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Remedial Bureau C
Div of Environmental Remediation

December 14, 2012

Parag Amