance with generally accepted standards. This report may ***not*** contain information affecting above real estate property that can not be indexed due to different spelling of owner's name or incorrectly recorded parcel number or recorder clerk error.

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

	Additional Information or Documents		

This title search report was performed in accordance with generally accepted standards. This report may ***not*** contain information affecting above real estate property that can not be indexed due to different spelling of owner's name or incorrectly recorded parcel number or recorder clerk error.

ProTitleUSA.com
E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

Additional Information

Left blank is no additional information recorded.

BK 1845 PG 0256

JOE F. JOHNSTON
CLERK OF SUPERIOR COURT
FLOYD COUNTY, GA.

2003 DEC 29 PM 5 04

FILED

[Space above this line for recording data]

Please return to
J. Anderson Davis
P.O. Box 5513
Rome, GA 30162-5513

Floyd County, Georgia
Real Estate Transfer Tax
Paid $ NONE
Date 12-29-03
Deputy Clerk of Superior Court

QUIT CLAIM DEED

STATE OF GEORGIA, FLOYD COUNTY:

THIS INDENTURE, Made this 23rd day of December, 2003, between ROME-FLOYD COUNTY DEVELOPMENT AUTHORITY ("GRANTOR") of the County of Floyd and State of Georgia of the first part, and FLOYD COUNTY, GEORGIA ("GRANTEE") of the County of Floyd and State of Georgia ("Grantor" and "Grantee" to include their respective heirs, successors, executors, administrators, legal representatives and assigns where the context requires or permits. Use of pronouns in any form shall be read as either masculine, feminine or neuter, and either singular or plural, whenever the context and facts permit such construction).

WITNESSETH: That Grantor, for the sum of Ten and NO/100 ($10.00) Dollars and other good and valuable consideration and in hand paid, the receipt of which is hereby acknowledged, has sold and quit claimed, and by these presents does sell and quit claim unto GRANTEE, the following described property:

Legal Description

All that tract or parcel of land lying and being situated in Land Lot 244 in the 23rd District and 3rd Section of Floyd County, Georgia. Also being lot numbers 73, 74, 75, 76, 77 and 78 of the Coosa Division of the City of Rome and adjoining property. Being more particularity described below:

To locate the TRUE POINT OF BEGINNING start at the intersection of the northwesterly right of way of West First Street (right of way varies) and the southeasterly right of way of Second Avenue (right of way varies); thence north 49 degrees 49 minutes 20 seconds east along the northwesterly right of way of West First Street 360.15 feet to the TRUE POINT OF BEGINNING; thence leaving the northwesterly right of way of West First Street and running north 40 degrees 18 minutes 20 seconds west 205.91 feet to a point; thence north 40 degrees 18 minutes 20 west 79.9 feet more or less to a point on the low water line on the southerly side of the Oostanaula River; thence easterly along said low water line of the Oostanaula River to a point, with the chord between the beginning point on the low water line and the ending point on the low water line running north 58 degrees 39 minutes 25 seconds east a distance of 183.43 feet;

thence from said ending point of the low water line, south 40 degrees 35 minutes 45 seconds east 256.90 feet to a point on the northwesterly right of way of West First Street; thence south 49 degrees 35 minutes 05 seconds west along the northwesterly right of way of West First Street, 182.49 feet to the TRUE POINT OF BEGINNING.

The above said tract of land is in accordance with a survey entitled "Survey for Floyd County, Georgia" dated June 26, 2000 and updated March 5, 2002 by Robert L. Moss, Georgia Registered Surveyor Number 1498. Said tract of land is designated as Tract B and contains 1.16 acre more or less.

TO HAVE AND TO HOLD the said land, together with all appurtenances thereto belonging, to the only use of GRANTEE, in as ample a manner only as GRANTOR has and holds the same.

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

Signed, sealed and delivered in the presence of:

UNOFFICIAL WITNESS

NOTARY PUBLIC
My Commission Expires: 11-10-07

NOTARY PUBLIC
GEORGIA
FLOYD COUNTY
GEORGIA

ROME-FLOYD COUNTY DEVELOPMENT AUTHORITY

BY: ______________________
Chairman

BY: ______________________
Secretary

SEAL

This Instrument Prepared By:
Brinson, Askew, Berry, Seigler, Richardson & Davis, LLP
615 West First Street
Post Office Box 5513
Rome, Georgia 30162-5513

138948

ProTitleUSA.com

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

Property and Ownership Information			
Current Owner's Name	ROME -FLOYD COUNTY DEVELOPMENT AUTHORITY	Completed Date	5/4/2011
Client Name		Index Date	2/15/2011
Property Address	Rome, GA	Report Type	Current Owner Search
APN# / Parcel # / PIN#	J14D020A	County	Floyd
Short Legal Description	Survey for Floyd County Tract A	Full Legal Description	See Attached Deed

Vesting Information			
Grantee(s)/Deed Owner	ROME -FLOYD COUNTY DEVELOPMENT AUTHORITY	Deed Date	4/15/2008
Grantor / Prior Owner	BATTEY DOWNTOWN LLC	Recorded Date	4/18/2008
Consideration Amount		Instrument | Book/Page#	2138 / 235
Sale Price		Deed Type	Warranty
Notes:			
	Chain-of-Title (1)		
Grantee(s)/Deed Owner	n/a	Deed Date	
Grantor / Prior Owner		Recorded Date	
Consideration Amount		Instrument | Book/Page#	
Sale Price		Deed Type	
Notes:			
	Chain-of-Title (2)		
Grantee(s)/Deed Owner	n/a	Deed Date	
Grantor / Prior Owner		Recorded Date	
Consideration Amount		Instrument | Book/Page#	
Sale Price		Deed Type	
	Chain-of-Title (3)		
Grantee(s)/Deed Owner	n/a	Deed Date	
Grantor / Prior Owner		Recorded Date	
Consideration Amount		Instrument | Book/Page#	
Sale Price		Deed Type	
Notes:			

Open Mortgage Information			
Borrower	*no open mortgages found*	Date Signed	
Lender		Date Recorded	
Trustee		Instrument | Book/Page#	
Mortgage Type		Original Amount	
Comments		Mortgage Maturity Date	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Additional Information:			

ProTitleUSA.com

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

Borrower		Date Signed	
Lender		Date Recorded	
Trustee		Instrument | Book/Page#	
Mortgage Type		Original Amount	
Comments		Mortgage Maturity Date	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Additional Information:			
Borrower		Date Signed	
Lender		Date Recorded	
Trustee		Instrument | Book/Page#	
Mortgage Type		Original Amount	
Comments		Mortgage Maturity Date	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Additional Information:			

Active Judgments and Liens

Doc # or Case# or Bk/Pg	Description	Date Recorded	Amount
	None found		

Tax Year	Property Tax Status	Date (Due | Paid)	Amount
2010	TAX EXEMPT		$

Tax Year	Property Tax Assessed Value				Home Exemption	Total Amount
2010	Land	$	Improvements	$	$	$

This title search report was performed in accordance with generally accepted standards. This report may ***not*** contain information affecting above real estate property that can not be indexed due to different spelling of owner's name or incorrectly recorded parcel number or recorder clerk error.

ProTitleUSA.com

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

	Additional Information or Documents		

This title search report was performed in accordance with generally accepted standards. This report may ***not*** contain information affecting above real estate property that can not be indexed due to different spelling of owner's name or incorrectly recorded parcel number or recorder clerk error.

ProTitleUSA.com

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

Additional Information

Left blank is no additional information recorded.

Dennis Smith
Brinson Askew Berry

Doc ID: 003379670003 Type: GLR
Filed: 04/18/2008 at 11:19:00 AM
Fee Amt: $14.00 Page 1 of 3
Transfer Tax: $0.00
Floyd County Superior Court
Joe E. Johnston Clerk Superior Court
BK 2138 PG 235-237

WARRANTY DEED

State of Georgia, Floyd County:

THIS INDENTURE, Made this 15th day of April in the year of our Lord, TWO THOUSAND EIGHT between **BATTEY DOWNTOWN, LLC,** a Georgia limited liability company (hereinafter referred to as "Grantor"), and **ROME-FLOYD COUNTY DEVELOPMENT AUTHORITY,** (hereinafter referred to as "Grantee"). ("Grantor" and "Grantee" to include their respective heirs, administrators, executors, representatives, successors and assigns.)

WITNESSETH: That Grantor herein, for and in consideration of $10.00 in hand paid, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, has sold and conveyed, and by these presents does sell and convey unto said Grantee.

All that tract or parcel of land described in Exhibit "A" attached hereto and made a part hereof by reference.

This conveyance is made subject to those matters set forth on Exhibit "B" attached hereto and made a part hereof by reference.

TO HAVE AND TO HOLD, The said bargained premises, together with all and singular the rights, members and appurtenances thereunto belonging, or in any wise appertaining, to the only proper use, benefit and behoof of the said Grantee, forever, in FEE SIMPLE.

And the said Grantor, binding heirs, administrators, executors, representatives, successors and assigns of said Grantor, hereby warrants the title to said bargained premises and members and appurtenances thereunto belonging, unto said Grantee, against the lawful claims of any and all persons owning, holding or claiming by, through or under said Grantor.

IN WITNESS WHEREOF, The said Grantor has hereunto set hand and seal, the day and year first above written. Signed, sealed and delivered in the presence of:

BATTEY DOWNTOWN, LLC

Brenda Horton
WITNESS

BY: [signature]
Ira D. Levy, Managing Member

[signature]
NOTARY PUBLIC, Floyd County, Georgia

BY: [signature]
James M. Kelley, Managing Member

(Company Seal)

JOHN E. MEDRAUCH NOTARY PUBLIC GEORGIA FLOYD COUNTY

EXHIBIT "A"

All that tract or parcel of land lying, being and situated in the Coosa Division of the City of Rome, Floyd County, Georgia, in the First Ward of the City of Rome, Georgia, and being more particularly described as follows:

Commencing at the point of intersection of the northerly right of way line of West First Street (right of way varies) with the northerly right of way of Second Avenue (right of way varies); thence along the northerly right of way of West First Street North 49 degrees 49 minutes 20 seconds East a distance of 340.15 feet to a #5 rebar with cap and being the TRUE POINT OF BEGINNING; thence from said TRUE POINT OF BEGINNING, North 40 degrees 18 minutes 20 seconds West a distance of 188.61 feet to a railroad spike; thence North 48 degrees 57 minutes 40 seconds East a distance of 20.00 feet to a #5 rebar with cap; thence South 40 degrees 18 minutes 20 seconds East a distance of 188.91 feet to a 1/2-inch pin found (paved over) on the northerly right of way line of West First Street; thence along said right of way line South 49 degrees 49 minutes 20 seconds West a distance of 20.00 feet to a #5 rebar with cap and the POINT OF BEGINNING.

The above tract containing .087 acre and being shown as Tract A on that plat of survey for Floyd County, Georgia, prepared by Robert L. Moss, Georgia Registered Land Surveyor No. 1498, dated May 16, 2007, last revised January 18, 2008, reference to said plat being made for a more particular description of the above tract, said plat being recorded in Plat Book 32, Page 179, in the Office of the Clerk of Superior Court of Floyd County, Georgia. GRANTOR HEREBY RESERVES an easement for a driveway, the maintenance and expense of which shall be the responsibility of Grantor, said easement is more particularly described as follows:

> All that tract or parcel of land lying, being and situated in the Coosa Division of the City of Rome, Floyd County, Georgia, in the First Ward of the City of Rome, Georgia, and being more particularly described as follows:
>
> Commencing at the point of intersection of the northerly right of way line of West First Street (right of way varies) with the northerly right of way of Second Avenue (right of way varies); thence along the northerly right of way of West First Street North 49 degrees 49 minutes 20 seconds East a distance of 340.15 feet to a #5 rebar with cap; thence North 40 degrees 18 minutes 20 seconds West a distance of 20.00 feet to the TRUE POINT OF BEGINNING; thence from said TRUE POINT OF BEGINNING North 40 degrees 18 minutes 20 seconds West a distance of 168.61 feet to a railroad spike; thence North 48 degrees 57 minutes 40 seconds East a distance of 10.00 feet to a point; thence South 40 degrees 18 minutes 20 seconds East a distance of 168.61 feet to a point; thence South 48 degrees 57 minutes 40 seconds West a distance of 10.00 feet to the POINT OF BEGINNING.

EXHIBIT "B"

1. Georgia Power easement as recorded in deed book 1269, page 825, Floyd County, Georgia deed records.
2. Sewer Easements to the City of Rome, recorded in deed book 517, pages 593 and 599, aforesaid records.
3. Deed of Facade and Conservation Easement from Rome I, Ltd. to The Georgia Trust for Historic Preservation, Inc., recorded in deed book 918, page 627, aforesaid records.
4. Deed of Facade and Conservation Easement from Rome I, Ltd. to The Georgia Trust for Historic Preservation, Inc., recorded in deed book 928, page 802, aforesaid records.
5. State of Georgia Environmental Protection Division, Georgia Department of Natural Resources Hazardous Site Inventory, dated July 1, 1996, Site No. 10109, Site Name: Rome Coal Tar Pit; received in the Office of the Clerk of the Superior Court of Floyd County, Georgia on July 18, 1996.
6. Railroad Right of Way Deed recorded in deed book UUU, page 234, aforesaid records.
7. Declaration of Restrictions, Covenants and Easement recorded in deed book 1617, page 488, Amended and Restated in deed book 1622, page 57, aforesaid records.
8. Declaration of Restrictions, Covenants and Easement recorded in deed book 1617, page 483, Amended and Restated in deed book 1622, page 57, aforesaid records.
9. Declaration of Restrictions, Covenants and Easement recorded in deed book 1622, page 64, aforesaid records.
10. Mutual Parking Lot Easement and Agreement between Rome I, Ltd. and Battey Restaurant, Ltd., recorded in deed book 967, page 37, aforesaid records.
11. Declaration of Restrictive Covenants and Notice made by Atlanta Gas Light Company, dated December 31, 2003, and recorded in deed book 1845, page 1206, aforesaid records.
12. Easements reserved in Limited Warranty Deed from Atlanta Gas Light Company to Battey Downtown, LLC, dated December 31, 2003, and recorded in deed book 1845, page 1215, aforesaid records.
13. Environmental Agreement between Battey Downtown, LLC and Atlanta Gas Light Company, dated December 31, 2003, and recorded in deed book 1845, page 1227, aforesaid records.

ProTitleUSA.com

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

Property and Ownership Information			
Current Owner's Name	CITY OF ROME, GEORGIA	Completed Date	5/4/2011
		Index Date	2/15/2011
Property Address	Rome, GA	Report Type	Current Owner Search
APN# / Parcel # / PIN#	J14D025	County	FLOYD
Short Legal Description	120' along northeastern side of 2nd Ave	Full Legal Description	See attached Deed

Vesting Information			
Grantee(s)/Deed Owner	CITY OF ROME, GEORGIA	Deed Date	10/6/1997
Grantor / Prior Owner	ATLANTA GAS LIGHT COMPANY	Recorded Date	10/7/1997
Consideration Amount		Instrument | Book/Page#	1426 / 701
Sale Price		Deed Type	Deed of Gift
Notes:			
	Chain-of-Title (1)		
Grantee(s)/Deed Owner	n/a	Deed Date	
Grantor / Prior Owner		Recorded Date	
Consideration Amount		Instrument | Book/Page#	
Sale Price		Deed Type	
Notes:			
	Chain-of-Title (2)		
Grantee(s)/Deed Owner	n/a	Deed Date	
Grantor / Prior Owner		Recorded Date	
Consideration Amount		Instrument | Book/Page#	
Sale Price		Deed Type	
Notes:			

Open Mortgage Information			
Borrower	* no open mortgages found *	Date Signed	
Lender		Date Recorded	
Trustee		Instrument | Book/Page#	
Mortgage Type		Original Amount	
Comments		Mortgage Maturity Date	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Related Information:			
Borrower		Date Signed	
Lender		Date Recorded	
Trustee		Instrument | Book/Page#	
Mortgage Type		Original Amount	
Comments		Mortgage Maturity Date	
Mortgage Assigned to		Assignment Book/Pa	

This title search report was performed in accordance with generally accepted standards. This report may ***not*** contain information affecting above real estate property that can not be indexed due to different spelling of owner's name or incorrectly recorded parcel number or recorder clerk error. The Report covers only liens of record found during the period of the search. ProTitleUSA is not responsible for any chain of title defects and chain of title breaks and only reports what's recorded in the public records.

ProTitleUSA.com

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

Assignment Date		Assignment Recorded	
Related Information:			
Borrower		Date Signed	
Lender		Date Recorded	
Trustee		Instrument | Book/Page#	
Mortgage Type		Original Amount	
Comments		Mortgage Maturity Date	
Mortgage Assigned to		Assignment Book/Pa	
Assignment Date		Assignment Recorded	
Related Information:			

Active Judgments and Liens			
Doc # or Case# or Bk/Pg	Description	Date Recorded	Amount
	None found		
No Federal (IRS) / State liens found;			

Tax Year	Property Tax Status				Date (Due | Paid)	Amount
2010	TAX EXEMPT					$
						$
	No delinquent taxes found					
Tax Year	**Property Tax Assessed Value**				**Home Exemption**	**Total Amount**
2010	Land	$	Improvements	$	$	$
	Additional Information or Documents					

This title search report was performed in accordance with generally accepted standards. This report may ***not*** contain information affecting above real estate property that can not be indexed due to different spelling of owner's name or incorrectly recorded parcel number or recorder clerk error. The Report covers only liens of record found during the period of the search. ProTitleUSA is not responsible for any chain of title defects and chain of title breaks and only reports what's recorded in the public records.

E-mail: info@protitleusa.com
Phone: (888) 878-8081
Fax: (888) 524-5996

Additional Information

Left blank is no additional information recorded.

Return to: Joe Smith
City Clerk
601 Broad St.
Rome, Ga. 30161

JOE E. JOHNSTON
CLERK OF SUPERIOR COURT
FLOYD COUNTY, GA.

BK 1426 PG 0101

97 OCT 7 AM 8 45

FILED

STATE OF GEORGIA

COUNTY OF FLOYD

DEED OF GIFT

1997

THIS INDENTURE, made this 6th day of October, 1997, by and between **ATLANTA GAS LIGHT COMPANY**, a Georgia corporation (hereinafter called "**Grantor**"), and the **CITY OF ROME, GEORGIA**, a municipal corporation created and existing under the laws of the State of Georgia (hereinafter called "**Grantee**"). The words "Grantor" and "Grantee" include their respective successors and assigns where the context requires or permits.

W I T N E S S E T H:

GRANTOR has given, granted, conveyed, and confirmed, and by these presents does give, grant, convey, and confirm unto Grantee, and the successors and assigns of Grantee all that certain tract or parcel of land lying and being in the City of Rome, Floyd County, Georgia, being more particularly described in **Exhibit "A"**, attached hereto and incorporated herein by this reference (hereinafter called the "Property").

TO HAVE AND TO HOLD the Property, together with any and all of the rights, members, and appurtenances thereof, to the same being, belonging, or in anywise appertaining, to the only proper use, benefit, and behoof of Grantee forever in FEE SIMPLE; SUBJECT, HOWEVER, as to the matters set forth in **Exhibit "B"**, attached hereto and incorporated herein by this reference.

GRANTEE ACKNOWLEDGES that the Property contains "hazardous substances" within the meaning of O.C.G.A. § 12-8-92(4). Accordingly, Grantor hereby reserves , for itself, and its agents, employees, representatives and contractors and other respective legal representatives, successors and assigns, a nonexclusive permanent, perpetual right, privilege and easement (the "Access Easement") in, upon, under, across and through the Property, for purposes of investigating, remediating, remedying or otherwise taking response action in respect of any such hazardous substances (the "Remediation"), to the full extent Grantor deems necessary in its sole discretion. Any Remediation shall be upon reasonable notice to Grantee in light of the circumstances. In the event Grantor or its employees, representatives, agents or contractors damage improvements on the Property in connection with the exercise of the easement rights hereunder, Grantor shall restore said improvements to the extent reasonably practicable. The Access Easement shall be binding upon and enforceable against Grantee and its successors, successors in title, and assigns, and shall be a covenant running with the land.

GRANTEE ACKNOWLEDGES that the Property contains hazardous substances within the meaning of O.C.G.A. § 12-8-92(4). Accordingly, neither Grantee nor its successors or assigns shall cause or permit any soil excavation, penetration beneath the surface of the ground, or disturbance of any existing asphalt or concrete on the Property without prior notice to and approval of the Grantor or its successors and assigns, which may be unreasonably withheld in Grantor's sole and absolute discretion. The foregoing covenant (the Non-Disturbance Covenant") will be binding upon and enforceable against the Grantee and its successors and assigns and shall be a covenant running with the land. The Non-Disturbance Covenant is made in accordance with Ga. Comp. R. & Regs. 391-3-19.08(7), which expressly authorizes the use of restrictive covenants to prohibit activities on the Property that may substantially interfere with a remedial action, operation and maintenance, long-term monitoring, or other measures to ensure the integrity of any remedial action. The Non-Disturbance Covenant shall run in favor of and for the benefit of Grantee and its legal representatives, successors and assigns, the State of Georgia and the Environmental Protection Division of the Department of Natural Resources of the State of Georgia, and accordingly, shall run in perpetuity in

ATL1301 4002.3

accordance with O.C.G.A. § 44-5-60(c). This conveyance is made subject to, and the Property conveyed hereby shall hereafter be held, transferred, sold, conveyed, used, occupied and mortgaged or otherwise encumbered subject to the Non-Disturbance Covenant. Every grantee of any interest in the Property conveyed hereby, by acceptance of a deed or other conveyance, whether or not such deed or other conveyance shall be signed by such person, and whether or not such person shall otherwise consent in writing, shall take subject to the Non-Disturbance Covenant and shall be deemed to have consented to the Non-Disturbance Covenant and to be bound to observe and perform all the terms and provisions hereof.

GRANTOR SHALL WARRANT and forever defend the right and title to the Property unto the said Grantee against the claims of all persons claiming by, through, or under Grantor, except as to claims, if any, arising under or with respect to the matters set forth in Exhibit "B" hereto.

IN WITNESS WHEREOF, Grantor has signed and sealed this indenture, and Grantor has delivered this indenture to Grantee, and Grantee has signed and sealed this indenture, and Grantee has accepted this indenture from Grantor all the day, month, and year first above written.

Signed, sealed and delivered
in the presence of:

Barbara M Suttles
Unofficial Witness

Lydia Walker
Notary Public

(NOTARY SEAL)

My Commission Expires:
Notary Public, DeKalb County, Georgia
My Commission Expires April 20, 1999

GRANTOR:

ATLANTA GAS LIGHT COMPANY, a Georgia corporation

By: Michael D. Hutchins
Title: Vice President
Operations and Engineering

(CORPORATE SEAL)

Signed, sealed and delivered
in the presence of:

Joseph F. Smith
Unofficial Witness

M. Morrow
Notary Public

(NOTARY SEAL)

My Commission Expires:
2/13/2001

GRANTEE:

CITY OF ROME, GEORGIA, a municipal corporation

By: George Pullen
Title: Chairman

THE CITY OF ROME GEORGIA

(ATTACHMENTS FOLLOWING FOUR PAGES)

EXHIBIT "A"

ALL THAT TRACT OR PARCEL of land lying and being in the 1st Ward of the City of Rome, in Land Lot 244 of the 23rd District, 3rd Section, Floyd County, Georgia, and being more particularly described as follows:

TO FIND THE TRUE POINT OF BEGINNING of the tract of land herein described, commence at a building corner at the intersection of the northwestern right-of-way line of West First Street with the northeastern right-of-way line of Second Avenue; running thence along said right-of-way line of Second Avenue, north 38 degrees 12 minutes 38 seconds west a distance of 201.16 feet to a point; running thence along an offset in the northeastern right-of-way line of Second Avenue, north 51 degrees 17 minutes 02 seconds east a distance of 20.00 feet to a point; continuing thence along said right-of-way line of Second Avenue, north 38 degrees 12 minutes 38 seconds west a distance of 63.02 feet to a point, said point being the TRUE POINT OF BEGINNING; FROM THE TRUE POINT OF BEGINNING thus established, continuing thence along said right-of-way line of Second Avenue, north 38 degrees 12 minutes 38 seconds west a distance of 120.0 feet, more or less, to the intersection of the northeastern right-of-way line of Second Avenue with the top of the southerly bank of the Oostanaula River; running thence in a generally northeasterly direction along the top of said bank, and following the meanderings thereof, a distance of 255 feet, more or less, to a point; thence leaving the top of the southerly bank of the Oostanaula River, and running south 38 degrees 12 minutes 23 seconds east a distance of 20.0 feet, more or less, to a 5/8-inch r-bar found; running thence south 38 degrees 12 minutes 23 seconds east a distance of 35.56 feet to a point; running thence south 56 degrees 53 minutes 41 seconds west a distance of 101.39 feet to a point; running thence north 38 degrees 12 minutes 38 seconds west a distance of 20.00 feet to a point; running thence south 51 degrees 17 minutes 02 seconds west a distance of 150.00 feet to a point located on the northeastern right-of-way line of Second Avenue, said point being the TRUE POINT OF BEGINNING; according to survey of ``City of Rome, Georgia Situated in Land Lot 244 of the 23rd District and 3rd Section of Floyd County, and in the First Ward of the City of Rome, Georgia,'' dated March 31, 1997, revised June 30, 1997, prepared by the City of Rome, Georgia Engineering Department, under the seal and certification of Randall E. Carver, Georgia Registered Land Surveyor No. 2331, under Job No. 0306; said tract of land containing 0.31 acre, more or less, according to said survey, which survey is incorporated herein and made a part hereof by reference.

EXHIBIT "B"

(Title Exceptions)

1. All taxes and assessments for the year 1997 and subsequent years.

2. Such matters as would be disclosed by a current and accurate survey and inspection of the Property.

3. Zoning ordinances affecting the Property.

4. All easements, covenants, restrictions, reservations, rights-of-way and similar matters of record as of the date of this Deed of Gift.

5. Rights of parties in possession.

6. The state of compliance or non-compliance of the Property, as of the date of this Deed of Gift, with any laws, codes, ordinances, rules, regulations or private restrictive covenants applicable to or affecting the Property.

7. No insurance is afforded as to the exact amount of acreage contained in the property described herein.

8. Easement from Battey Machinery Company to the City of Rome, dated November 24, 1971, filed for record January 14, 1972 at 4:10 p.m., recorded in Deed Book 517, Page 593, Records of Floyd County, Georgia.

9. Deed of Facade and Conservation Easement from Rome I, Ltd. to The Georgia Trust For Historic Preservation, Inc., dated November 15, 1984, filed for record December 31, 1984 at 3:20 p.m., recorded in Deed Book 918, Page 627, aforesaid Records.

10. Deed of Facade and Conservation Easement from Rome I, Ltd. to The Georgia Trust For Historic Preservation, Inc., dated November 15, 1984, filed for record May 14, 1985 at 3:05 p.m., recorded in Deed Book 928, Page 802, aforesaid Records.

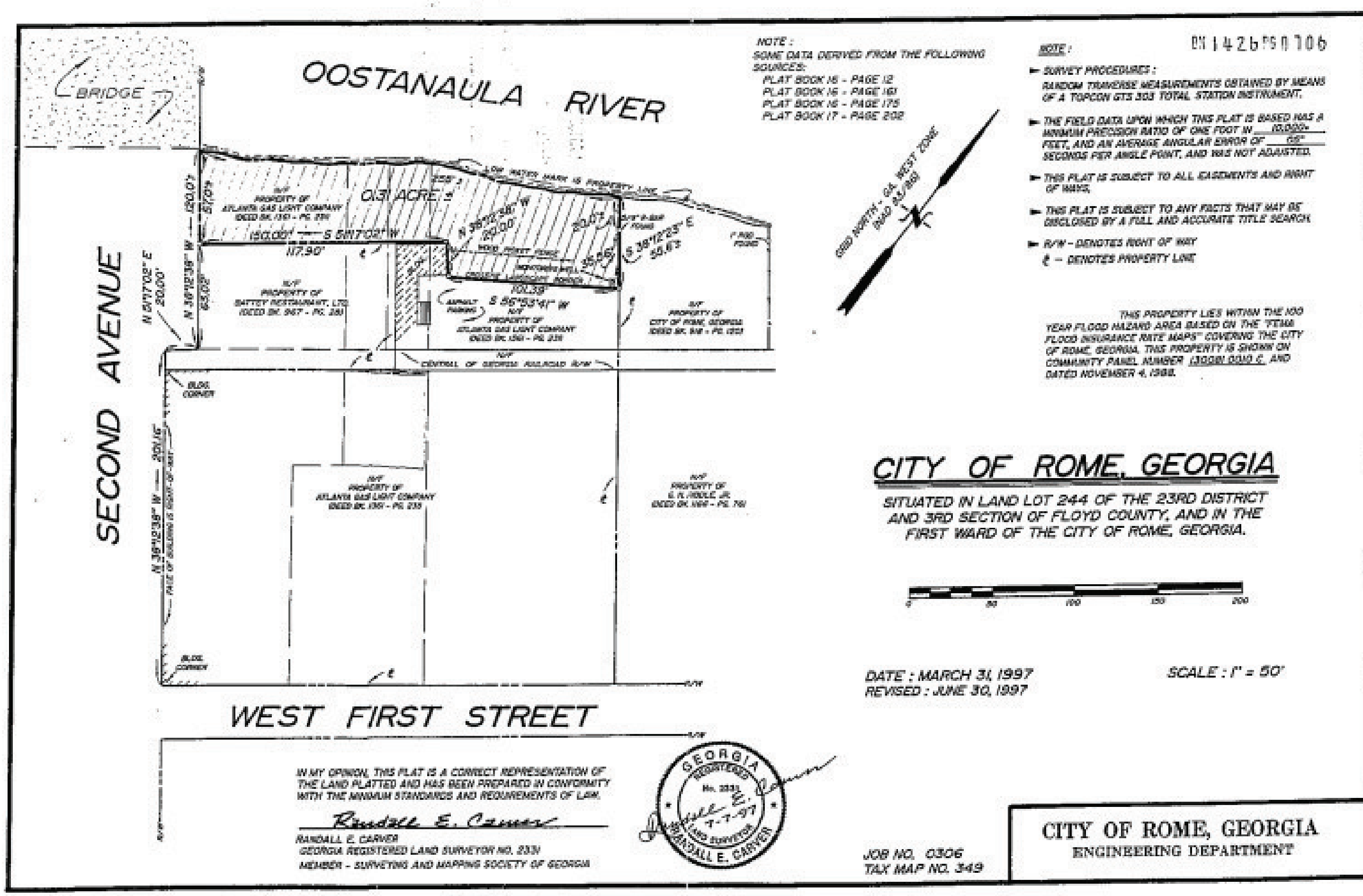
11. Mutual Parking Lot Easement and Agreement from Rome I, Ltd., a Texas Limited Partnership to Battey Restaurant, Ltd., a Texas Limited Partnership, dated July 31, 1986, filed for record July 14, 1986 at 2:15 p.m., recorded in Deed Book 967, Page 37, aforesaid Records.

12. Easement from Rome I, Ltd. a limited partnership to Georgia Power Company, dated July 29, 1994, filed for record September 14, 1994 at 10:45 a.m., recorded in Deed Book 1269, Page 825, aforesaid Records.

13. Notice of Federal Lien Under the Superfund Amendments and Reauthorization Act of 1986 by Greer C. Tidwell, dated October, 1988, filed for record October 11, 1988 at 8:55 a.m., recorded in Deed Book 1046, Page 497, aforesaid Records.

14. Notice of Federal Lien Under the Superfund Amendments and Reauthorization Act of 1986 by Patrick M. Tobin, dated May 29, 1990, filed for record July 24, 1990 at 9:00 a.m., recorded in Deed Book 1102, Page 266, aforesaid Records.

15. State of Georgia Environmental Protection Division, Georgia Department of Natural Resources Hazardous Site Inventory, dated July 1, 1996, Site No. 10109, Site Name: Rome Coal Tar Pt; received in the Office of the Clerk of the Superior Court of Floyd County, Georgia on July 18, 1996.


BK 1426 PG 0706
OOSTANAULA RIVER
BRIDGE
SECOND AVENUE
WEST FIRST STREET
0.131 ACRE ±
N/F PROPERTY OF ATLANTA GAS LIGHT COMPANY
N/F PROPERTY OF BATTEY RESTAURANT, LTD.
N/F PROPERTY OF CITY OF ROME, GEORGIA
CENTRAL OF GEORGIA RAILROAD R/W
S 51°17'02" W
117.90'
N 38°12'38" W — 120.01'
N 51°17'02" E 20.00'
S 86°53'41" W
S 39°12'23" E 55.63'
NOTE :
SOME DATA DERIVED FROM THE FOLLOWING SOURCES:
PLAT BOOK 16 - PAGE 12
PLAT BOOK 16 - PAGE 161
PLAT BOOK 16 - PAGE 175
PLAT BOOK 17 - PAGE 202
GRID NORTH - GA. WEST ZONE
NOTE :
SURVEY PROCEDURES :
RANDOM TRAVERSE MEASUREMENTS OBTAINED BY MEANS OF A TOPCON GTS 303 TOTAL STATION INSTRUMENT.
THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAS A MINIMUM PRECISION RATIO OF ONE FOOT IN 10,000+ FEET, AND AN AVERAGE ANGULAR ERROR OF 05" SECONDS PER ANGLE POINT, AND WAS NOT ADJUSTED.
THIS PLAT IS SUBJECT TO ALL EASEMENTS AND RIGHT OF WAYS.
THIS PLAT IS SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED BY A FULL AND ACCURATE TITLE SEARCH.
R/W - DENOTES RIGHT OF WAY
℄ - DENOTES PROPERTY LINE
THIS PROPERTY LIES WITHIN THE 100 YEAR FLOOD HAZARD AREA BASED ON THE "FEMA FLOOD INSURANCE RATE MAPS" COVERING THE CITY OF ROME, GEORGIA. THIS PROPERTY IS SHOWN ON COMMUNITY PANEL NUMBER 130081 0010 C AND DATED NOVEMBER 4, 1988.
CITY OF ROME, GEORGIA
SITUATED IN LAND LOT 244 OF THE 23RD DISTRICT AND 3RD SECTION OF FLOYD COUNTY, AND IN THE FIRST WARD OF THE CITY OF ROME, GEORGIA.
0 50 100 150 200
DATE : MARCH 31, 1997
REVISED : JUNE 30, 1997
SCALE : 1" = 50'
IN MY OPINION, THIS PLAT IS A CORRECT REPRESENTATION OF THE LAND PLATTED AND HAS BEEN PREPARED IN CONFORMITY WITH THE MINIMUM STANDARDS AND REQUIREMENTS OF LAW.
Randall E. Carver
RANDALL E. CARVER
GEORGIA REGISTERED LAND SURVEYOR NO. 2331
MEMBER - SURVEYING AND MAPPING SOCIETY OF GEORGIA
GEORGIA REGISTERED No. 2331 LAND SURVEYOR RANDALL E. CARVER
7-7-97
JOB NO. 0306
TAX MAP NO. 349
CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

JOE L. JOHNSTON
... OF SUPERIOR COURT
FLOYD COUNTY, GA.

2003 DEC 31 PM 3 46

FILED

... Corwin & Niedrach, P.
P.O. Box 5390
Rome, GA 30162

Floyd County, Georgia
Real Estate Transfer Tax
Paid $ 1076.00
Date 12-31-03
Deputy Clerk of Superior Court

Space Above This Line for Recorder's Use

After recording, please return to:
Cox Corwin & Niedrach
711 Broad Street
Rome, Georgia 30162-5390
Attention: Jack Niedrach, Esq.

STATE OF GEORGIA

COUNTY OF FULTON

LIMITED WARRANTY DEED

THIS INDENTURE is made this 31 day of December, 2003, by and between **ATLANTA GAS LIGHT COMPANY**, a Georgia corporation, hereinafter called "**Grantor**", and **BATTEY DOWNTOWN, LLC**, a Georgia limited liability company, hereinafter called "**Grantee**". The words "Grantor" and "Grantee" include the neuter, masculine and feminine genders, and the singular and the plural.

W I T N E S S E T H:

FOR AND IN CONSIDERATION of the sum of Ten Dollars ($10.00) in hand paid to Grantor by Grantee at and before the execution, sealing and delivery hereof, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto Grantee, and the successors, legal representatives and assigns of Grantee, all that tract or parcel of land lying and being a part of Lot 66 and all of Lots 67 through 72 and adjacent property in the Coosa Division of the City of Rome, located in the First Ward of the City of Rome, Floyd County, Georgia, being more particularly described on **Exhibit "A"**, attached hereto and incorporated herein by reference (the "**Property**").

GRANTOR HEREBY RESERVES and the conveyance is hereby subject to the easements described on **Exhibit "B"** attached hereto and incorporated herein by reference.

TO HAVE AND TO HOLD said tract or parcel of land, together with any and all of the rights, members and appurtenances thereof to the same being, belonging or in anywise appertaining to the only proper use, benefit and behoof of Grantee forever, in fee simple; and

GRANTOR SHALL WARRANT and forever defend the right and title to said tract or parcel of land unto Grantee, and the successors, legal representatives and assigns of Grantee, against the claims of all persons whomsoever, claiming by, through or under Grantor, but not otherwise; provided, however, that the warranties of title made by Grantor herein are subject to and shall not extend to any claims arising under any matter set forth on **Exhibit "B"** or on **Exhibit "C"**, attached hereto and incorporated herein by reference.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, Grantor has caused its duly authorized corporate officer to execute this indenture, to affix its corporate seal hereto and to deliver this indenture to Grantee, all the day and year first written above.

GRANTOR:

ATLANTA GAS LIGHT COMPANY,
a Georgia corporation

By: Jeff Brown
Name: Jeffrey P. Brown
Title: Vice President

[CORPORATE SEAL]

ATLANTA GAS LIGHT CO. INCORPORATED FEBRUARY 16 1856 GEORGIA

Signed, sealed and delivered in the presence of:

Myra Calve
Unofficial Witness

Adrienne E. Scandrett
Notary Public

My Commission Expires:

(NOTARIAL SEAL)

ADRIENNE E. SCANDRETT NOTARY PUBLIC DEKALB COUNTY, GA.

(ATTACHMENTS FOLLOWING NINE PAGES)

EXHIBIT "A"

TRACT 1

All that tract or parcel of land lying and being in the Coosa Division of the 1st Ward of the City of Rome, Floyd County, Georgia, being all of Lots numbered 61, 62, 63, 64, 65, 66, 67, 68 and 69 of said Coosa Division as well as that property lying between said lots and the Oostanaula River as shown by a property survey for E.C. Systems, Inc., a Plat of said survey being recorded in Plat Book 16, page 161, in the records of the Office of the Clerk of the Superior Court of Floyd County, Georgia, and designated as Tract 1, being more particularly described as follows:

BEGINNING at the north corner of the intersection of the right-of-ways of Second Avenue and West First Street, said corner also being a building corner and the south corner of Lot 61 of said Coosa Division and from said point of beginning running north 40 degrees 14 minutes 45 seconds west along the face of said building and the northeasterly right-of-way of Second Avenue 201.16 feet to a point on the northwesterly right-of-way of the Central of Georgia Railroad; thence running north 49 degrees 14 minutes 55 seconds east a distance of 20.0 feet to a point; thence running north 40 degrees 14 minutes 45 seconds west a distance of 120 feet, more or less, to the normal low water line of the Oostanaula River; thence running along the normal low water line of the Oostanaula River a distance of 255 feet, more or less, to a point (a survey tie line being run between the northeasterly property line and the southwesterly property line and adjacent to the Oostanaula River; said survey tie line beginning at a point on the southwesterly property line being 102.83 feet from the northwesterly right-of-way of the Central of Georgia Railroad and being 17 feet, more or less, from the normal low water line of the Oostanaula River and thence running north 57 degrees 02 minutes 15 seconds east a distance of 253.07 feet to a point on the northeasterly property line, said point being 20 feet, more or less, from the normal low water line of the Oostanaula River and 279.49 feet from West First Street as measured along the northeasterly property line); thence running south 40 degrees 14 minutes 30 seconds east a distance of 292 feet, more or less, to a point on the northwesterly right-of-way of West First Street; said point also being the east corner of Lot 69 of the said Coosa Division thence running south 49 degrees 49 minutes 20 seconds west along the northwesterly right-of-way of West First Street 270.96 feet to the point of beginning. Said tract containing 1.85 acres more or less.

This being the same property conveyed by E.C. Systems, Inc. to Rome I, Ltd. as found in Deed Book 908, page 226, aforesaid Records, this deed being used to conform the within deed description to the aforementioned survey recorded in Plat Book 16, page 161, aforesaid Records.

THE ABOVE DESCRIBED TRACT 1 WAS CONVEYED TO ATLANTA GAS LIGHT COMPANY BY THE FOLLOWING DEEDS:

(1) DEED UNDER POWER OF SALE DATED AND RECORDED NOVEMBER 5, 1996, AND RECORDED IN DEED BOOK 1359, PAGE 649, AFORESAID RECORDS, AND RE-RECORDED IN DEED BOOK 1361, PAGE 231, AFORESAID RECORDS, ON NOVEMBER 18, 1996.

(2) WARRANTY DEED DATED FEBRUARY 24, 1999 BETWEEN BATTEY RESTAURANT, LTD. AND ATLANTA GAS LIGHT COMPANY, RECORDED IN DEED BOOK 1515, PAGE 679, AFORESAID RECORDS.

TOGETHER WITH:

TRACT 2

All that tract or parcel of land lying and being in the Coosa Division of the First Ward of the City of Rome, being all of Lots 70, 71, and 72 of said Coosa Division and other properties as shown by a property survey for E.C. Systems, Inc., a plat of said survey being recorded in Plat Book 16, Page 175, and designated as Tract 2, being more particularly described as follows:

Starting at the northernmost corner of the right of ways of the intersection of Second Avenue and West First Street and from said starting point running north 49 degrees 49 minutes 20 seconds east along the northwesterly right of way of West First Street a distance of 270.96 feet to the TRUE POINT OF BEGINNING; thence, from said TRUE POINT OF BEGINNING running north 40 degrees 14 minutes 30 seconds west a distance of 204.57 feet to a point on the northwesterly right of way of the Central of Georgia Railroad; thence running north 48 degrees 57 minutes 40 seconds east along the northwesterly right of way of the Central of Georgia Railroad a distance of 88.96 feet to a point; thence running south 40 degrees 18 minutes 20 seconds east a distance of 205.91 feet to a point on the northwesterly right of way of West First Street; thence running south 49 degrees 49 minutes 20 seconds west a distance of 89.19 feet to the TRUE POINT OF BEGINNING.

THE ABOVE DESCRIBED TRACT 2 WAS CONVEYED TO ATLANTA GAS LIGHT COMPANY BY THE FOLLOWING DEED:

(1) WARRANTY DEED DATED JANUARY 11, 1999, BETWEEN G.H. RIDDLE, JR. AND ATLANTA GAS LIGHT COMPANY, AND RECORDED IN DEED BOOK 1505, PAGE 759, AFORESAID RECORDS.

LESS AND EXCEPT:

All that tract or parcel of land conveyed by Deed of Gift between Atlanta Gas Light Company and the City of Rome, Georgia, dated October 6, 1997 and recorded in Deed Book 1426, page 701, aforesaid records and described more particularly as follows:

ALL THAT TRACT OR PARCEL of land lying and being in the 1st Ward of the City of Rome, in Land Lot 244 of the 23rd District, 3rd Section, Floyd County, Georgia, and being more particularly described as follows:

TO FIND THE TRUE POINT OF BEGINNING of the tract of land herein described, commence at a building corner at the intersection of the northwestern right-of-way line of West First Street with the northeastern right-of-way line of Second Avenue; running thence along said right-of-way line of Second Avenue, north 38 degrees 12 minutes 38 seconds west a distance of 201.16 feet to a point; running thence along an offset in the northeastern right-of-way line of Second Avenue, north 51 degrees 17 minutes 02 seconds east a distance of 20.00 feet to a point; continuing thence along said right-of-way line of Second Avenue, north 38 degrees 12 minutes 38 seconds west a distance of 63.02 feet to a point, said point being the TRUE POINT OF BEGINNING; FROM THE TRUE POINT OF BEGINNING thus established, continuing thence along said right-of-way line of Second Avenue, north 38 degrees 12 minutes 38 seconds west a distance of 57.0 feet, more or less, to the intersection of the northeastern right-of-way line of Second Avenue with the top of the southerly bank of the Oostanaula River; running thence in a generally northeasterly direction along the top of said bank, and following the meanderings thereof, a distance of 255 feet, more or less, to a point; thence leaving the top of the southerly bank of the Oostanaula River, and running south 38 degrees 12 minutes 23 seconds east a distance of 20.0 feet, more or less, to a 5/8-inch r-bar found; running thence south 38 degrees 12 minutes 23 seconds east a distance of 35.56 feet to a point; running thence south 56 degrees 53 minutes 41 seconds west a distance of 101.39 feet to a point; running thence north 38 degrees 12 minutes 38 seconds west a distance of 20.00 feet to a point; running thence south 51 degrees 17 minutes 02 seconds west a distance of 150.00 feet to a point located on the northeastern right-of-way line of Second Avenue, said point being the TRUE POINT OF BEGINNING; according to a survey of "City of Rome, Georgia Situated in Land Lot 244 of the 23rd District and 3rd Section of Floyd County, and in the First Ward of the City of Rome, Georgia," dated March 31, 1997, revised June 30, 1997, prepared by the City of Rome, Georgia Engineering Department, under the seal and certification of Randall E. Carver, Georgia Registered Land Surveyor No. 2331, under Job No. 0306; said tract of land containing 0.31 acre, more or less, according to said survey, which survey is incorporated herein and made a part hereof by reference.

EXHIBIT "B"

Grantor hereby reserves for the benefit of Grantor, its successors and assigns, the non-exclusive easement on, over, across, under and through the Property for the purposes of (i) installing, testing, operating, inspecting, sampling, maintaining, repairing, replacing, altering, relocating, removing, and abandoning in place one or more monitoring wells and related equipment, appurtenances and facilities necessary and appropriate for the use and maintenance of said monitoring wells (hereinafter collectively referred to as the "**Monitoring Wells**"); (ii) installing, testing, operating, inspecting, sampling, maintaining, repairing, replacing, altering, relocating, removing, and abandoning in place one or more monitoring and injection wells and related equipment, appurtenances and facilities necessary and appropriate for the treatment of groundwater (hereinafter collectively referred to as the "**Remediation Wells**"); (iii) ingress to and egress from the nearest public road to the Monitoring Wells and Remediation Wells on the Property in order to provide Grantee convenient access to said Monitoring Wells and Remediation Wells at any time and from time to time, for the uses and purposes set forth in subparts (i) and (ii) above; (iv) ingress and egress from the nearest public road to the Oostanaula River at any time and from time to time, for the purpose of monitoring and sampling the river; and (v) such other rights as may be necessary for the enjoyment of the rights and privileges provided herein. The easements and rights reserved herein shall commence on the date hereof and shall expire on the date which is one hundred twenty (120) days following the date Grantor receives written notice from the Georgia Environmental Protection Division with respect to the Property, so as to eliminate the need for any Monitoring and Remediation Wells on the Property and so as to eliminate the need to monitor and sample the Oostanaula River.

Upon written notice from the Georgia Environmental Protection Division that Grantor is no longer required to monitor the groundwater underneath the Property, Grantor shall have the exclusive right and duty to permanently close all existing Monitoring Wells and Remediation Wells. Grantee covenants that in the event of a destruction of one or more Monitoring or Remediation Wells, or related equipment, Grantor shall be permitted and have the exclusive right to replace Monitoring Wells and Remediation Wells and equipment in locations in close proximity to each such well or equipment that was destroyed, and Grantee shall promptly reimburse Grantor for the cost incurred with the replacement of such well and equipment. Grantor agrees to use commercially reasonable efforts to place any new Monitoring or Remediation Wells or equipment in locations consistent with Grantee's development plans, provided, however, that all such locations shall meet all requirements of the Georgia Environmental Protection Department and all applicable environmental laws, rules, regulations, codes, ordinances, orders, directives or requests of any governmental authority.

Grantee covenants and agrees to use the Property for purposes, and make any improvements to the Property that are, compatible with and subject to the rights granted to or permitted by Grantor herein, and shall not interfere with or permit any other person to interfere with Grantor's use of easements, rights and privileges granted hereunder. Notwithstanding anything to the contrary contained herein, Grantor reserves exclusive access to the Monitoring Wells and the Remediation Wells and the exclusive right to exercise the rights reserved to or permitted by Grantor herein.

Grantor will notify (either in writing or verbally) Grantee at least five (5) days prior to any entry onto the Property for the purposes of installing, maintaining, repairing, replacing, altering, relocating or removing any Monitoring or Remediation Well; provided, however, no notice shall be required for any entry for the purposes of performing ordinary sampling or inspection of the Monitoring or Remediation Wells or sampling the Oostanaula River or in the event of an emergency as reasonably determined by Grantor.

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

By acceptance of this deed, Grantee, for himself and his heirs, successors and assigns, covenants to comply with and to be bound by the terms hereof.

The easements set forth herein shall be for the use, benefit and enjoyment of Grantor, and its successors and assigns, and their respective agents, employees, servants, contractors and subcontractors. The terms, conditions and provisions, and the easements, rights, and privileges created hereby shall be binding upon and inure to the benefit of Grantor and Grantee and their respective successors, successors-in-title. The easements, rights, covenants, benefits and burdens herein shall run with the title to the Property. With or without specific reference thereto, the conveyance of any interest in any portion of the Property by Grantee, his heirs, successors and assigns, shall be subject to the benefits and burdens hereby created to the same extent as if all of the terms hereof were set forth in such conveyance in full.

EXHIBIT "C"

1. All taxes for the year 2004 and subsequent years, not yet due and payable.

2. Easement from Battey Machinery Company to the City of Rome, dated November 24, 1971, recorded in Deed Book 517, Page 593, Floyd County, Georgia Records.

3. Deed of Façade and Conservation Easement from Rome I, Ltd. to The Georgia Trust for Historic Preservation, Inc., dated November 15, 1984, recorded in Deed Book 918, Page 627, aforesaid records (the inclusion of the foregoing title exception herein is not intended to impose any encumbrance on the Property conveyed hereby if the foregoing title exception does not, by its express terms, affect the Property conveyed hereby).

4. Deed of Façade and Conservation Easement from Rome I, Ltd. to The Georgia Trust for Historic Preservation, Inc., dated November 15, 1984, recorded in Deed Book 928, Page 802, aforesaid records (the inclusion of the foregoing title exception herein is not intended to impose any encumbrance on the Property conveyed hereby if the foregoing title exception does not, by its express terms, affect the Property conveyed hereby).

5. Mutual Parking Lot Easement and Agreement from Rome I, Ltd. to Battey Restaurant, Ltd., dated July 31, 1986, recorded in Deed Book 967, Page 37, aforesaid records.

6. Easement from Rome I, Ltd. in favor of Georgia Power Company, dated July 29, 1994, recorded in Deed Book 1269, Page 825, aforesaid records.

7. Notice of Federal Lien Under the Superfund Amendments and Reauthorization Act of 1986 by Greer C. Tidwell, dated October XX, 1988, recorded in Deed Book 1046, Page 497, aforesaid records (the inclusion of the foregoing title exception herein is not intended to impose any encumbrance on the Property conveyed hereby if the foregoing title exception does not, by its express terms, affect the Property conveyed hereby).

8. Notice of Federal Lien Under the Superfund Amendments and Reauthorization Act of 1986 by Patrick M. Tobin, dated May 29, 1990, recorded in Deed Book 1102, Page 266, aforesaid records (the inclusion of the foregoing title exception herein is not intended to impose any encumbrance on the Property conveyed hereby if the foregoing title exception does not, by its express terms, affect the Property conveyed hereby).

9. State of Georgia Environmental Protection Division, Georgia Department of Natural Resources Hazardous Site Inventory, dated July 1, 1996, Site No. 10109,

Site Name: Rome Coal Tar Pit, received in the Office of the Superior Court of Floyd County, Georgia on July 18, 1996.

10. Railroad right-of-way deeds to Chattanooga Rome & Southern Railroad Co., recorded in Deed Book GGG, Page 135, and Deed Book GGG, Page 612, aforesaid records.

11. Truth of affidavit recorded in Deed Book 908, Page 215, aforesaid records.

12. Railroad right-of-way deed recorded in Deed Book UUU, Page 234, aforesaid records.

13. Sewer Easement to the City of Rome recorded in Deed Book 517, Page 599, aforesaid records.

14. Truth of affidavit recorded in Deed Book 1124, Page 634, aforesaid records.

15. Limited License for Parking from Atlanta Gas Light Company to G. H. Riddle, Jr., dated January 11, 1999, recorded in Deed Book 1505, Page 762, aforesaid records.

16. Declaration of Restrictive Covenants and Notice made by Atlanta Gas Light Company, dated February 5, 2001, recorded in Deed Book 1617, Page 483, aforesaid records.

17. Declaration of Restrictive Covenants and Notice made by Atlanta Gas Light Company, dated February 5, 2001, recorded in Deed Book 1617, Page 488, aforesaid records.

18. Declaration of Restrictive Covenants and Notice made by Atlanta Gas Light Company, dated December 31, 2003, recorded or to be recorded in aforesaid records.

Other than foregoing title exceptions numbered 15 through 18, the inclusion of the foregoing title exceptions 2 through 14, is not intended to impose any encumbrance on the Property under the terms of any of the foregoing title exceptions that do not currently affect the Property.

EXHIBIT "C"

1. All taxes for the year 2004 and subsequent years, not yet due and payable.

2. Easement from Battey Machinery Company to the City of Rome, dated November 24, 1971, recorded in Deed Book 517, Page 593, Floyd County, Georgia Records.

3. Deed of Façade and Conservation Easement from Rome I, Ltd. to The Georgia Trust for Historic Preservation, Inc., dated November 15, 1984, recorded in Deed Book 918, Page 627, aforesaid records (the inclusion of the foregoing title exception herein is not intended to impose any encumbrance on the Property conveyed hereby if the foregoing title exception does not, by its express terms, affect the Property conveyed hereby).

4. Deed of Façade and Conservation Easement from Rome I, Ltd. to The Georgia Trust for Historic Preservation, Inc., dated November 15, 1984, recorded in Deed Book 928, Page 802, aforesaid records (the inclusion of the foregoing title exception herein is not intended to impose any encumbrance on the Property conveyed hereby if the foregoing title exception does not, by its express terms, affect the Property conveyed hereby).

5. Mutual Parking Lot Easement and Agreement from Rome I, Ltd. to Battey Restaurant, Ltd., dated July 31, 1986, recorded in Deed Book 967, Page 37, aforesaid records.

6. Easement from Rome I, Ltd. in favor of Georgia Power Company, dated July 29, 1994, recorded in Deed Book 1269, Page 825, aforesaid records.

7. Notice of Federal Lien Under the Superfund Amendments and Reauthorization Act of 1986 by Greer C. Tidwell, dated October XX, 1988, recorded in Deed Book 1046, Page 497, aforesaid records (the inclusion of the foregoing title exception herein is not intended to impose any encumbrance on the Property conveyed hereby if the foregoing title exception does not, by its express terms, affect the Property conveyed hereby).

8. Notice of Federal Lien Under the Superfund Amendments and Reauthorization Act of 1986 by Patrick M. Tobin, dated May 29, 1990, recorded in Deed Book 1102, Page 266, aforesaid records (the inclusion of the foregoing title exception herein is not intended to impose any encumbrance on the Property conveyed hereby if the foregoing title exception does not, by its express terms, affect the Property conveyed hereby).

9. State of Georgia Environmental Protection Division, Georgia Department of Natural Resources Hazardous Site Inventory, dated July 1, 1996, Site No. 10109,

Site Name: Rome Coal Tar Pit, received in the Office of the Superior Court of Floyd County, Georgia on July 18, 1996.

10. Railroad right-of-way deeds to Chattanooga Rome & Southern Railroad Co., recorded in Deed Book GGG, Page 135, and Deed Book GGG, Page 612, aforesaid records.

11. Truth of affidavit recorded in Deed Book 908, Page 215, aforesaid records.

12. Railroad right-of-way deed recorded in Deed Book UUU, Page 234, aforesaid records.

13. Sewer Easement to the City of Rome recorded in Deed Book 517, Page 599, aforesaid records.

14. Truth of affidavit recorded in Deed Book 1124, Page 634, aforesaid records.

15. Limited License for Parking from Atlanta Gas Light Company to G. H. Riddle, Jr., dated January 11, 1999, recorded in Deed Book 1505, Page 762, aforesaid records.

16. Declaration of Restrictive Covenants and Notice made by Atlanta Gas Light Company, dated February 5, 2001, recorded in Deed Book 1617, Page 483, aforesaid records.

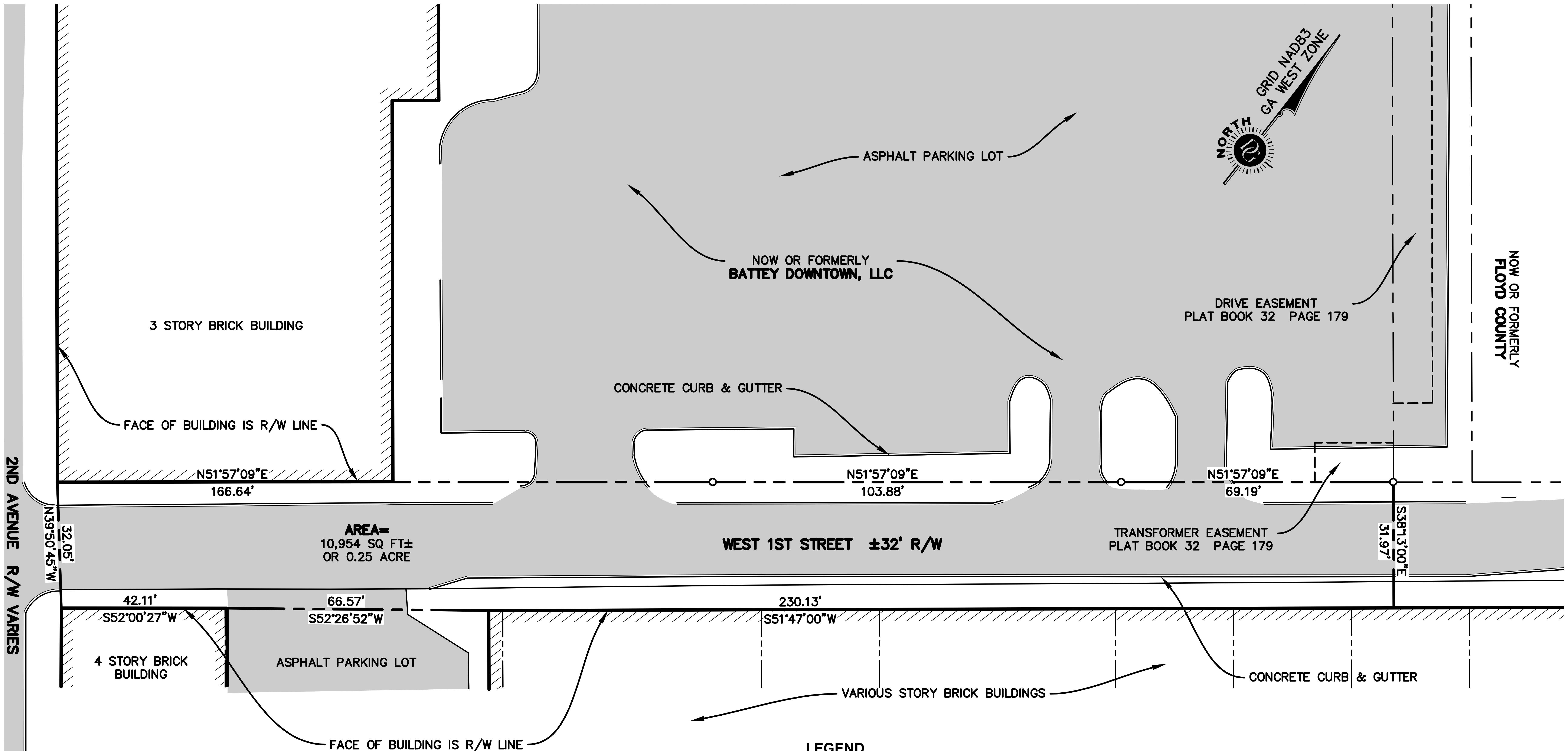
17. Declaration of Restrictive Covenants and Notice made by Atlanta Gas Light Company, dated February 5, 2001, recorded in Deed Book 1617, Page 488, aforesaid records.

18. Declaration of Restrictive Covenants and Notice made by Atlanta Gas Light Company, dated December 31, 2003, recorded or to be recorded in aforesaid records.

Other than foregoing title exceptions numbered 15 through 18, the inclusion of the foregoing title exceptions 2 through 14, is not intended to impose any encumbrance on the Property under the terms of any of the foregoing title exceptions that do not currently affect the Property.

Appendix C

Survey of West 1st Street Right-of-Way (property owned by City of Rome)



LEGEND

PROPERTY LINE

BUILDING

IRON PIN SET
(1/2" REBAR & CAP UNLESS NOTED)

20 0 20 40 60
GRAPHIC SCALE IN FEET

REFERENCES

PLAT BOOK 16 PAGE 175
PLAT BOOK 16 PAGE 161
PLAT BOOK 32 PAGE 179
DEED BOOK 1909 PAGES 678–682
DEED BOOK 1805 PAGES 189–194
DEED BOOK 1845 PAGES 1215–1224

GEORGIA REGISTERED No. 3122 LAND SURVEYOR DAVID G. BENNETT

NOTES

1. DONALDSON, GARRETT AND ASSOCIATES, INC. AND THE LAND SURVEYOR WHOSE SEAL IS AFFIXED HEREON DO NOT GUARANTEE THAT ALL EASEMENTS THAT MAY AFFECT THIS PROPERTY ARE SHOWN.
2. THIS DRAWING HAS BEEN GENERATED ELECTRONICALLY. THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT UNLESS IT HAS BEEN PROPERLY SEALED AND ORIGINALLY SIGNED BY A REGISTERED LAND SURVEYOR OF DONALDSON, GARRETT AND ASSOCIATES, INC. AUTHORITY OF O.C.G.A. 43–15–22.
3. THE PROPERTY DEPICTED HEREON LIES WITHIN FLOOD ZONE X ACCORDING TO FEMA FLOOD INSURANCE RATE MAP FOR 130081 MAP PANEL NO. 0193E DATED 09/25/09.
4. THE PURPOSE OF THIS SURVEY IS TO DELINEATE THE RIGHT OF WAY OF WEST FIRST STREET, BELONGING TO THE CITY OF ROME GA., THAT WILL BE SUBJECT TO GEORGIA DEPARTMENT OF NATURAL RESOURCES, EPD, UNIFORM ENVIRONMENTAL COVENANTS AS THEY RELATE TO HAZARDOUS SITE HSI #10109.
5. PROPERTY CORNERS SET ARE 1/2" REBAR WITH ORANGE CAPS ENTITLED "DGA MACON, GA" UNLESS OTHERWISE NOTED.

CERTIFICATION

THE FIELD DATA UPON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE PRECISION OF ONE FOOT IN 169,673 FEET AND ANGULAR ERROR OF 00" PER ANGLE POINT AND WAS ADJUSTED USING THE LEAST SQUARES METHOD.
THIS PLAT HAS BEEN CALCULATED FOR CLOSURE AND IS FOUND TO BE ACCURATE WITHIN ONE FOOT IN 93,783 FEET.
THE LINEAR AND ANGULAR MEASUREMENTS SHOWN ON THIS PLAT WERE OBTAINED BY USING A TOPCON GPT 3002W
FIELD WORK WAS COMPLETED ON 04/25/2011.

PROPERTY SURVEY
for
ATLANTA GAS LIGHT COMPANY
&
CITY OF ROME, GA.
BEING A PORTION OF THE RIGHT OF WAY OF WEST FIRST STREET BETWEEN LOTS 61–71 AND A PORTION OF LOT 72 IN THE COOSA DIVISION OF THE FIRST WARD, CITY OF ROME, GA.

FLOYD COUNTY ROME GEORGIA

R.L.S. NO. 3122	SCALE: 1" = 20'	DONALDSON, GARRETT, & ASSOCIATES, INC.
DATE: 05/09/2011		MACON • CHARLOTTE
CHKD: DAVID BENNETT	C&G: N/A	4875 RIVERSIDE DRIVE P.O. BOX 7306 MACON, GA 31210
DRWN: GREG DAVIS	DRAWING NO. 4866-011-C	(478)474–5350 Fax: (478) 477–2534
PROJ. NO.: 5292–033–D1	FIELD BOOK: DC	http://www.dg-a.com

B290.DWG/1 PLOT DATE: 05/09/2011 BY: Greg

Appendix D

Groundwater Fate and Transport Model

Environment

Prepared for:
Atlanta Gas Light Company
Atlanta, Georgia

Prepared by:
AECOM
Atlanta, Georgia
60159368.514
May 2011

Summary of Groundwater Fate and Transport Modeling

Draft

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia
HIS #10109

AECOM Environment

Prepared for:
Atlanta Gas Light Company
Atlanta, Georgia

Prepared by:
AECOM
Atlanta, Georgia
60159368.514
May 2011

Summary of Groundwater Fate and Transport Modeling

Draft

Prepared By: Vasi Kourlas

Reviewed By: Thomas Champion, P.G.

Reviewed By: Mark Westray

Contents

List of Appendices

List of Tables

List of Figures

List of Acronyms

µg/L	micrograms per liter
AGLC	Atlanta Gas Light Company
CoC	Chemical of Concern
DOS	Distance of Stabilization
EPD	Georgia Environmental Protection Division
MGP	Manufactured Gas Plant
MNA	monitored natural attenuation
NAPL	non-aqueous phase liquid
NAS	Natural Attenuation Software
POC	Point of Compliance
POD	Point of Demonstration
RCC	regulatory compliance concentration
RRS	Risk Reduction Standards
TOR	Time of Remediation
TOS	Time of Stabilization
VRP	Voluntary Remediation Plan

1.0 Introduction

In its letter to Atlanta Gas Light Company (AGLC) dated March 14, 2011, the Georgia Environmental Protection Division (EPD) provided several comments on the September 2010 Voluntary Remediation Plan (VRP) (AECOM 2010) for the Rome, Georgia former Manufactured Gas Plant (MGP) site (Site). Within the document, Section 3.0, Proposed Remediation Plan, stated that, *"The current schedule of semi-annual groundwater monitoring and reporting will continue until this VRP application is accepted by EPD, the new RRS are approved, and the Remediation Plan is implemented. At that time, continued groundwater monitoring will no longer be required."* Comment 13 of EPD's March 14, 2011 letter stated that, *"EPD cannot concur at this time that groundwater monitoring will no longer be required. AGLC must submit documentation that the contamination will not reach the Point of Demonstration (POD) wells at any time. Verification of that documentation may require periodic groundwater monitoring."*

As discussed in Section 2.4.4 of the VRP, more than 10 years of post-remediation groundwater monitoring data have shown no evidence of dissolved constituent plume migration, and concentrations of benzene and naphthalene at monitoring wells MW-404R and MW-504 have generally exhibited a declining trend. Evaluation of geochemical data collected during regular groundwater monitoring events indicate that natural attenuation processes, specifically iron reduction and methanogenesis, in combination with the geologic and hydrogeologic characteristics of the Site, are limiting plume migration. In order to provide additional weight of evidence that the plume is stable or decreasing and not migrating downgradient toward the POD wells, a fate and transport model, Natural Attenuation Software (NAS), version 2.3.3, was applied to further evaluate the effect of site-specific natural attenuation processes and hydrogeologic conditions on constituent fate and transport and predict plume behavior into the future.

2.0 Modeling Approach

NAS was developed as a collaborative effort between the United States Navy Facilities Engineering Command (NAVFAC), Virginia Polytechnic Institute and State University, and the United States Geological Service (USGS) as a tool to estimate remediation timeframes for monitored natural attenuation (MNA) to lower groundwater contaminant concentrations to regulatory limits, and to assist in evaluating the degree of source zone remediation which, in combination with MNA, is expected to be effective in achieving site-specific remediation objectives. Natural attenuation processes that NAS includes are advection, dispersion, sorption, non-aqueous phase liquid (NAPL) dissolution, and biodegradation. NAS determines the redox zonation and estimates and applies varied biodegradation rates from one redox zone to the next.

NAS models are used for three main purposes:

1. Required Source Reduction – NAS estimates a target source concentration required for a plume extent to contract to regulatory limits (Distance of Stabilization [DOS]).
2. Time of Stabilization (TOS) – NAS estimates the time required for a plume extent to contract to regulatory limits after source reduction.

3. Time of Remediation (TOR) – Estimate a time required for NAPL contaminants in the source area to attenuate to a predetermined target source concentration.

To address the question posed by EPD regarding the potential for plume migration to POD wells, NAS was used to determine the DOS and the TOS.

3.0 Modeling Parameters

NAS requires a number of site parameters to be entered into the model. Table 1 provides the hydrogeology parameters entered into the model and includes:

- hydraulic conductivity,
- hydraulic gradient,
- weight percent organic carbon,
- total porosity, and
- effective porosity.

An estimate of the source dimensions was made using cross-sections, plume width, and average saturated thickness of the contaminated aquifer. These dimensions are also provided on Table 1. Source contaminant information is entered into the model for each Chemical of Concern (CoC). Table 2 provides the contaminant information entered into the model for benzene and naphthalene. This includes the soil organic carbon partitioning coefficient, mass fraction of the CoC, solubility, and molecular weight. These values are used in the analytical and numerical solutions in NAS. The distance of each well from the source and the analytical data is entered for each sampling event. Monitoring well MW-401AR was selected as the Point of Compliance (POC) well in the NAS model. MNA parameters are also required for the model, specifically, dissolved oxygen (DO), ferrous iron (Fe^{+2}), and sulfate. In addition, methane concentrations were also available for each sampling period and were also entered into the model. These data are used by the model to determine the redox condition of the groundwater environment. The default redox condition for each event was oxic; however, previous MNA evaluations have determined that the redox condition within the plume is methanogenic. Therefore, the default condition of oxic was manually changed to methanogenic. This condition also allowed for a better trend fit to the existing data. The existing Type 4 Risk Reduction Standards (RRS) for groundwater (benzene = 8 micrograms per liter [µg/L]; naphthalene = 20 µg/L) were entered into the model as the regulatory compliance concentration (RCC).

4.0 Modeling Assumptions and Uncertainties

As in all models, there are certain underlying assumptions and sources of uncertainty. Beyond the uncertainties in the chemical and aquifer parameters are certain assumptions regarding plume behavior and the monitoring network. The assumption has been made that the monitoring wells are on the centerline of the plume. Another assumption is that an area of high contamination does not exist between wells MW-404R and MW-401AR and that two wells within the plume (MW-504 and MW-404R) are sufficient to define plume behavior. The latter seems reasonable given the relative consistency of concentrations between measurements. The existence of high concentrations of benzene and naphthalene between MW-404R and MW-401AR is unlikely given that the plume appears to be emanating from discontinuous MGP residuals that have been observed in the vicinity of wells MW-504 and 404R and adjacent to the utility corridor within the right-of-way of West 1st Street. The plume has remained anchored to the source area and has not detached from the source area making higher concentrations downgradient of the observation wells unlikely.

5.0 Modeling Results

Figure 1 provides a graphical summary of the analytical data entered for each sampling event along with trend lines through the centerline of the plume for benzene and naphthalene. Appendix A provides the data and results summary from NAS for each sampling event. In all cases, the estimated plume length calculated by the model was similar to that as measured on the plume maps.

NAS estimates the groundwater velocity, retardation factor, and decay rates for each CoC at the maximum, average, and minimum values. This information is used to determine the TOS and the concentration needed at the source well to achieve stabilization. If NAS calculates that the RCC is exceeded at the POC (based on the estimated transport from the source, i.e., estimated plume length), NAS will then estimate a source remediation target concentration that will achieve the specified RCC after source removal and plume restabilization. If the RCC is not exceeded at the POC well, NAS does not estimate a target source concentration or time to restabilization, but instead displays “No Reduction Required” in the target source concentration column, as no source reduction is required for that case. The modeling results show that for each sampling event, the estimated plume length calculated by the model is comparable to the actual data and plume length and is less than the POC. Therefore, no source reduction is necessary to reach the RCC at the POC wells as this has been achieved for every sampling event since April of 2001.

The model was calibrated to the measured plume concentrations by adjusting the concentration of benzene and naphthalene at the POC well. Since this well, MW-401AR, has historically shown non-detectable concentrations of benzene and naphthalene below the RCC, a value of 0.001 µg/L was used for benzene and naphthalene to achieve a predicted plume length that is comparable to the length that is interpreted from groundwater monitoring data. This value is three orders of magnitude below the typical detection limit for volatile organic compounds by Method 8260 (1 µg/L). Figure 2 illustrates the steady state condition of benzene along the centerline of the plume and the distance at which the benzene concentration reaches the RRC (8 µg/L), approximately 80 feet. Figure 3 illustrates the steady state condition of naphthalene along the centerline of the plume and the distance at which the naphthalene concentration reaches the RRC (20 µg/L), approximately 65 feet.

Figure 4 shows the NAS estimated plume length (from source area to edge of the plume) based on observed concentrations with time. Each estimated plume length was plotted with time to determine if there was a trend in the length of the plume. Estimated plume lengths have ranged from approximately 144 feet in 2003 to less than 100 feet in October 2008. As expected, model estimates of plume length vary as a result in variations in the empirical laboratory analytical data; however, an overall decreasing trend in the model-estimated length of the plume is observed as a function of time.

6.0 Conclusions

Using site-specific hydrogeologic, chemical, and historical monitoring data as inputs, the NAS model predicts that the size of the dissolved contaminant plume at the Site is diminishing over time and will not reach the POC well at concentrations at or above the RCC.

Table 1
Hydrogeology Input Parameters
Atlanta Gas Light Company
Rome, Georgia

Parameter	Maximum	Average	Minimum	Comments
Hydraulic Conductivity (ft/yr)	1428.79	515.61	13.67	Values from previous BIOSCREEN model used.
Hydraulic Gradient (ft/ft)	0.05	0.016	0.006	Calculated using October 2010 ground water elevations.
Weight Percent Organic Carbon (%)	0.02	0.002	0.0002	Values from previous BIOSCREEN model used.
Total Porosity (ft^3/ft^3)		0.25		Values from previous BIOSCREEN model used.
Effective Porosity (ft^3/ft^3)		0.21		Values from previous BIOSCREEN model used.

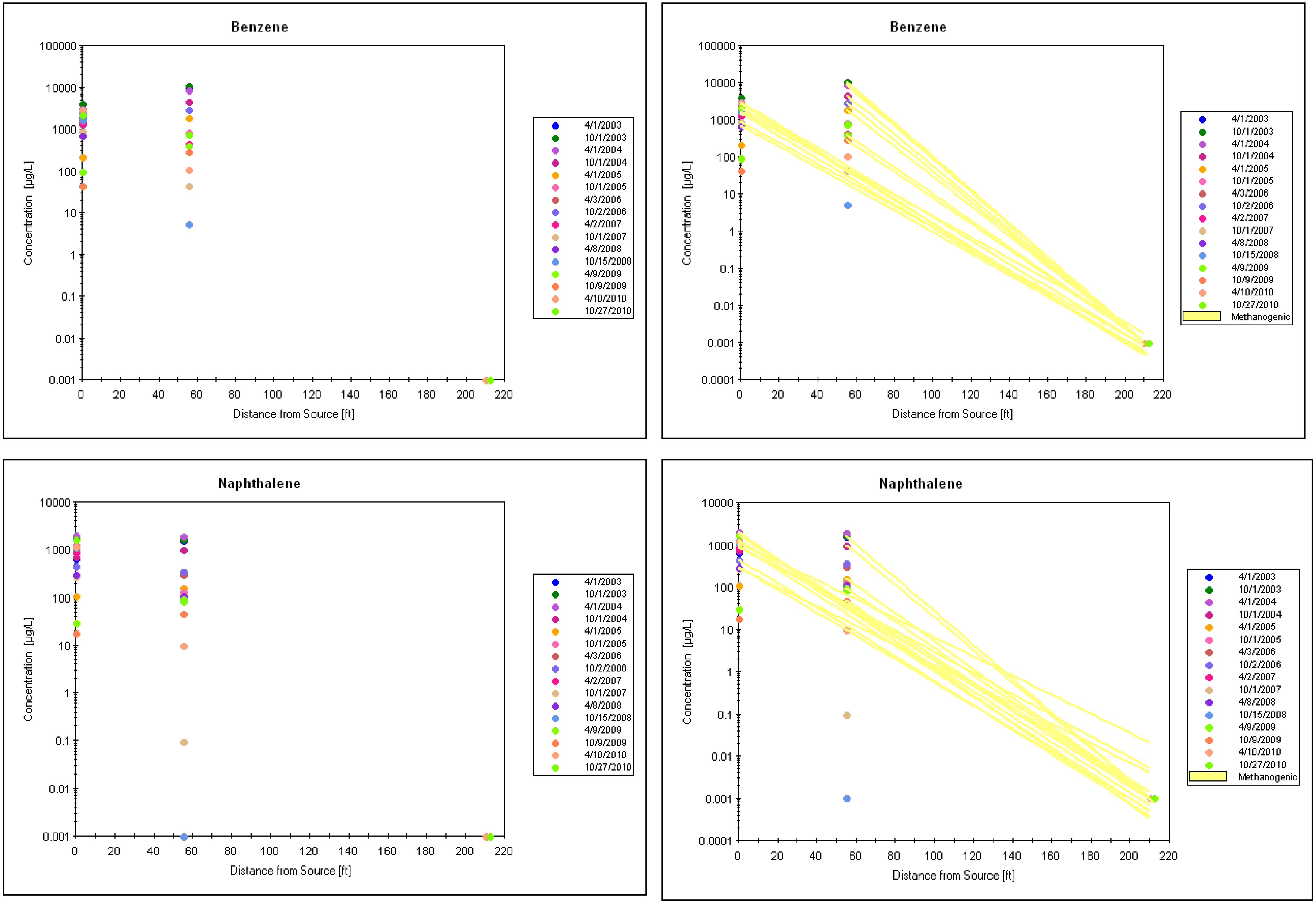
Source Dimensions	Value	Comments
Source Length SX (ft)	10	Estimated distance using cross-section A-A' at SB-406.
Source Width SY (ft)	28	Measured width of the benzene plume at the 100-µg/L contour interval.
Contaminated Aquifer Thickness SZ (ft)	7.2	Average saturated thickness of wells along plume center line to POD well.

Notes:
% - Percent
µg/L - micrograms per liter
ft/yr - feet per year
ft/ft - feet per foot
ft^3/ft^3 - cubic feet per cubic foot
ft - feet
POD - point of demonstration

Table 2
Contaminant Information
Atlanta Gas Light Company
Rome, Georgia

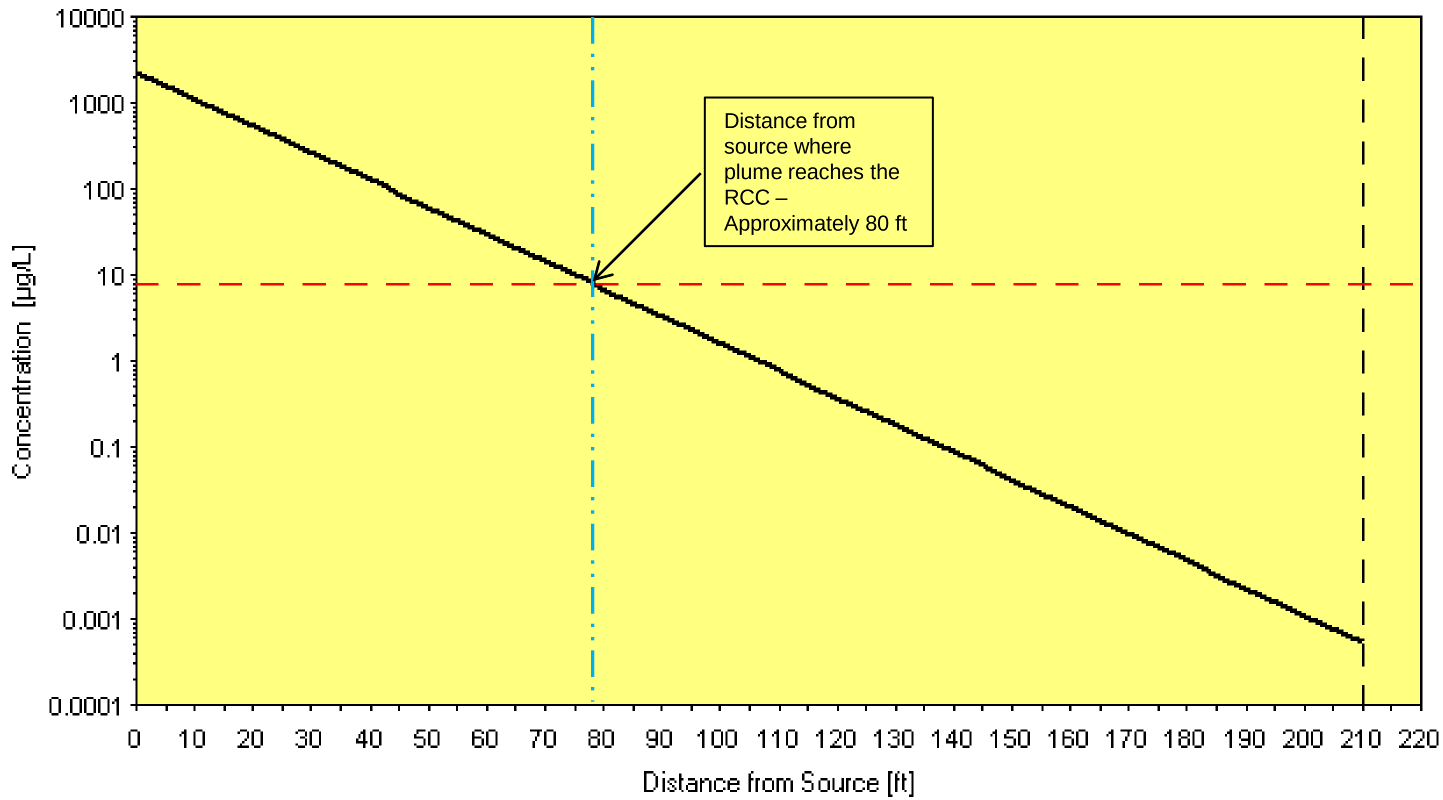
Contaminant Information		
Benzene		
Koc (mg/L)	58.9	Values from previous BIOSCREEN model used
Mass Fraction (unitless)	0.01	Default value in NAS
Solubility (mg/L)	1750	Default value in NAS
Molecular Weight (g/mole)	78.1	Default value in NAS
Naphthalene		
Koc (mg/L)	2000	Values from previous BIOSCREEN model used
Mass Fraction (unitless)	0.01	Default value in NAS
Solubility (mg/L)	31.7	Default value in NAS
Molecular Weight (g/mole)	128.2	Default value in NAS

Notes:
mg/L - milligrams per liter
g/mole - grams per mole
NAS - Natural Attenuation Software
Koc - Soil Organic Carbon Partition Coefficient



AECOM

Figure 1
Site Data Summary of Concentration verses Distance from the Source
Atlanta Gas Light Company
Rome Georgia



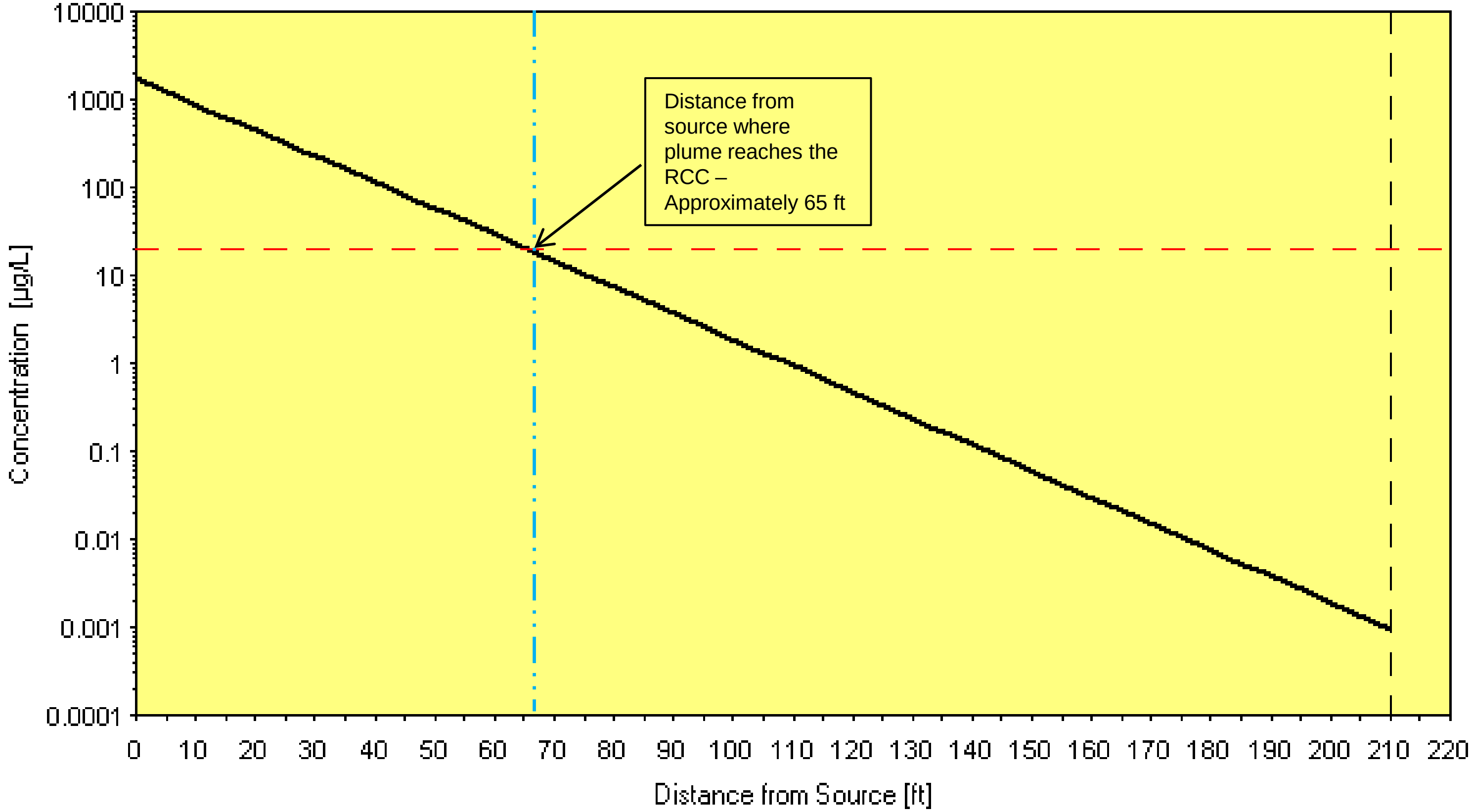
Legend
µg/L – micrograms per liter
Ft - feet
RCC – Regulatory Compliance Concentration

Regulatory Compliance Concentration 8 µg/L
Existing State
Point of Compliance (Point of Demonstration)
Distance At Which Plume Reaches RCC

Redox State - Methanogenic

AECOM

Figure 2
Benzene Concentrations Along the Plume Centerline – October 2010
Atlanta Gas Light Company
Rome, Georgia

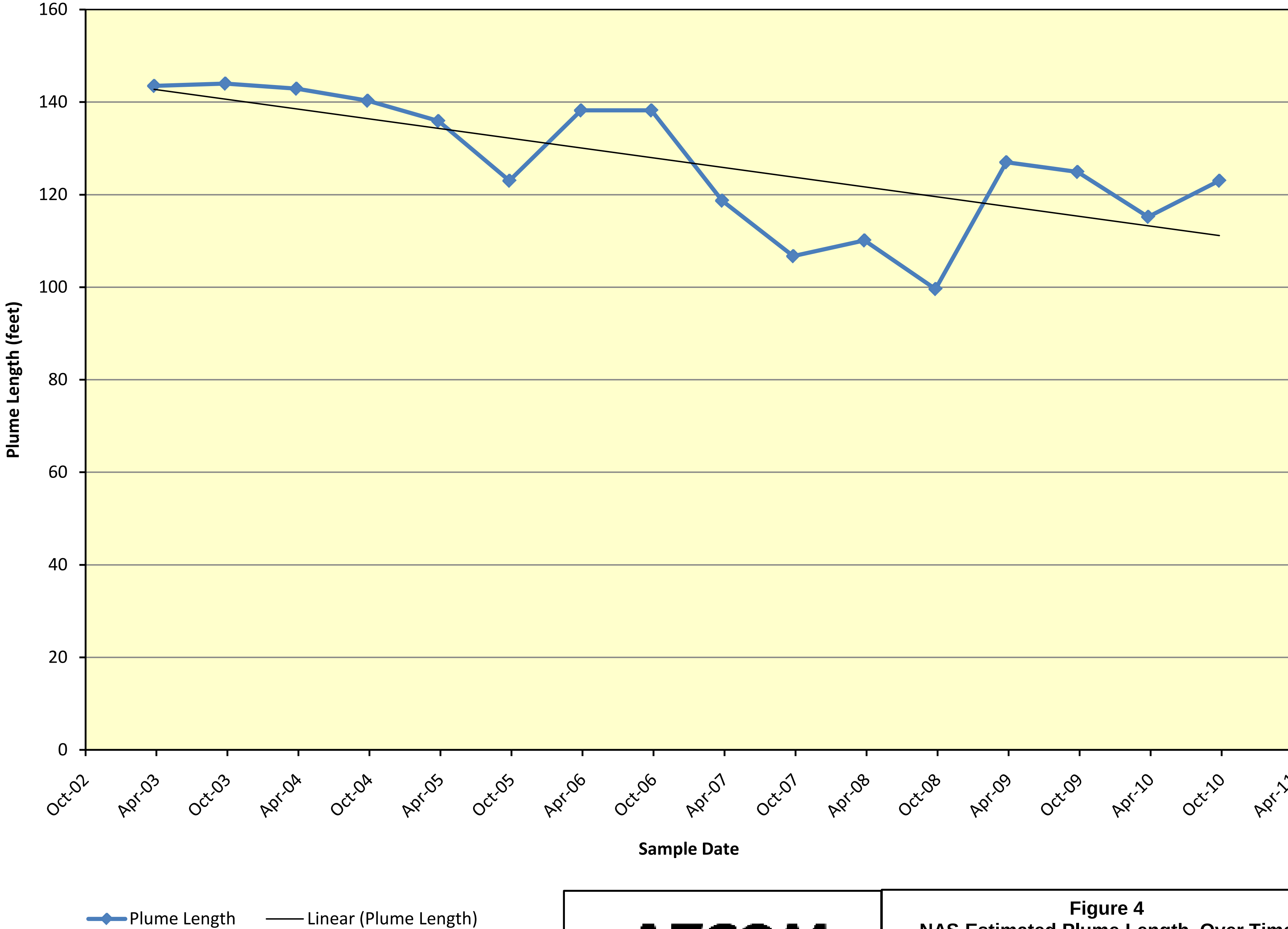


Legend
µg/L – micrograms per liter
Ft - feet
RCC – Regulatory Compliance Concentration
Regulatory Compliance Concentration 20 µg/L
Existing State
Point of Compliance (Point of Demonstration)
Distance At Which Plume Reaches RCC

Redox State - Methanogenic

AECOM

Figure 3
Naphthalene Concentrations Along the Plume Centerline – October 2010
Atlanta Gas Light Company
Rome, Georgia



AECOM

Figure 4
NAS Estimated Plume Length Over Time
Atlanta Gas Light Company
Rome, Georgia

Appendix A

NAS Model Runs of Estimated Plume Length based on Historical Monitoring Data

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	143.5
Longitudinal Dispersivity [ft]	9.00
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.45

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (4/1/2003)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	1500.	1500.	660.
MW-404R	55	9900.	9900.	1600.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (4/1/2003)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	0.78	21.	70.	2.	Methanogenic
MW-404R	55	0.55	26.5	220.	0.76	Methanogenic
MW-401AR	210	2.	0.24	BD	0.038	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.1019	0.1019	0.0901
Decay Rate [1/yr]			
Maximum	66.377	66.377	55.4719
Average	7.6692	7.6692	6.4093
Minimum	0.0762	0.0762	0.0637

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

Contaminant	RCC [µg/L]	Source Reduction Conc [µg/L] Well	Current	Target	Time of Stabilization [years] Breakthrough Time Maximum	Average	Minimum	Time to Equilibrium Maximum	Average	Minimum
Total BTEX	5.0	2	9900	No Reduction Required						
Benzene	8.0	2	9900	No Reduction Required						
Naphthalene	20.0	2	1600	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]	100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company
Site Name:	Former Manufactured Gas Plant Site
Additional Description:	Rome Georgia HSI#10109

Length:	feet
Time:	years
Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	144.0
Longitudinal Dispersivity [ft]	9.02
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.45

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (10/1/2003)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	4100.	4100.	1800.
MW-404R	55	11000.	11000.	1700.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (10/1/2003)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	0.85	23.4	70.	5.5	Methanogenic
MW-404R	55	1.2	30.8	220.	0.86	Methanogenic
MW-401AR	210	1.6	0.1	BD	0.002	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.1025	0.1025	0.072
Decay Rate [1/yr]			
Maximum	67.0922	67.0922	40.3602
Average	7.7519	7.7519	4.6632
Minimum	0.077	0.077	0.0463

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

Contaminant	RCC [µg/L]	Well	Source Reduction Conc [µg/L] Current	Target	Time of Stabilization [years] Breakthrough Time Maximum	Average	Minimum	Time to Equilibrium Maximum	Average	Minimum
Total BTEX	5.0	2	11000	No Reduction Required						
Benzene	8.0	2	11000	No Reduction Required						
Naphthalene	20.0	1	1800	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]	100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	142.9
Longitudinal Dispersivity [ft]	8.98
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.45

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000

Retardation Factor [-]

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (4/1/2004)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	3100.	3100.	2000.
MW-404R	55	8600.	8600.	1900.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (4/1/2004)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	0.53	29.1	70.	7.2	Methanogenic
MW-404R	55	0.64	38.3	220.	0.96	Methanogenic
MW-401AR	210	1.7	0.4	BD	0.007	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.1009	0.1009	0.0725
Decay Rate [1/yr]			
Maximum	65.4268	65.4268	40.7227
Average	7.5595	7.5595	4.7051
Minimum	0.0751	0.0751	0.0467

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

		Source Reduction			Time of Stabilization [years]					
	RCC		Conc [µg/L]			Breakthrough Time			Time to Equilibrium	
Contaminant	[µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	2	8600	No Reduction Required						
Benzene	8.0	2	8600	No Reduction Required						
Naphthalene	20.0	1	2000	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]	100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company		Length:	feet
Site Name:	Former Manufactured Gas Plant Site		Time:	years
Additional Description:	Rome Georgia HSI#10109		Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	140.3
Longitudinal Dispersivity [ft]	8.87
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.44

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (10/1/2004)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	1300.	1300.	720.
MW-404R	55	4700.	4700.	1000.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (10/1/2004)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	NS	17.4	70.	NS	Methanogenic
MW-404R	55	0.49	8.2	220.	1.	Methanogenic
MW-401AR	210	2.8	0.1	BD	0.29	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0971	0.0971	0.0871
Decay Rate [1/yr]			
Maximum	61.4212	61.4212	52.4809
Average	7.0966	7.0966	6.0637
Minimum	0.0705	0.0705	0.0602

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

		Source Reduction			Time of Stabilization [years]					
	RCC		Conc [µg/L]			Breakthrough Time			Time to Equilibrium	
Contaminant	[µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	2	4700	No Reduction Required						
Benzene	8.0	2	4700	No Reduction Required						
Naphthalene	20.0	2	1000	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr] 100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	135.9
Longitudinal Dispersivity [ft]	8.69
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.43

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (4/1/2005)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	220.	220.	110.
MW-404R	55	1900.	1900.	160.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (4/1/2005)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	1.1	26.9	70.	0.71	Methanogenic
MW-404R	55	2.7	6.7	220.	0.76	Methanogenic
MW-401AR	210	3.7	BD	BD	0.041	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0913	0.0913	0.0753
Decay Rate [1/yr]			
Maximum	55.6363	55.6363	42.3511
Average	6.4282	6.4282	4.8933
Minimum	0.0639	0.0639	0.0486

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

		Source Reduction			Time of Stabilization [years]					
	RCC	Conc [µg/L]			Breakthrough Time			Time to Equilibrium		
Contaminant	[µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	2	1900	No Reduction Required						
Benzene	8.0	2	1900	No Reduction Required						
Naphthalene	20.0	2	160	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr] 100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum		NAPL Source
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66	NAPL Source Length [ft]	10.0
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006	NAPL Source Width [ft]	28.0
Total Porosity [-]		0.25		Contaminated Aquifer Thickness [ft]	7.2
Effective Porosity [-]		0.21			
Groundwater Vel. [ft/yr]	340.0	39.284	0.39		

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	123.0
Longitudinal Dispersivity [ft]	8.14
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.41

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (10/1/2005)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	2700.	2700.	1300.
MW-404R	55	850.	850.	130.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (10/1/2005)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	2.9	9.96	70.	4.7	Methanogenic
MW-404R	55	3.4	3.17	220.	0.4	Methanogenic
MW-401AR	210	1.6	0.5	BD	0.39	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0727	0.0727	0.0673
Decay Rate [1/yr]			
Maximum	39.3323	39.3323	35.432
Average	4.5445	4.5445	4.0938
Minimum	0.0451	0.0451	0.0407

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

		Source Reduction Conc [µg/L]			Time of Stabilization [years]					
					Breakthrough Time			Time to Equilibrium		
Contaminant	RCC [µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	1	2700	No Reduction Required						
Benzene	8.0	1	2700	No Reduction Required						
Naphthalene	20.0	1	1300	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr] 100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	138.2
Longitudinal Dispersivity [ft]	8.79
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.44

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (4/3/2006)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	2400.	2400.	1000.
MW-404R	55	3000.	3000.	310.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (4/3/2006)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	2.6	17.9	70.	3.8	Methanogenic
MW-404R	55	1.6	23.9	220.	2.2	Methanogenic
MW-401AR	210	5.3	0.65	BD	0.25	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0942	0.0942	0.0674
Decay Rate [1/yr]			
Maximum	58.5207	58.5207	36.5165
Average	6.7615	6.7615	4.2191
Minimum	0.0672	0.0672	0.0419

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

		Source Reduction			Time of Stabilization [years]					
	RCC	Conc [µg/L]			Breakthrough Time			Time to Equilibrium		
Contaminant	[µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	2	3000	No Reduction Required						
Benzene	8.0	2	3000	No Reduction Required						
Naphthalene	20.0	1	1000	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]: 100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	138.2
Longitudinal Dispersivity [ft]	8.79
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.44

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (10/2/2006)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	2000.	2000.	450.
MW-404R	55	3000.	3000.	360.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (10/2/2006)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	0.72	16.4	70.	2.3	Methanogenic
MW-404R	55	0.79	21.9	220.	2.	Methanogenic
MW-401AR	210	4.4	1.3	BD	0.14	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0942	0.0942	0.0647
Decay Rate [1/yr]			
Maximum	58.5207	58.5207	34.486
Average	6.7615	6.7615	3.9845
Minimum	0.0672	0.0672	0.0396

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft]: 210.0

			Source Reduction Conc [µg/L]		Time of Stabilization [years]					
					Breakthrough Time			Time to Equilibrium		
Contaminant	RCC [µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	2	3000	No Reduction Required						
Benzene	8.0	2	3000	No Reduction Required						
Naphthalene	20.0	1	450	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]	100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	118.7
Longitudinal Dispersivity [ft]	7.95
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.40

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (4/2/2007)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	1500.	1500.	880.
MW-404R	55	440.	440.	0.097
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (4/2/2007)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	0.87	15.8	70.	2.2	Methanogenic
MW-404R	55	0.6	19.1	220.	1.7	Methanogenic
MW-401AR	210	1.4	14.4	BD	0.23	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0696	0.0696	0.0558
Decay Rate [1/yr]			
Maximum	36.7578	36.7578	27.376
Average	4.247	4.247	3.163
Minimum	0.0422	0.0422	0.0314

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

		Source Reduction			Time of Stabilization [years]					
	RCC	Conc [µg/L]			Breakthrough Time			Time to Equilibrium		
Contaminant	[µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	1	1500	No Reduction Required						
Benzene	8.0	1	1500	No Reduction Required						
Naphthalene	20.0	1	880	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]	100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	106.7
Longitudinal Dispersivity [ft]	7.39
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.37

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (10/1/2007)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	880.	880.	280.
MW-404R	55	43.	43.	0.097
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (10/1/2007)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	1.1	15.7	70.	1.4	Methanogenic
MW-404R	55	1.4	3.27	220.	0.85	Methanogenic
MW-401AR	210	1.6	0.1	BD	0.14	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0645	0.0645	0.0516
Decay Rate [1/yr]			
Maximum	32.3575	32.3575	24.2528
Average	3.7386	3.7386	2.8022
Minimum	0.0371	0.0371	0.0278

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

		Source Reduction			Time of Stabilization [years]					
	RCC		Conc [µg/L]			Breakthrough Time			Time to Equilibrium	
Contaminant	[µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	1	880	No Reduction Required						
Benzene	8.0	1	880	No Reduction Required						
Naphthalene	20.0	1	280	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]	100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company
Site Name:	Former Manufactured Gas Plant Site
Additional Description:	Rome Georgia HSI#10109

Length:	feet
Time:	years
Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	110.1
Longitudinal Dispersivity [ft]	7.55
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.38

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (4/8/2008)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	700.	700.	300.
MW-404R	55	110.	110.	110.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (4/8/2008)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	1.2	2.7	70.	0.9	Methanogenic
MW-404R	55	2.	0.26	220.	1.1	Methanogenic
MW-401AR	210	4.5	1.2	BD	0.21	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0649	0.0649	0.0617
Decay Rate [1/yr]			
Maximum	32.880	32.880	30.7808
Average	3.799	3.799	3.5564
Minimum	0.0377	0.0377	0.0353

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

		Source Reduction			Time of Stabilization [years]					
	RCC		Conc [µg/L]		Breakthrough Time			Time to Equilibrium		
Contaminant	[µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	1	700	No Reduction Required						
Benzene	8.0	1	700	No Reduction Required						
Naphthalene	20.0	1	300	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr] 100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	99.6
Longitudinal Dispersivity [ft]	7.04
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.35

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (10/15/2008)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	1700.	1700.	1100.
MW-404R	55	5.4	5.4	0.001
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (10/15/2008)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	1.2	0.27	70.	0.29	Methanogenic
MW-404R	55	1.6	BD	220.	0.014	Methanogenic
MW-401AR	210	0.89	BD	BD	0.001	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0641	0.0641	0.0504
Decay Rate [1/yr]			
Maximum	31.6149	31.6149	23.2024
Average	3.6528	3.6528	2.6808
Minimum	0.0363	0.0363	0.0266

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

		Source Reduction			Time of Stabilization [years]					
	RCC		Conc [µg/L]			Breakthrough Time			Time to Equilibrium	
Contaminant	[µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	1	1700	No Reduction Required						
Benzene	8.0	1	1700	No Reduction Required						
Naphthalene	20.0	1	1100	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]	100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company
Site Name:	Former Manufactured Gas Plant Site
Additional Description:	Rome Georgia HSI#10109

Length:	feet
Time:	years
Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	127.0
Longitudinal Dispersivity [ft]	8.31
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.42

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (4/9/2009)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	95.	95.	30.
MW-404R	55	400.	400.	94.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (4/9/2009)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	1.4	0.22	70.	0.058	Methanogenic
MW-404R	55	1.4	BD	220.	0.65	Methanogenic
MW-401AR	210	0.89	BD	BD	0.001	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0813	0.0813	0.0719
Decay Rate [1/yr]			
Maximum	46.3008	46.3008	39.0784
Average	5.3496	5.3496	4.5151
Minimum	0.0531	0.0531	0.0449

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

			Source Reduction		Time of Stabilization [years]					
			Conc [µg/L]		Breakthrough Time			Time to Equilibrium		
Contaminant	RCC [µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	2	400	No Reduction Required						
Benzene	8.0	2	400	No Reduction Required						
Naphthalene	20.0	2	94	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]	100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company
Site Name:	Former Manufactured Gas Plant Site
Additional Description:	Rome Georgia HSI#10109

Length:	feet
Time:	years
Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	124.9
Longitudinal Dispersivity [ft]	8.22
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.41

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (10/9/2009)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	44.	44.	18.
MW-404R	55	290.	290.	47.
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (10/9/2009)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	1.5	0.79	70.	0.11	Methanogenic
MW-404R	55	1.2	BD	220.	0.81	Methanogenic
MW-401AR	210	1.3	BD	BD	BD	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0792	0.0792	0.0675
Decay Rate [1/yr]			
Maximum	44.4712	44.4712	35.6658
Average	5.1382	5.1382	4.1208
Minimum	0.051	0.051	0.0409

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

Contaminant	RCC [µg/L]	Well	Source Reduction Conc [µg/L] Current	Target	Time of Stabilization [years] Breakthrough Time Maximum	Average	Minimum	Time to Equilibrium Maximum	Average	Minimum
Total BTEX	5.0	2	290	No Reduction Required						
Benzene	8.0	2	290	No Reduction Required						
Naphthalene	20.0	2	47	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr] 100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	115.2
Longitudinal Dispersivity [ft]	7.79
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.39

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			

Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (4/10/2010)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	3000.	3000.	1200.
MW-404R	55	110.	110.	9.9
MW-401AR	210	0.001	0.001	0.001

Redox Indicator Concentration Profiles (4/10/2010)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	1.2	BD	70.	1.9	Methanogenic
MW-404R	55	1.5	BD	220.	0.027	Methanogenic
MW-401AR	210	1.4	BD	64.	BD	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.0703	0.0703	0.0635
Decay Rate [1/yr]			
Maximum	36.9695	36.9695	32.2508
Average	4.2715	4.2715	3.7263
Minimum	0.0424	0.0424	0.037

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

Contaminant	RCC [µg/L]	Well	Source Reduction Conc [µg/L] Current	Target	Time of Stabilization [years] Breakthrough Time Maximum	Average	Minimum	Time to Equilibrium Maximum	Average	Minimum
Total BTEX	5.0	1	3000	No Reduction Required						
Benzene	8.0	1	3000	No Reduction Required						
Naphthalene	20.0	1	1200	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr]	100

	SCC [µg/L]	Mass [lb]	Removal Plan 95% Removed MNA
Total BTEX		0	
Benzene	5.0	0	100+
Naphthalene	20.0	0	100+

Facility Name:	Atlanta Gas Light Company	Length:	feet
Site Name:	Former Manufactured Gas Plant Site	Time:	years
Additional Description:	Rome Georgia HSI#10109	Mass:	pounds

Hydrogeologic Data and Contaminant Transport Calculations

	Maximum	Average	Minimum
Hydr. Conductivity [ft/yr]	1428.0	515.6	13.66
Hydraulic Gradient [ft/ft]	0.05	0.016	0.006
Total Porosity [-]		0.25	
Effective Porosity [-]		0.21	
Groundwater Vel. [ft/yr]	340.0	39.284	0.39

	NAPL Source
NAPL Source Length [ft]	10.0
NAPL Source Width [ft]	28.0
Contaminated Aquifer Thickness [ft]	7.2

Contaminant Source Specifications

Source Component	Conc Profile	NAPL Constituent
Total BTEX	True	True
Benzene	True	True
Naphthalene	True	True

Dispersion Parameters

Estimated Plume Length [ft]	123.0
Longitudinal Dispersivity [ft]	8.14
Dispersivity Ratio [-]	20.0
Transverse Dispersivity [ft]	0.41

Sorption Parameters

Fraction Org. Carbon [-]

Maximum	0.02
Average	0.002
Minimum	0.0002

	Total BTEX	Benzene	Naphthalene
Koc [L/kg]	300	58.9	2000
Retardation Factor [-]			
Maximum	57.79	12.15	379.57
Average	6.68	2.11	38.86
Minimum	1.57	1.11	4.79

Contaminant Concentration Profiles (10/27/2010)

Well Name	Distance [ft]	Total BTEX [µg/L]	Benzene [µg/L]	Naphthalene [µg/L]
MW-504	0	2200.	2200.	1700.
MW-404R	55	750.	750.	86.
MW-401AR	212	0.001	0.001	0.001

Redox Indicator Concentration Profiles (10/27/2010)

Well Name	Distance [ft]	Oxygen [mg/L]	Iron(II) [mg/L]	Sulfate [mg/L]	Methane [mg/L]	Redox Condition
MW-504	0	1.3	BD	70.	4.4	Methanogenic
MW-404R	55	1.4	6.	220.	0.33	Methanogenic
MW-401AR	210	1.4	BD	BD	0.006	Methanogenic

Attenuation Rates

	Total BTEX	Benzene	Naphthalene
NAC (Single Zone) [1/ft]	0.071	0.071	0.067
Decay Rate [1/yr]			
Maximum	38.1125	38.1125	35.2315
Average	4.4035	4.4035	4.0707
Minimum	0.0437	0.0437	0.0404

Time of Stabilization(TOS) and Max Source Conc. Calculations

Distance to POC [ft] 210.0

			Source Reduction		Time of Stabilization [years]					
	RCC		Conc [µg/L]			Breakthrough Time			Time to Equilibrium	
Contaminant	[µg/L]	Well	Current	Target	Maximum	Average	Minimum	Maximum	Average	Minimum
Total BTEX	5.0	1	2200	No Reduction Required						
Benzene	8.0	1	2200	No Reduction Required						
Naphthalene	20.0	1	1700	No Reduction Required						

Time of Remediation(TOR) Calculations

NAPL Component	Mass Fraction[-]	Solubility [mg/L]	Molecular Wght[g/mole]
Total BTEX	0.00	0.0	0.0
Benzene	0.01	1750.0	78.1
Naphthalene	0.01	31.7	128.2

Max Time of Analysis [yr] 100

	SCC	Mass	Removal Plan
			No Removal
	[µg/L]	[lb]	MNA
Total BTEX		0	
Benzene	5.0	0	0.0
Naphthalene	20.0	0	30.4

Appendix E

Vapor Intrusion Model

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 (Type 4 RRS values) protective of indoor air for the on-site/off-site commercial/industrial indoor worker.

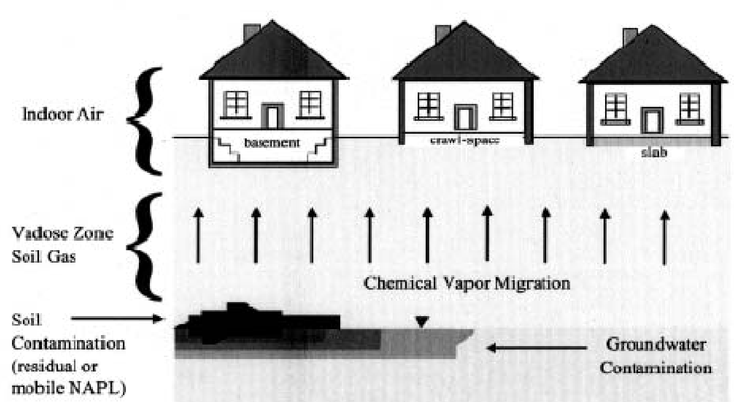
This Appendix presents the J&E evaluation of indoor air VOCs emanating from potential sources in groundwater and subsurface soil, including a discussion of model input parameters.

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 Type 4 RRS 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).

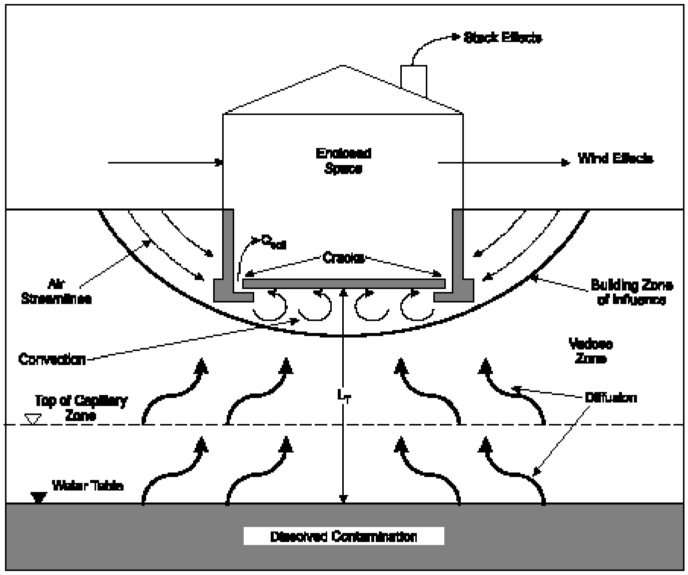
The J&E model provides a relationship between the concentration of a chemical within a source area and the concentration of that chemical in indoor air directly above or proximate to the source area. The source medium can be groundwater, unsaturated soil, or nonaqueous phase liquid (NAPL) (USEPA 2002). 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 Tables 2-5 and 2-6 of the main report.

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 LNAPL (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:

$$C_{source} = H'_{TS} C_W \qquad [1]$$

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:

$$D^{eff}_{cz} = D_a\left(\theta_{a,cz}^{3.33}/n_{cz}^{2}\right) + \left(D_w / H'_{TS}\right)\left(\theta_{w,cz}^{3.33}/n_{cz}^{2}\right) \quad [3]$$

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:

$$E = A\left(C_{source} - C_{g0}\right) D_{cz}^{eff} / L_{cz} \qquad [4]$$

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:

$$L_{cz} = \frac{2\alpha\, COS\, \lambda}{\rho_w\, g\, R} \qquad [5]$$

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

$$R = 0.2D \qquad [6]$$

R = Mean interparticle pore radius, cm

D = Mean particle diameter, cm

$$L_{cz} = \frac{0.15}{R} \qquad [7]$$

The mean thickness of the capillary zone may then be estimated using Equations [6] and [7].

2.1.3 Diffus ion

The effective diffusion coefficient within the unsaturated zone may also be estimated using the same form as Equation [3]:

$$\theta_{w,cz} = \theta_r + \frac{\theta_s - \theta_r}{\left[1 + (\alpha h)^N\right]^M} \qquad [8]$$

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/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:

$$D^{eff}_{T} = \frac{L_T}{\sum_{i=0}^{n} L_i / D^{eff}_{i}} \qquad [9]$$

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:

$$\alpha = \frac{\left[\left(\frac{D_T^{eff} A_B}{Q_{building} L_T}\right) x \exp\left(\frac{Q_{soil} L_{crack}}{D^{crack} A_{crack}}\right)\right]}{\left[\exp\left(\frac{Q_{soil} L_{crack}}{D^{crack} A_{crack}}\right) + \left(\frac{D_T^{eff} A_B}{Q_{building} L_T}\right) + \left(\frac{D_T^{eff} A_B}{Q_{soil} L_T}\right)\left[\exp\left(\frac{Q_{soil} L_{crack}}{D^{crack} A_{crack}}\right) - 1\right]\right]} \qquad [10]$$

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:

$$Q_{building} = \frac{(L_B W_B H_B ER)}{3{,}600\,\frac{s}{h}} \qquad [11]$$

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 main report. Chemical-specific factors for these analytes are presented in Table 2-12 of the main report.

2.2.2 Soi l 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 main report.

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 Bui Iding 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 Broad Street retail building assumes USEPA's default floor-wall seam crack width of 0.1 cm, as slab covers the entire basement floor. However, the hotel basement is approximately 25% dirt floor and 75% slab floor. The floor-wall seam crack width (r_{crack}) was estimated to account for this variation per Equation 16 of USEPA's *User's Guide for Evaluating Subsurface Vapor Intrusion into Buildings* (USEPA 2004a) assuming a crack to total area ratio (η) of 0.25. The floor-wall seam crack width was adjusted over the entire building footprint to account for the area of open floor, where r_{crack} = 0.25 (total building area / total building perimeter) = 220 cm.

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 main report.

2.3 Modeli ng Results

2.3.1 Type 4 Subsurface Soil RRS Values Protective of Indoor Air

Table 2-18 of the main report presents the calculated Type 4 subsurface soil RRS values protective of indoor air. Anthracene does not have inhalation toxicity information available; therefore, a Type 4 RRS could not be calculated. For the remaining subsurface soil COI, Type 4 subsurface soil RRS values were calculated for carcinogenic and/or noncarcinogenic effects; however, the minimum RRS among the carcinogenic and noncarcinogenic values was chosen to compare against subsurface soil data.

2.3.2 Type 4 Groundwater RRS Values Protective of Indoor Air

Table 2-19 of the main report presents the calculated Type 4 groundwater RRS values protective of indoor air for groundwater COI; however, both Type 4 RRS values could not be calculated for cyanide and methane as they lack inhalation toxicity information For the remaining groundwater COI (benzene and naphthalene), Type 4 groundwater RRS values could be calculated based on carcinogenic and noncarcinogenic effects; however, the minimum RRS value is based on carcinogenic effects for both the hotel worker and Broad Street retail worker, as presented below:

- Benzene: Type 4 groundwater RRS, hotel worker: 36.5 mg/l
- Benzene: Type 4 groundwater RRS, Broad Street retail worker: 24.9 mg/l
- Naphthalene: Type 4 groundwater RRS, hotel worker: 29 mg/l
- Naphthalene: Type 4 groundwater RRS, Broad Street retail worker: 24.2 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 Type 4 RRS values using site-specific chemical data, soil properties, building dimensions, and exposure assumptions for the indoor worker. Once calculated, the Type 4 RRS 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 Type 4 RRS values is presented in Table 2-20 of the main report.

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 Type 4 RRS 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 Type 4 RRS 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 Type 4 RRS values protective of indoor air. The Type 4 RRS values are summarized in Table 2-20 of the main report 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.

Fetter, C.W., 1994. Applied Hydrogeology 2nd Edition, Prentice-Hall, Upper Saddle River, NJ.

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.

Lohman, S. W. 1972. Ground-Water Hydraulics. Geological Survey Professional Paper 708, U.S. Department of the Interior, Washington, D.C.

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

van Genuchten, M.Th. 1980. A closed-form equation for predicting the hydraulic conductivity of unsaturated soils. Soil Sci. Am. J. 44:892-898.

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.

J&E Groundwater Model:
Broad Street Retail Worker

Benzene Groundwater Vapor Intrusion Modeling Input, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

GW-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (μg/L)	Chemical
71432	1.00E+00	Benzene

MORE ↓

Totals must add up to value of L_{WT} (cell G28)

ENTER Average soil/ groundwater temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	610	244	366	0	B	SC	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054	SC	1.63	0.385	0.197	C	1.43	0.459	0.215

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based groundwater concentration.

END

Benzene Groundwater Vapor Intrusion Modeling Input, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (μg/L)	Indoor exposure groundwater conc., noncarcinogen (μg/L)	Risk-based indoor exposure groundwater conc., (μg/L)	Pure component water solubility, S (μg/L)	Final indoor exposure groundwater conc., (μg/L)
2.49E+04	2.08E+05	2.49E+04	1.75E+06	2.49E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Naphthalene Groundwater Vapor Intrusion Modeling Input, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

GW-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [X]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [ ]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (μg/L)	Chemical
91203	1.00E+00	Naphthalene

MORE ↓

ENTER Average soil/ groundwater temperature, T_S (^oC)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	610	244	366	0	B	SC	S		

Totals must add up to value of L_{WT} (cell G28)

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
Lookup Soil Parameters				Lookup Soil Parameters				Lookup Soil Parameters			
S	1.66	0.375	0.054	SC	1.63	0.385	0.197	C	1.43	0.459	0.215

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based groundwater concentration.

END

Naphthalene Groundwater Vapor Intrusion Modeling Input, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (μg/L)	Indoor exposure groundwater conc., noncarcinogen (μg/L)	Risk-based indoor exposure groundwater conc., (μg/L)	Pure component water solubility, S (μg/L)	Final indoor exposure groundwater conc., (μg/L)
2.42E+04	8.83E+04	2.42E+04	3.10E+04	2.42E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

J&E Groundwater Model: Hotel Worker

Benzene Groundwater Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

GW-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (μg/L)	Chemical
71432	1.00E+00	Benzene

MORE ↓

ENTER Average soil/ groundwater temperature, T_S (^oC)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
			Totals must add up to value of L_{WT} (cell G28)							
16.7	200	610	244	366	0	B	SC	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054	SC	1.63	0.385	0.197	C	1.43	0.459	0.215

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based groundwater concentration.

END

Benzene Groundwater Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (μg/L)	Indoor exposure groundwater conc., noncarcinogen (μg/L)	Risk-based indoor exposure groundwater conc., (μg/L)	Pure component water solubility, S (μg/L)	Final indoor exposure groundwater conc., (μg/L)
3.65E+04	3.05E+05	3.65E+04	1.75E+06	3.65E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Naphthalene Groundwater Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

GW-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED GROUNDWATER CONCENTRATION (enter "X" in "YES" box)

YES [X]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL GROUNDWATER CONCENTRATION (enter "X" in "YES" box and initial groundwater conc. below)

YES [ ]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial groundwater conc., C_W (μg/L)	Chemical
91203	1.00E+00	Naphthalene

MORE ↓

Totals must add up to value of L_{WT} (cell G28)

ENTER Average soil/ groundwater temperature, T_S (^oC)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to water table, L_{WT} (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum directly above water table, (Enter A, B, or C)	ENTER SCS soil type directly above water table	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	610	244	366	0	B	SC	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)
S	1.66	0.375	0.054	SC	1.63	0.385	0.197	C	1.43	0.459	0.215

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

MORE ↓

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based groundwater concentration.

END

Naphthalene Groundwater Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED GROUNDWATER CONCENTRATION CALCULATIONS:

Indoor exposure groundwater conc., carcinogen (μg/L)	Indoor exposure groundwater conc., noncarcinogen (μg/L)	Risk-based indoor exposure groundwater conc., (μg/L)	Pure component water solubility, S (μg/L)	Final indoor exposure groundwater conc., (μg/L)
2.90E+04	1.06E+05	2.90E+04	3.10E+04	2.90E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

J&E Subsurface Soil Model: Broad Street Retail Worker

2-butanone Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES [X]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [ ]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
78933		Methylethylketone (2-butanone)

MORE ↓

ENTER Average soil temperature, T_S (^oC)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	488	0	244	244	0	S		

Totals must add up to value of L_t (cell G28)

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
Lookup Soil Parameters					Lookup Soil Parameters					Lookup Soil Parameters				
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

2-butanone Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	5.74E+07	5.74E+07	2.80E+07	2.80E+07

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Acetone Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
67641		Acetone

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
16.7	200	488	0	244	244	0	S		

Totals must add up to value of L_t (cell G28)

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Acetone Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	4.04E+08	4.04E+08	1.22E+08	1.22E+08

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.
MESSAGE: Risk/HQ or risk-based soil concentration is based on a route-to-route extrapolation.

Benzene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
71432		Benzene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Totals must add up to value of L_t (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
16.7	200	488	0	244	244	0	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1
				Used to calculate risk-based soil concentration.	

END

Benzene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
8.37E+02	6.99E+03	8.37E+02	4.60E+05	8.37E+02

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Carbon Disulfide Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
75150		Carbon disulfide

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
16.7	200	488	0	244	244	0	S		

Totals must add up to value of L_t (cell G28)

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
Lookup Soil Parameters					Lookup Soil Parameters					Lookup Soil Parameters				
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Carbon Disulfide Subsurface Soil Vapor Intrusion Modeling Results, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	3.23E+04	3.23E+04	3.78E+05	3.23E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Chlorobenzene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemica
108907		Chlorobenzene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
				Totals must add up to value of L_t (cell G28)				OR	
16.7	200	488	0	244	244	0	S		

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
Lookup Soil Parameters					Lookup Soil Parameters					Lookup Soil Parameters				
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1
				Used to calculate risk-based soil concentration.	

END

Chlorobenzene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	4.59E+04	4.59E+04	2.69E+05	4.59E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Ethylbenzene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
100414		Ethylbenzene

MORE ↓

ENTER Average soil temperature, T_S (^oC)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
				Totals must add up to value of L_t (cell G28)					
16.7	200	488	0	244	244	0	S		

MORE ↓

ENTER Stratum A SCS soil type Lookup Soil Parameters	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type Lookup Soil Parameters	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Ethylbenzene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
7.40E+03	6.60E+05	7.40E+03	1.47E+05	7.40E+03

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Methylene Chloride Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
75092		Methylene chloride

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
16.7	200	488	0	244	244	0	S		

Totals must add up to value of L_t (cell G28)

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Methylene Chloride Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
1.86E+04	3.12E+05	1.86E+04	1.98E+06	1.86E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Naphthalene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
91203		Naphthalene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
16.7	200	488	0	244	244	0	S		

Totals must add up to value of L_t (cell G28)

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Naphthalene Subsurface Soil Vapor Intrusion Modeling Results, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
5.39E+04	1.96E+05	5.39E+04	1.28E+05	5.39E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Styrene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
100425		Styrene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	488	0	244	244	0	S		

Totals must add up to value of L_t (cell G28)

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
Lookup Soil Parameters					Lookup Soil Parameters					Lookup Soil Parameters				
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Styrene Subsurface Soil Vapor Intrusion Modeling Results, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	3.81E+06	3.81E+06	5.21E+05	5.21E+05

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Toluene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES [X]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [ ]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemica
108883		Toluene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Totals must add up to value of L_t (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	488	0	244	244	0	S		

MORE ↓

ENTER Stratum A SCS soil type Lookup Soil Parameters	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type Lookup Soil Parameters	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Toluene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	2.03E+06	2.03E+06	2.66E+05	2.66E+05

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

m-Xylene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
108383		m-Xylene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
16.7	200	488	0	244	244	0	S		

Totals must add up to value of L_t (cell G28)

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002	SC	1.63	0.385	0.197	0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	4572	1981	731	0.1	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

m-Xylene Subsurface Soil Vapor Intrusion Modeling Inputs, Broad Street Retail Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	5.67E+05	5.67E+05	1.54E+05	1.54E+05

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

J&E Subsurface Soil Model: Hotel Worker

2-butanone Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES [X]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [ ]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
78933		Methylethylketone (2-butanone)

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
				Totals must add up to value of L_t (cell G28)				OR	
16.7	200	230	0	230	0	0	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1
				Used to calculate risk-based soil concentration.	

END

2-butanone Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	6.48E+05	6.48E+05	8.35E+06	6.48E+05

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Acetone Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemica
67641		Acetone

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Totals must add up to value of L_t (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	230	0	230	0	0	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1
				Used to calculate risk-based soil concentration.	

END

Acetone Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	3.28E+06	3.28E+06	3.39E+07	3.28E+06

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.
MESSAGE: Risk/HQ or risk-based soil concentration is based on a route-to-route extrapolation.

Benzene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES [X]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [ ]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
71432		Benzene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
16.7	200	230	0	230	0	0	S		

Totals must add up to value of L_t (cell G28) (applies to h_A, h_B, h_C)

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Benzene Subsurface Soil Vapor Intrusion Modeling Results, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
2.04E+01	1.71E+02	2.04E+01	3.17E+05	2.04E+01

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Carbon Disulfide Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES | X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES |

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
75150		Carbon disulfide

MORE ↓

ENTER Average soil temperature, T_S (^oC)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Totals must add up to value of L_t (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	230	0	230	0	0	S		

MORE ↓

ENTER Stratum A SCS soil type Lookup Soil Parameters	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type Lookup Soil Parameters	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Carbon Disulfide Subsurface Soil Vapor Intrusion Modeling Results, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	9.69E+02	9.69E+02	3.58E+05	9.69E+02

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Chlorobenzene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemical
108907		Chlorobenzene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Totals must add up to value of L_t (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	230	0	230	0	0	S	OR	

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Chlorobenzene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	1.52E+03	1.52E+03	2.31E+05	1.52E+03

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Ethylbenzene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES [X]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [ ]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
100414		Ethylbenzene

MORE ↓

ENTER Average soil temperature, T_S (^{o}C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
				Totals must add up to value of L_t (cell G28)					
16.7	200	230	0	230	0	0	S		

MORE ↓

ENTER Stratum A SCS soil type	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
Lookup Soil Parameters					Lookup Soil Parameters					Lookup Soil Parameters				
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Ethylbenzene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
2.57E+02	2.30E+04	2.57E+02	1.35E+05	2.57E+02

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Methylene Chloride Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemical
75092		Methylene chloride

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)		ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
				Totals must add up to value of L_t (cell G28)				OR	
16.7	200	230	0	230	0	0	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Methylene Chloride Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
2.71E+02	4.55E+03	2.71E+02	8.94E+05	2.71E+02

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Naphthalene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (µg/kg)	Chemical
91203		Naphthalene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm²)
				Totals must add up to value of L_t (cell G28)					
16.7	200	230	0	230	0	0	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm³)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm³/cm³)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm³)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm³/cm³)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm³)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm³/cm³)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s²)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1
				Used to calculate risk-based soil concentration.	

END

Naphthalene Subsurface Soil Vapor Intrusion Modeling Results, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
2.26E+03	8.24E+03	2.26E+03	1.25E+05	2.26E+03

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Styrene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
100425		Styrene

MORE ↓

ENTER Average soil temperature, T_S (°C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
				Totals must add up to value of L_t (cell G28)					
16.7	200	230	0	230	0	0	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Styrene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	1.41E+05	1.41E+05	4.95E+05	1.41E+05

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Toluene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES: X

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES:

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemical
108883		Toluene

MORE ↓

ENTER Average soil temperature, T_S (^oC)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
				Totals must add up to value of L_t (cell G28)					
16.7	200	230	0	230	0	0	S		

MORE ↓

ENTER Stratum A SCS soil type (Lookup Soil Parameters)	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type (Lookup Soil Parameters)	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type (Lookup Soil Parameters)	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP ($g/cm\text{-}s^2$)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

Toluene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (µg/kg)	Indoor exposure soil conc., noncarcinogen (µg/kg)	Risk-based indoor exposure soil conc., (µg/kg)	Soil saturation conc., C_{sat} (µg/kg)	Final indoor exposure soil conc., (µg/kg)
NA	6.06E+04	6.06E+04	2.27E+05	6.06E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

m-Xylene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

SL-ADV
Version 3.1; 02/04

Reset to Defaults

CALCULATE RISK-BASED SOIL CONCENTRATION (enter "X" in "YES" box)

YES [X]

OR

CALCULATE INCREMENTAL RISKS FROM ACTUAL SOIL CONCENTRATION (enter "X" in "YES" box and initial soil conc. below)

YES [ ]

ENTER Chemical CAS No. (numbers only, no dashes)	ENTER Initial soil conc., C_R (μg/kg)	Chemica
108383		m-Xylene

MORE ↓

ENTER Average soil temperature, T_S (^{o}C)	ENTER Depth below grade to bottom of enclosed space floor, L_F (cm)	ENTER Depth below grade to top of contamination, L_t (cm)	ENTER Depth below grade to bottom of contamination, (enter value of 0 if value is unknown) L_b (cm)	ENTER Totals must add up to value of L_t (cell G28) Thickness of soil stratum A, h_A (cm)	ENTER Thickness of soil stratum B, (Enter value or 0) h_B (cm)	ENTER Thickness of soil stratum C, (Enter value or 0) h_C (cm)	ENTER Soil stratum A SCS soil type (used to estimate soil vapor permeability)	OR	ENTER User-defined stratum A soil vapor permeability, k_v (cm^2)
16.7	200	230	0	230	0	0	S		

MORE ↓

ENTER Stratum A SCS soil type Lookup Soil Parameters	ENTER Stratum A soil dry bulk density, ρ_b^A (g/cm^3)	ENTER Stratum A soil total porosity, n^A (unitless)	ENTER Stratum A soil water-filled porosity, θ_w^A (cm^3/cm^3)	ENTER Stratum A soil organic carbon fraction, f_{oc}^A (unitless)	ENTER Stratum B SCS soil type Lookup Soil Parameters	ENTER Stratum B soil dry bulk density, ρ_b^B (g/cm^3)	ENTER Stratum B soil total porosity, n^B (unitless)	ENTER Stratum B soil water-filled porosity, θ_w^B (cm^3/cm^3)	ENTER Stratum B soil organic carbon fraction, f_{oc}^B (unitless)	ENTER Stratum C SCS soil type Lookup Soil Parameters	ENTER Stratum C soil dry bulk density, ρ_b^C (g/cm^3)	ENTER Stratum C soil total porosity, n^C (unitless)	ENTER Stratum C soil water-filled porosity, θ_w^C (cm^3/cm^3)	ENTER Stratum C soil organic carbon fraction, f_{oc}^C (unitless)
S	1.66	0.375	0.054	0.002		1.5	0.43		0.002		1.5	0.43		0.002

MORE ↓

ENTER Enclosed space floor thickness, L_{crack} (cm)	ENTER Soil-bldg. pressure differential, ΔP (g/cm-s^2)	ENTER Enclosed space floor length, L_B (cm)	ENTER Enclosed space floor width, W_B (cm)	ENTER Enclosed space height, H_B (cm)	ENTER Floor-wall seam crack width, w (cm)	ENTER Indoor air exchange rate, ER (1/h)	ENTER Average vapor flow rate into bldg. OR Leave blank to calculate Q_{soil} (L/m)
10	40	5791	2526	1097	220	0.828	5

ENTER Averaging time for carcinogens, AT_C (yrs)	ENTER Averaging time for noncarcinogens, AT_{NC} (yrs)	ENTER Exposure duration, ED (yrs)	ENTER Exposure frequency, EF (days/yr)	ENTER Target risk for carcinogens, TR (unitless)	ENTER Target hazard quotient for noncarcinogens, THQ (unitless)
70	25	25	83.3	1.0E-05	1

Used to calculate risk-based soil concentration.

END

m-Xylene Subsurface Soil Vapor Intrusion Modeling Input, Hotel Worker
Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia

RISK-BASED SOIL CONCENTRATION CALCULATIONS:

Indoor exposure soil conc., carcinogen (μg/kg)	Indoor exposure soil conc., noncarcinogen (μg/kg)	Risk-based indoor exposure soil conc., (μg/kg)	Soil saturation conc., C_{sat} (μg/kg)	Final indoor exposure soil conc., (μg/kg)
NA	2.05E+04	2.05E+04	1.42E+05	2.05E+04

INCREMENTAL RISK CALCULATIONS:

Incremental risk from vapor intrusion to indoor air, carcinogen (unitless)	Hazard quotient from vapor intrusion to indoor air, noncarcinogen (unitless)
NA	NA

MESSAGE AND ERROR SUMMARY BELOW: (DO NOT USE RESULTS IF ERRORS ARE PRESENT)
MESSAGE: The values of Csource and Cbuilding on the INTERCALCS worksheet are based on unity and do not represent actual values.

Appendix F

ProUCL Results for Calculated Exposure Point Concentrations

sys_loc_code	end_depth	sample_date	2-Butanone	D_2-Butanone	Acetone	D_Acetone
GP-127	19	1/24/1996	0.012	0	0.012	0
GP-318	13	12/16/1998	0.02	0	0.041	0
GP-319	9	12/17/1998	0.029	0	0.057	0
GP-321	6.5	12/17/1998	0.019	0	0.1	1
GP-321	18	12/17/1998	0.021	0	0.042	0
GP-322	9	12/18/1998	0.019	0	0.037	0
GP-324	14	12/19/1998	0.022	0	0.044	0
GP-325	12	12/19/1998	0.021	0	0.044	1
GP-326	12	12/19/1998	0.024	0	0.047	0
GP-327	14	12/20/1998	0.022	0	0.043	0
GP-331	18	12/21/1998	0.021	0	0.042	0
HA-101	3	2/7/1996	0.013	0	0.013	0
HA-102	3	2/7/1996	0.012	0	0.012	0
HA-102	7	2/7/1996	0.014	0	0.12	1
HA-103	3	2/7/1996	0.013	0	0.056	0
HA-103	6	2/7/1996	0.014	0	0.025	0
HA-105	3	2/8/1996	0.013	0	0.021	0
HA-107	3	2/12/1996	0.013	0	0.013	0
HA-107	4	2/12/1996	0.013	0	0.013	0
HA-108	3	2/12/1996	0.013	0	0.013	0
HA-108	7	2/12/1996	0.012	0	0.012	0
HA-108	11	2/12/1996	0.013	0	0.13	1
HA-200	5	9/8/1997				
HA-204	5	9/9/1997				
MW-09A	15	2/24/1996	0.012	0	0.015	0
MW-09A	19	2/24/1996	0.013	0	0.013	0
MW-10	13	2/26/1996	0.013	0		
MW-10	17	2/26/1996	0.012	0	0.022	0
MW-13	3	2/28/1996	0.013	0	0.013	1
MW-13	7	2/28/1996	0.013	0	0.011	1
SC-0064	3	7/9/1999				
SC-0065	3	7/9/1999				
SC-0066	3	7/9/1999				
SC-0067	3	7/9/1999				
SC-0073	7.5	7/14/1999				
SC-0074	7.5	7/14/1999				
SC-0075	12.5	7/14/1999				
SC-0081	18	7/14/1999				
SC-0082	12.5	7/14/1999				
SC-0086	6	7/20/1999				
SC-0087	12	7/20/1999				
SC-0088	12	7/20/1999				
SC-0089	12	7/20/1999				
SC-0104	20	7/19/1999				
SC-0108	14	7/23/1999				
SC-0109	14	7/23/1999				
SC-0113	5	7/23/1999				
SC-0117	10	7/26/1999				
SC-0119	14	7/27/1999				
SC-0120	16	7/27/1999				

SC-0124	14	7/29/1999
SC-0125	7	7/29/1999
SC-0126	10	7/29/1999
SC-0127	15	7/29/1999
SC-0130	4.5	8/2/1999
SC-0132	14	8/2/1999
SC-0137	10	8/4/1999
SC-0138	10	8/4/1999
SC-0148	10	8/12/1999
SC-0151	10	8/12/1999
SC-0152	11	8/12/1999
SC-0153	8	8/12/1999
SC-0154	18	8/12/1999
SC-0171	5	8/28/1999
SC-0172	5	8/28/1999
SC-0173	11	8/28/1999
SC-0174	5	8/28/1999
SC-0175	5	8/28/1999
SC-0178	7	8/31/1999
SC-0179	7	9/1/1999
SC-0181	7	9/1/1999

Benzene	D_Benzene	Carbon Disulfide	D_Carbon Disulfide	Chlorobenzene	D_Chlorobenzene
0.012	0	0.012	0	0.012	0
0.0096	1	0.0045	1		
0.022	1	0.39	1		
0.0038	0	0.0038	0		
0.08	1	0.0042	0		
0.0037	0	0.0037	0		
0.0044	0	0.0044	0		
0.0043	0	0.0043	0		
0.0047	0	0.0047	0		
0.0043	0	0.0043	0		
0.0055	1	0.0043	1		
0.013	0	0.013	0	0.013	0
0.012	0	0.012	0	0.012	0
0.014	0	0.014	0	0.014	0
0.013	0	0.013	0	0.013	0
0.014	0	0.014	0	0.014	0
0.013	0	0.013	0	0.013	0
0.013	0	0.013	0	0.001	1
0.013	0	0.013	0	0.013	0
0.013	0	0.013	0	0.001	1
0.012	0	0.012	0	0.012	0
0.013	0	0.013	0	0.013	0
0.0064	0				
0.0057	0				
0.012	0	0.012	0	0.012	0
0.013	0	0.013	0	0.013	0
0.013	0	0.013	0	0.013	0
0.012	0	0.012	0	0.012	0
0.013	0	0.013	0	0.013	0
0.013	0	0.013	0	0.013	0
0.0045	0				
0.0046	0				
0.0059	0				
0.0041	0				
0.0035	0				
0.0038	0				
0.0046	0				
0.0058	0				
0.0044	0				
0.0049	0				
0.0053	0				
0.0075	0				
0.011	1				
0.0046	0				
0.0049	0				
0.006	0				
7.1	1				
0.0043	0				
0.16	1				
0.0045	0				

0.0054	0
0.012	1
0.013	1
0.022	1
0.0055	0
0.0046	0
0.0041	0
0.014	1
0.0042	0
0.0048	0
0.005	0
0.0041	0
0.0065	0
0.013	0
0.0054	0
0.0059	0
0.0053	0
0.0078	0
0.028	1
0.012	1
0.048	1

Ethylbenzene	D_Ethylbenzene	Methylene Chloride	D_Methylene Chloride	Naphthalene
0.012	0	0.012	0	0.38
0.0041	0	0.0041	0	0.41
0.0057	0	0.0057	0	0.78
0.0038	0	0.0038	0	0.39
0.21	1	0.0042	0	47
0.0037	0	0.0037	0	1.5
0.0044	0	0.0044	0	0.4
0.0043	0	0.0043	0	0.41
0.0047	0	0.0047	0	0.41
0.0043	0	0.0043	0	0.42
0.032	1	0.0042	0	0.42
0.013	0	0.015	0	1.8
0.012	0	0.015	0	8.1
0.014	0	0.014	0	0.54
0.013	0	0.013	0	0.3
0.014	0	0.01	0	0.44
0.013	0	0.013	0	0.42
0.013	0	0.013	0	0.42
0.013	0	0.013	0	0.43
0.013	0	0.015	0	0.42
0.012	0	0.012	0	0.41
0.013	0	0.013	0	0.43
0.0064	0			0.42
0.0057	0			0.38
0.012	0	0.012	0	0.4
0.013	0	0.013	0	0.42
0.003	1	0.013	0	5.1
0.012	0	0.012	0	0.41
0.013	0	0.013	0	0.42
0.013	0	0.013	0	0.44
0.0045	0			0.41
0.0046	0			2.1
0.0059	0			0.35
0.0041	0			0.43
0.0035	0			0.4
0.0038	0			0.38
0.0046	0			0.39
0.0058	0			1.2
0.0044	0			0.43
0.0049	0			0.41
0.0053	0			0.4
0.0075	0			0.39
0.0056	0			0.42
0.0046	0			0.41
0.0049	0			0.41
0.006	0			0.42
0.0053	0			0.44
0.0043	0			0.41
0.0059	0			0.41
0.0045	0			0.43

0.0054	0	0.44
0.0052	0	0.42
0.06	1	0.46
0.079	1	0.45
0.0055	0	0.43
0.0046	0	0.45
0.0041	0	0.4
0.0051	1	0.41
0.0042	0	0.44
0.0048	0	0.41
0.017	1	3.2
0.0041	0	0.41
0.0065	0	0.39
0.013	0	0.48
0.0054	0	0.49
0.0059	0	0.42
0.0053	0	0.41
0.0078	0	0.51
0.007	0	3.3
0.0073	0	4.3
0.03	1	74

D_Naphthalene	Styrene	D_Styrene	Toluene	D_Toluene	Xylenes, total	D_Xylenes, total
0	0.012	0	0.012	0	0.012	0
0	0.0041	0	0.0042	1	0.012	1
1	0.0057	0	0.0057	0	0.0057	0
0	0.0038	0	0.0038	0	0.0038	0
1	0.0042	0	0.25	0	2.2	1
0	0.0037	0	0.0037	0	0.0037	0
0	0.0044	0	0.0044	0	0.0044	0
0	0.0043	0	0.0043	0	0.0043	0
0	0.0047	0	0.0047	0	0.0047	0
0	0.0043	0	0.0043	0	0.0043	0
0	0.0042	0	0.0042	0	0.089	1
1	0.013	0	0.013	0	0.013	0
1	0.012	0	0.012	0	0.012	0
1	0.014	0	0.014	0	0.014	0
1	0.013	0	0.013	0	0.013	0
0	0.014	0	0.014	0	0.014	0
0	0.013	0	0.013	0	0.013	0
0	0.013	0	0.013	0	0.013	0
0	0.013	0	0.013	0	0.013	0
0	0.013	0	0.002	1	0.013	0
0	0.012	0	0.012	0	0.012	0
0	0.013	0	0.013	0	0.013	0
0			0.0064	0	0.0064	0
0			0.0057	0	0.0057	0
0	0.012	0	0.012	0	0.012	0
0	0.013	0	0.013	0	0.013	0
1	0.013	0	0.013	0	0.009	1
0	0.012	0	0.012	0	0.012	0
0	0.013	0	0.002	1	0.013	0
0	0.013	0	0.013	0	0.013	0
0	0.0045	0	0.0045	0	0.0089	0
1	0.0046	0	0.0046	0	0.0092	0
0	0.0059	0	0.0059	0	0.012	0
0	0.0041	0	0.0041	0	0.0082	0
0	0.0035	0	0.0035	0	0.0071	0
0	0.0038	0	0.0038	0	0.0075	0
0	0.0046	0	0.0046	0	0.0092	0
1	0.0058	0	0.0058	0	0.012	0
0	0.0044	0	0.0044	0	0.0089	0
0	0.0049	0	0.0049	0	0.0098	0
0	0.0053	0	0.0053	0	0.011	0
0	0.0075	0	0.0075	0	0.015	0
0	0.0056	0	0.0056	0	0.011	0
0	0.0046	0	0.0046	0	0.0093	0
0	0.0049	0	0.0049	0	0.0098	0
0	0.006	0	0.006	0	0.012	0
0	0.0053	0	0.0053	0	0.01	0
0	0.0043	0	0.0043	0	0.0087	0
0	0.0059	0	0.0092	1	0.012	0
0	0.0045	0	0.0045	0	0.009	0

0	0.0054	0	0.0054	0	0.011	0
0	0.0052	0	0.0052	0	0.01	0
0	0.0051	0	0.011	1	0.17	1
0	0.0047	0	0.0068	1	0.044	1
0	0.0055	0	0.0055	0	0.011	0
0	0.0046	0	0.0046	0	0.0092	0
0	0.0041	0	0.0041	0	0.0082	0
0	0.0046	0	0.01	1	0.02	1
0	0.0042	0	0.0042	0	0.0083	0
0	0.0048	0	0.0048	0	0.0096	0
1	0.005	0	0.005	0	0.076	1
0	0.0041	0	0.0041	0	0.0082	0
0	0.0065	0	0.0065	0	0.013	0
0	0.013	0	0.013	0	0.027	0
0	0.0054	0	0.0054	0	0.011	0
0	0.0059	0	0.0059	0	0.012	0
0	0.0053	0	0.0053	0	0.01	0
0	0.0078	0	0.0078	0	0.016	0
1	0.007	0	0.007	0	0.014	0
0	0.0073	0	0.0073	0	0.015	0
1	0.0075	0	0.03	1	0.22	1

sys_loc_code	end_depth	sample_date	2-Butanone	D_2-Butanone	Acetone	D_Acetone
GP-127	19	1/24/1996	0.012	0	0.012	0
GP-319	9	12/17/1998	0.029	0	0.057	0
GP-321	6.5	12/17/1998	0.019	0	0.1	1
GP-321	18	12/17/1998	0.021	0	0.042	0
GP-322	9	12/18/1998	0.019	0	0.037	0
MW-09A	15	2/24/1996	0.012	0	0.015	0
MW-09A	19	2/24/1996	0.013	0	0.013	0
SB-15A	20	5/21/1992	0.013	0	0.055	1
SC-0145	7	8/12/1999				
SC-0147	20	8/12/1999				
SC-0153	8	8/12/1999				
SC-0154	18	8/12/1999				
SC-0156	8	8/13/1999				
SC-0158	8	8/13/1999				
SC-0159	14	8/13/1999				
SC-0161	14	8/16/1999				
SC-0162	16	8/13/1999				
SC-0163	16	8/16/1999				
SC-0164	18	8/16/1999				
SC-0166	18	8/16/1999				
SC-0171	5	8/28/1999				
SC-0172	5	8/28/1999				
SC-0173	11	8/28/1999				
SC-0174	5	8/28/1999				
SC-0175	5	8/28/1999				
SC-0177	8	8/31/1999				

Benzene	D_Benzene	Carbon Disulfide	D_Carbon Disulfide	Chlorobenzene	D_Chlorobenzene
0.012	0	0.012	0	0.012	0
0.022	1	0.39	1		
0.0038	0	0.0038	0		
0.08	1	0.0042	0		
0.0037	0	0.0037	0		
0.012	0	0.012	0	0.012	0
0.013	0	0.013	0	0.013	0
0.007	0	0.007	0	0.007	0
0.0044	0				
0.0053	0				
0.0041	0				
0.0065	0				
0.005	0				
0.007	1				
0.01	1				
0.0065	0				
0.0055	0				
0.039	1				
0.25	0				
0.22	0				
0.013	0				
0.0054	0				
0.0059	0				
0.0053	0				
0.0078	0				
0.51	1				

Ethylbenzene	D_Ethylbenzene	Methylene Chloride	D_Methylene Chloride	Naphthalene
0.012	0	0.012	0	0.38
0.0057	0	0.0057	0	0.78
0.0038	0	0.0038	0	0.39
0.21	1	0.0042	0	47
0.0037	0	0.0037	0	1.5
0.012	0	0.012	0	0.4
0.013	0	0.013	0	0.42
0.007	0	0.024	1	0.39
0.0044	0			0.39
0.0053	0			0.46
0.0041	0			0.41
0.0065	0			0.39
0.005	0			0.39
0.0054	0			0.99
0.0056	0			0.4
0.0065	0			0.39
0.0055	0			0.38
0.037	1			3.6
0.25	0			0.65
0.22	0			0.37
0.013	0			0.48
0.0054	0			0.49
0.0059	0			0.42
0.0053	0			0.41
0.0078	0			0.51
0.2	1			440

D_Naphthalene	Styrene	D_Styrene	Toluene	D_Toluene	Xylenes, total	D_Xylenes, total
0	0.012	0	0.012	0	0.012	0
1	0.0057	0	0.0057	0	0.0057	0
0	0.0038	0	0.0038	0	0.0038	0
1	0.0042	0	0.25	0	2.2	1
0	0.0037	0	0.0037	0	0.0037	0
0	0.012	0	0.012	0	0.012	0
0	0.013	0	0.013	0	0.013	0
0	0.007	0	0.007	0	0.007	0
0	0.0044	0	0.008	1	0.0088	0
0	0.0053	0	0.0053	0	0.011	0
0	0.0041	0	0.0041	0	0.0082	0
0	0.0065	0	0.0065	0	0.013	0
0	0.005	0	0.005	0	0.0099	0
1	0.0054	0	0.0084	1	0.011	0
0	0.0056	0	0.011	1	0.011	0
0	0.0065	0	0.0065	0	0.013	0
0	0.0055	0	0.0067	1	0.058	1
1	0.0055	0	0.085	1	0.49	1
1	0.0046	0	0.25	0	0.51	0
0	0.22	0	0.22	0	0.45	0
0	0.013	0	0.013	0	0.027	0
0	0.0054	0	0.0054	0	0.011	0
0	0.0059	0	0.0059	0	0.012	0
0	0.0053	0	0.0053	0	0.01	0
0	0.0078	0	0.0078	0	0.016	0
1	0.0047	0	0.056	1	12	1

Xylenes, total

General Statistics

Number of Valid Data	71	Number of Detected Data	9
Number of Distinct Detected Data	9	Number of Non-Detect Data	62
		Percent Non-Detects	87.32%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.009	Minimum Detected	-4.711
Maximum Detected	2.2	Maximum Detected	0.788
Mean of Detected	0.316	Mean of Detected	-2.629
SD of Detected	0.71	SD of Detected	1.701
Minimum Non-Detect	0.0037	Minimum Non-Detect	-5.599
Maximum Non-Detect	0.027	Maximum Non-Detect	-3.612

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	65
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	6
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	91.55%

Warning: There are only 9 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.48	Shapiro Wilk Test Statistic	0.943
5% Shapiro Wilk Critical Value	0.829	5% Shapiro Wilk Critical Value	0.829
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0446	Mean	-4.969
SD	0.262	SD	1.124
95% DL/2 (t) UCL	0.0964	95% H-Stat (DL/2) UCL	0.018
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-9.583
		SD in Log Scale	3.47
		Mean in Original Scale	0.0402
		SD in Original Scale	0.262
		95% t UCL	0.0921
		95% Percentile Bootstrap UCL	0.102
		95% BCA Bootstrap UCL	0.136
		95% H-UCL	0.265

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.367	Data Follow Appr. Gamma Distribution at 5% Significance Level	
Theta Star	0.86		
nu star	6.604		
A-D Test Statistic	0.823	Nonparametric Statistics	
5% A-D Critical Value	0.782	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.782	Mean	0.0479
5% K-S Critical Value	0.296	SD	0.259
Data follow Appr. Gamma Distribution at 5% Significance Level		SE of Mean	0.0326
		95% KM (t) UCL	0.102
Assuming Gamma Distribution		95% KM (z) UCL	0.102
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0972
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.458
Maximum	2.2	95% KM (BCA) UCL	0.142
Mean	0.04	95% KM (Percentile Bootstrap) UCL	0.113
Median	1.00E-06	95% KM (Chebyshev) UCL	0.19
SD	0.262	97.5% KM (Chebyshev) UCL	0.252
k star	0.0953	99% KM (Chebyshev) UCL	0.373
Theta star	0.42		
Nu star	13.53	Potential UCLs to Use	
AppChi2	6.25	95% KM (t) UCL	0.102
95% Gamma Approximate UCL	0.0866		
95% Adjusted Gamma UCL	0.088		
Note: DL/2 is not a recommended method.			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Toluene

General Statistics

Number of Valid Data	26	Number of Detected Data	6
Number of Distinct Detected Data	6	Number of Non-Detect Data	20
		Percent Non-Detects	76.92%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0067	Minimum Detected	-5.006
Maximum Detected	0.085	Maximum Detected	-2.465
Mean of Detected	0.0292	Mean of Detected	-4.078
SD of Detected	0.0333	SD of Detected	1.108
Minimum Non-Detect	0.0037	Minimum Non-Detect	-5.599
Maximum Non-Detect	0.25	Maximum Non-Detect	-1.386

Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	26
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	0
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	100.00%

Warning: There are only 6 Detected Values in this data
Note: It should be noted that even though bootstrap may be performed on this data set
the resulting calculations may not be reliable enough to draw conclusions

It is recommended to have 10-15 or more distinct observations for accurate and meaningful results.

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.739	Shapiro Wilk Test Statistic	0.792
5% Shapiro Wilk Critical Value	0.788	5% Shapiro Wilk Critical Value	0.788
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	0.0229	Mean	-4.923
SD	0.0403	SD	1.377
95% DL/2 (t) UCL	0.0364	95% H-Stat (DL/2) UCL	0.0433

Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	-6.496
		SD in Log Scale	1.56
		Mean in Original Scale	0.00747
		SD in Original Scale	0.0192
		95% t UCL	0.0139
		95% Percentile Bootstrap UCL	0.0141
		95% BCA Bootstrap UCL	0.0173
		95% H-UCL	0.0143
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.638	Data appear Lognormal at 5% Significance Level	
Theta Star	0.0457		
nu star	7.657		
A-D Test Statistic	0.795	Nonparametric Statistics	
5% A-D Critical Value	0.714	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.714	Mean	0.0126
5% K-S Critical Value	0.34	SD	0.0184
Data not Gamma Distributed at 5% Significance Level		SE of Mean	0.0042
		95% KM (t) UCL	0.0198
Assuming Gamma Distribution		95% KM (z) UCL	0.0196
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	0.0187
Minimum	1.00E-06	95% KM (bootstrap t) UCL	0.0895
Maximum	0.085	95% KM (BCA) UCL	0.0244
Mean	0.00674	95% KM (Percentile Bootstrap) UCL	0.021
Median	1.00E-06	95% KM (Chebyshev) UCL	0.031
SD	0.0195	97.5% KM (Chebyshev) UCL	0.0389
k star	0.132	99% KM (Chebyshev) UCL	0.0545
Theta star	0.0509		
Nu star	6.883	Potential UCLs to Use	
AppChi2	2.107	95% KM (BCA) UCL	0.0244
95% Gamma Approximate UCL	0.022		
95% Adjusted Gamma UCL	0.0239		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Appendix G

Operations and Maintenance Plan

Environment

Prepared for:
Atlanta Gas Light Company
Atlanta, Georgia

Prepared by:
AECOM
Atlanta, Georgia
60159368.521
May 2011

Remediation Operations & Maintenance Plan

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia
HSI #10109

AECOM Environment

Prepared for:
Atlanta Gas Light Company
Atlanta, Georgia

Prepared by:
AECOM
Atlanta, Georgia
60159368.521
May 2011

Remediation Operations & Maintenance Plan

Atlanta Gas Light Company
Former Manufactured Gas Plant Site
Rome, Georgia
HSI #10109

Reviewed By: John Jolly, P.G.
Senior Project Manager

Prepared By: Teresa Watson
Senior Project Geologist

Prepared By: Mark Westray
Senior Technical Reviewer

Contents

List of Tables

List of Figures

List of Acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
AGLC	Atlanta Gas Light Company
bgs	below ground surface
BPLM	byproduct-like material
BTEX	benzene, toluene, ethylbenzene, xylenes
CAP	Corrective Action Plan
COI	constituents of interest
CSR	Compliance Status Report
EPD	Georgia Environmental Protection Division
IDLH	immediately dangerous to life and health
mg/Kg	milligrams per kilogram
MGP	Manufactured Gas Plant
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety & Health Administration
O&M	Operations & Maintenance
PAH	polycyclic aromatic hydrocarbons
PEL	permissible exposure limit
POTW	publicly owned treatment works
RETEC	Remediation Technologies, Inc.
ROW	right-of-way
RRS	risk reduction standards
STEL	short-term exposure limit
SVOCs	semivolatile organic compounds
TLM	tar-like material

TLV	threshold limit value
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds
VRP	Voluntary Remediation Plan

1.0 Introduction

1.1 Over view

The Rome former Manufactured Gas Plant (MGP) site (Site) is located on West 1st Street in the City of Rome, Floyd County, Georgia (Figure 1-1). The Site includes all properties affected by the release of MGP materials, six of which were formerly owned by the Atlanta Gas Light Company (AGLC). Former MGP operations were conducted primarily on a 20,000-square-foot parcel (Parcel 3) located in the center of the Site. The Site is bounded by 2nd Avenue to the west, 3rd Avenue to the east, West 1st Street to the south, and the Oostanaula River to the north. A Hawthorne Suites hotel occupies the westernmost portion of the Site (Parcel 5), while commercial/retail buildings and paved parking lots are located immediately south of West 1st Street. The area of historical MGP operations is completely covered with asphalt paving.

In compliance with Consent Order #EPD-HSR-227, which AGLC signed with the Georgia Department of Natural Resources, Environmental Protection Division (EPD) in July 2000, AGLC has completed extensive environmental investigations and remedial actions at the Site. Soil remediation at the Site was conducted in phases between 1999 and 2003 and included the removal of approximately 57,000 tons of impacted soil and debris. Excavated areas were backfilled with clean fill to original grade. Soil removal activities resulted in compliance with the calculated Type 4 Risk Reduction Standards (RRS) cleanup standards for MGP constituents of interest (COI) at the Site (RETEC 2001). Results of additional soil investigation activities indicated limited instances of MGP residuals in the saturated zone beneath former excavation areas of the Site and in unsaturated soils in the utility corridor adjacent to and below West 1st Street. Residual impacts above the Type 4 RRS in the unsaturated soil beneath West 1st Street and adjacent utility corridor were left in place due to inaccessibility associated with the proximity of utilities and the roadway. Impacts observed in the saturated zone beneath the former excavation areas will be addressed as part of the selected and approved groundwater remedy.

Remedial activities to address impacted river sediments were conducted in 2001 and consisted of the removal of 143 tons of sediments and placement of a sediment cap over remaining impacted sediments. In 2008, stone armoring was placed on the sediment cap to prevent erosion of the cap from river scouring.

This Remediation Operations & Maintenance Plan (O&M Plan) has been prepared to monitor and address future subsurface disturbance of soil and/or sediment containing residual MGP impacts at the Site. These areas are designated as Type 5 RRS areas and include soils beneath and in the right-of-way (ROW) of West 1st Street and Oostanaula River sediments located beneath a sand/stone cap adjacent to the Site (see Figure 1-2). This document is intended to address residual chemical hazards from remaining impacts, and general procedures to be followed in the event that on-site activities may encounter the impacted materials identified in Figure 1-2. Although not anticipated to be encountered, groundwater impacts are addressed through the use of institutional controls. Any contractor who plans to work on site should be provided a copy of this O&M Plan in order to be familiar with Site conditions, assess potential hazards, and take all precautions necessary or appropriate to the ensure safety of each worker.

2.0 Site-Specific Information

2.1 Site History

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

Historical MGP operations and associated structures were primarily located on Parcel 3. The aboveground structures were removed from the Site between 1930 and 1941. In 1985, during the redevelopment of the Rivers Place Shopping Center near the former MGP property, workers uncovered a subsurface gas holder. This gas holder was subsequently investigated and remediated under the direction of the United States Environmental Protection Agency (USEPA).

2.1.1 Summary of Environmental Investigations

Extensive environmental investigations have been completed at the Site from 1986 to 2007 to characterize Site geologic and hydrogeologic conditions, and to evaluate impacts to soil, sediment, and groundwater resulting from MGP process residuals. Results of these site investigations indicated that the highest concentrations of MGP constituents were limited to a 0.5-acre area near the center of the former MGP operations. Constituent impacts consist of volatile organic compounds (VOCs), primarily benzene, ethylbenzene, toluene, and xylenes (BTEX); semivolatile organic compounds (SVOCs), predominantly methylated phenols and polycyclic aromatic hydrocarbons (PAHs); metals and cyanide. Comparison of soil and groundwater constituents detected during investigative activities to the Type 4 RRS indicated that certain PAHs and metals exceeded the applicable RRS in soil, and BTEX, methylphenols, naphthalene, certain metals, and cyanide exceeded the applicable RRS in groundwater. Additionally, evidence of impacts (total PAHs) to river sediments was noted near the shoreline adjacent to the Site. No VOCs or PAHs were detected in the surface water samples taken downstream of the Site.

2.1.2 Summary of Remedial Actions

Soil removal activities were initiated in 1999 and completed in 2000. Impacted soils were excavated at depths ranging from 2 feet below ground surface (bgs) to the groundwater table (>24 feet bgs) within the central portion of the Site. A total of 55,175 tons of non-hazardous soil and debris were excavated and disposed in an approved Subtitle D landfill. This remedial action successfully removed residual source material in the unsaturated zone consisting of tar-like material (TLM) and byproduct-like material (BPLM). Soil confirmation samples were collected and results compared to the Type 4 RRS, and areas were over-excavated where required to meet RRS. The extent of excavation to the south-southeast of the Site was physically limited by the presence of West 1st Street and adjacent utility corridor.

Remediation of unsaturated zone soils beneath the basement of the River Place Building were implemented in 2000 and consisted of demolition of the office building attached to River Place Building and excavation and disposal of 1,520 tons of non-hazardous soil and 1,300 tons of debris.

Sediment removal from the Oostanaula River was performed in October and November 2001. Suction dredging was used to remove 6 inches of impacted sediments from the river bed over an area measuring 140 feet by 25 feet. Dredging of the river bottom resulted in the removal of 142.82 tons of dredged sediment and impacted debris and 3,214 gallons of impacted solidified water. The approved Corrective Action Plan (CAP) for River Sediments OU2 (ThermoRetec 2000) allowed impacts buried deeper within the sediment to remain in place. In 2008, approximately 114 tons of Grade 3 stone was placed to cap the river sediment in order to protect the current sediment cap from scouring.

A survey of the capped sediment area was conducted in 2009, which showed that scouring since placement of the stone was insignificant (less than 0.5 foot). Consequently, the next survey will be conducted in 2012. If scouring is again shown to be less than 0.5 foot, then sediment remediation will be considered complete. The area of sediment dredging and capping is shown in Figure 1-2.

2.2 Chemical Hazards

Hazards posed by excavation activities in impacted areas of the Site include dermal contact and inhalation of soils impacted with MGP residuals. Soil analytical data for the Site indicate the constituents listed in Table 2-1 may be present in soil associated with the Site, specifically the West 1st Street ROW and adjacent utility corridors. In addition to the physical exposure pathway hazards of the constituents, Table 2-1 also presents exposure limits set by various regulating bodies. These limits include:

- Permissible Exposure Limits (PELs) by Occupational Safety and Health Administration (OSHA)
- Threshold Limit Value (TLV) by American Conference of Governmental Industrial Hygienists (ACGIH)
- Short Term Exposure Limit (STEL) by National Institute for Occupational Safety and Health (NIOSH)
- Immediately Dangerous to Life and Health (IDLH) by NIOSH

3.0 Impacted Media Management

Management of impacted media at the Site includes the implementation of institutional controls, development of safety procedures designed to be implemented in the event that future land disturbing activities are required at the Site, and monitoring and maintaining current engineering controls (sediment cap). Any contractor/developer planning to perform invasive work on the Property should read and understand the implications of this document to identify the potential for exposing the environment, workers or others to impacted media. Impacted media means soil or saturated zone medial which may contain hazardous materials or hazardous residuals that may exceed appropriate health risk standards for exposure. As previously described, a site-specific HASP will be required prior to startup of the work activities if any soil work will occur at a depth greater than two feet or if the work otherwise encounters impacted media.

3.1 Institutional Controls

Preventing potential exposure to Site COI is dependent on restricting uses of the Site for non-residential purposes and eliminating the potential for ingestion of soil and/or groundwater through institutional controls. The following institutional controls will be applied to ensure that the conditions at the Site are managed accordingly to be protective of human health and the environment:

- Limiting the use of the property to industrial/commercial only through deed restrictions on parcels formerly associated with the Site.
- Prohibiting the use of groundwater for human consumption through local municipal ordinances and compliance with the intent of EPD uniform environmental covenants for parcels 3, 3A, 4, 5, 7, and 8 and portions of West 1st Street affected by the dissolved phase plume.

3.2 Impacted Soil Management

Residual MGP impacts in soil beneath West 1st Street and the adjacent utility corridor were left in place due to inaccessibility associated with the proximity of utilities and the roadway (Figure 1-2). These coal tar residuals are generally found in the form of stringers or blebs TLM in the soil. If there is the potential for impacted soils to be encountered during land disturbing activities (e.g., construction, roadwork, utility repairs), it is recommended that safety precautions be applied to prevent direct contact with these materials. These precautions include the use of standard personal protection equipment (PPE), such as steel toed boots, work gloves, and hard hats, in addition to chemical resistant gloves, safety glasses, and Tyvek coveralls.

If soils are excavated during construction/repair activities, these materials should be handled as potentially hazardous and not placed back into the excavated area. The soils should be loaded directly from the excavation into dump trucks whenever possible. Stockpiles may be necessary for segregation purposes or to provide for drainage of liquids. It is recommended that stockpiles be placed on plastic, covered with plastic, and surrounded by a soil berm and swale (or similar feature), to divert runoff back into the excavation. Based on known Site conditions, it is not anticipated that groundwater (>24 feet) would be encountered during normal roadwork or utility repairs; however, if necessary, soils containing free liquids can be stabilized with dry soil prior to transportation for disposal.

Once loaded, soil should be transported immediately to a class D solid waste landfill. All trucks transporting excavated material from the Site should be lined with plastic prior to loading and covers placed over the truck bed prior to leaving the Site. Prior to transporting any excavated material from the Site, the receiving landfill's waste acceptance form should be completed and the material approved for disposal by the receiving facility. Manifests are to be completed for each load and a copy of the manifest maintained accordingly.

The Property is subject to a Declaration of Restrictions, Covenants, and Easement (Restrictions) recorded in the public records of Rome, Georgia. The restrictions prohibit the use of groundwater beneath the site for any purpose. Although utility corridor excavation is not expected to extend to the depth of groundwater, if excavation dewatering is necessary, groundwater removal shall be performed under a site-specific HASP, and the groundwater shall pass through pre-treatment prior to discharge to the publicly owned treatment works (POTW). The City of Rome will require that the contractor obtain a POTW permit prior to discharging impacted water.

3.3 Impacted Sediment Management

As discussed in Section 2, impacted sediments were dredged from the Oostanaula River adjacent to the Site. Impacted sediments at deeper depths were allowed to remain in place and covered with a sand cap and stone armor. The area of sediment dredging and capping is shown in Figure 1-2. Preventing ecological risks from impacted sediment within the Oostanaula River is dependent on maintaining the remedial sediment cap currently in place.

As part of the approved Sediment CAP for River Sediments OU2 (ThermoRetec 2000), long-term monitoring requirements include periodic surveys of the sediment cap to ensure exposure to impacted sediments is prevented. Periodic surveys are used to track elevation changes in the river bottom as compared to the baseline survey. The river bottom is re-surveyed at the same points as the baseline survey conducted after initial completion of the cap. If significant scouring of the river has occurred (i.e., greater than a 6-inch decrease in elevation), additional sand material will be placed in the scoured areas and rip-rap will be placed over these areas to reduce scouring. Surface water will be monitored prior to, during and after stone placement. Additionally, if a significant rainfall event (i.e., 10-year event) occurs, a survey will be performed following that event.

Surveys were scheduled bi-yearly for the first 5 years with a re-evaluation after 10 years. In 2008, the sand cap was armored with stone to prevent further scouring identified during the previous survey. A survey, conducted in 2009, showed that scouring since placement of the stone was insignificant (less than 0.5 foot). Consequently, bi-yearly surveys are complete and the next survey will be conducted in 2012. If scouring is again shown to be less than 0.5 foot, then sediment remediation will be considered complete and scour monitoring will cease.

4.0 Health and Safety Standards and Regulations

Each contractor is responsible for employing all measures to assure that workers are not exposed to on-site conditions in any way that presents a threat to those workers health. In particular, each contractor is responsible for following all industry standard work practices and procedures, reporting any unsafe work conditions, and considering the consequences of their actions on their personal safety and that of fellow workers. It shall be the responsibility of employees and contractors to utilize safe work practices, maintain a safe and healthful working environment, and comply with federal, state, and local codes and regulations in the performance of their work. Specifically, all applicable USEPA, OSHA, state, and local health and safety requirements shall be maintained for work in the impacted soils identified in this O&M Plan.

Following is a list of reference materials that should be used and consulted in the management of Site activities. The following references are to be used as guidance and do not represent a complete list of all standards and regulations required or applicable to work on the Site.

- 29 CFR 1910 – OSHA General Industry Standards; General Industry Training Requirements including 40-hour HAZWOPER Training
- 29 CFR 1926 – OSHA Construction Standards; Construction Training Requirements
- 40 CFR 260-299 – USEPA Hazardous Waste Management Standards
- 49 CFR – Department of Transportation Standards
- Georgia rules regarding same, including 391-3-19.-.01 et seq.
- NFPA 10-2002 – Fire Extinguishers
- NFPA 385 – Flammable and Combustible Liquid Tank Vehicles
- NFPA 30 – Flammable and Combustible Liquids
- NEC 101 – National Electric Code
- ANSI Z89.1-1986 – Protective Headwear for Industrial Workers
- ANSI Z87.1-1989 – Practice for Occupational and Educational Eye and Face Protection
- ANSI Z41-1991 – Protective Footwear for Industrial Worker
- ANSI A8.14-1975 – Safety Requirements for Safety Belts, Harnesses and Lanyards, and Lifelines
- ANSI A8.3 – Safety Requirements for Explosive Actuated Fastening Tools
- ANSI A14.1-1982 – Safety Requirements for Portable Wood Ladders
- ANSI A14.2-1982 – Safety Requirements for Portable Metal Ladders
- ANSI A14.5-1984 – Safety Requirements for Portable Reinforced Plastic Ladders
- ANSI A14.3-1984 – Safety Requirements for Fixed Ladders
- ANSI Z88.2-1992 – Practices for Respiratory Protection

- ANSI B7.1 – Safety Code for the Use, Care, and Protection of Abrasive Wheels
- CGA P-1-1984 – Safe Handling of Compressed Gases in Container

This list is not intended to be a complete list. The measures in the site-specific HASP must be developed and implemented to comply with all applicable state and federal occupational health and safety regulations.

5.0 References

ENSR, 2008. Oostanaula River Scour Placement Completion Report – Revised. Atlanta Gas Light Company Manufactured Gas Plant Site – Rome, Georgia. November 2008.

RETEC, 2001. *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, 2002. *Sediment Remediation Completion Report, Oostanaula River, Former Manufactured Gas Plant Site, Rome, Georgia*. March 8, 2002, revised May 24, 2002, and August 1, 2002.

ThermoRetec, 1999. *Soil Removal Completion Report – OU1, Former Manufactured Gas Plant Site, Rome, Georgia*. November 1999, revised December 1999.

ThermoRetec, 2000. *Corrective Action Plan for Sediments in the Oostanaula River, Former Manufactured Gas Plant Site, Rome, Georgia*. September 2000, revised December 2000.

Tables

Table 2-1
Chemical Exposure Hazards
Atlanta Gas Light Company
Former MGP Site
Rome, Georgia

Chemical	Units	PEL [1]	TLV [2]	STEL [3]	IDLH [4]	Skin Absorption Hazard	Nuisance Dust Action Level
Benzene	ppm	1	0.5	5	500 CA	Yes	n/a
Toluene	ppm	200 / 300C	50	150	500	Yes	n/a
Ethylbenzene	ppm	100	100	125	800	Yes	n/a
Xylenes, total	ppm	100	100	150	900	Yes	n/a
PAHs	mg/m^3	0.2 [5]	0.2	n/a	80 CA	No	Yes
Naphthalene	ppm	10	10	15	250	Yes	Yes
Arsenic	mg/m^3	0.01	0.01	0.002	5	No	Yes
Lead	mg/m^3	0.05	0.05	n/a	100	No	Yes

Notes:

[1] - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL)

[2] - American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV)

[3] - National Insitute for Occupational Safety and Health (NIOSH) Short-term Exposure Limit (STEL)

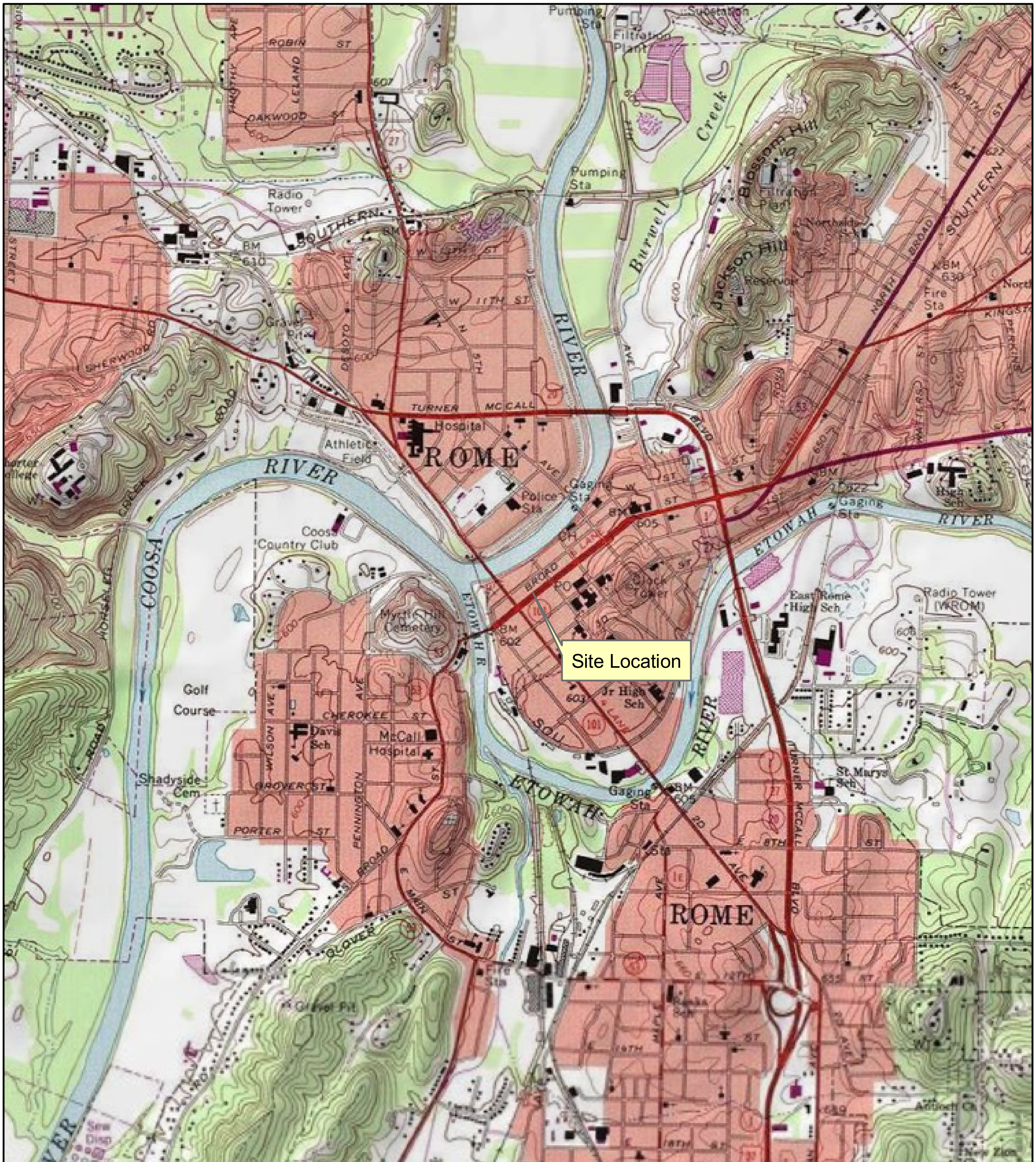
[4] - NIOSH Immediately Dangerous to Life and Health (IDLH)

[5] - PEL is based on the standard for the benzene soluble fraction of coal tar pitch volatiles

C - ceiling limit

CA - carcinogenic

Figures



Map Location

Site Location Map

Atlanta Gas Light Company
Former Manufactured Gas Plant
Rome, Georgia

Rome North, GA USGS Topographic Quadrangle (1986)

0 2,000 4,000 Feet

N

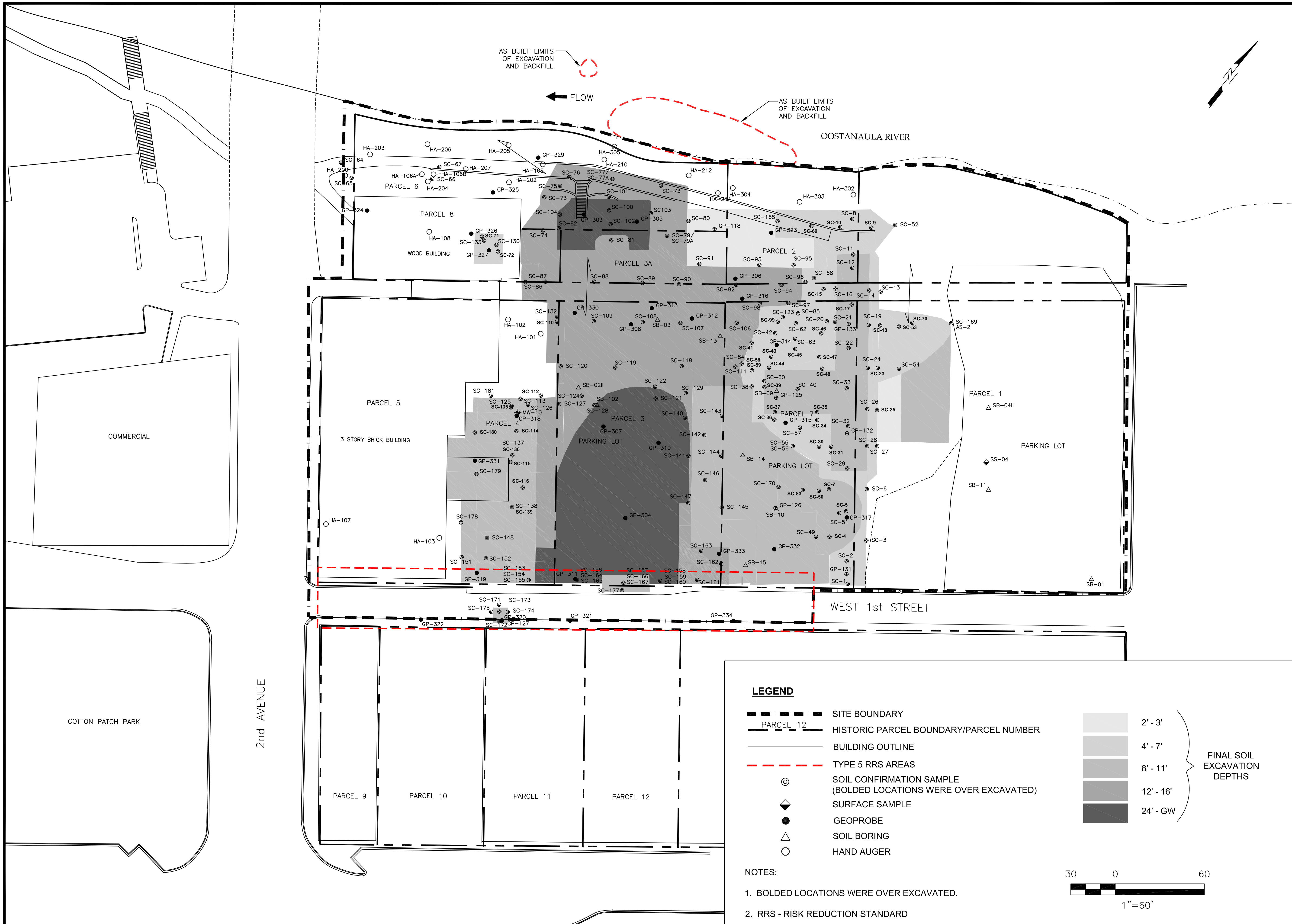
August 11, 2010

60159368.521

Figure 1-1

AECOM

ENVIRONMENT
8540 Colonnade Center Drive, Suite 306
Raleigh, NC 27615
Phone: (919) 872-6600
Fax: (919) 872-7996
Web: http://www.aecom.com



LEGEND

- SITE BOUNDARY
- PARCEL 12 — HISTORIC PARCEL BOUNDARY/PARCEL NUMBER
- BUILDING OUTLINE
- TYPE 5 RRS AREAS
- SOIL CONFIRMATION SAMPLE (BOLDED LOCATIONS WERE OVER EXCAVATED)
- SURFACE SAMPLE
- GEOPROBE
- SOIL BORING
- HAND AUGER

FINAL SOIL EXCAVATION DEPTHS:

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

30 0 60

1"=60'

NOTES:

1. BOLDED LOCATIONS WERE OVER EXCAVATED.
2. RRS - RISK REDUCTION STANDARD

AECOM

ENVIRONMENT
1360 PEACHTREE STREET, NE SUITE 500
ATLANTA, GA 30309
PHONE: (404) 965-9600
FAX: (404) 965-9605
WEB: WWW.AECOM.COM

Voluntary Remediation Program Existing Soil Conditions

Atlanta Gas Light Company/Former Manufactured Gas Plant
Rome, Georgia

DRAWN BY:	C.J.C.
PROJECT NUMBER:	60159368.521
DATE:	05/02/2011
SCALE:	1"=50'

FIGURE NUMBER:

1-2

SHEET NUMBER:

B100418B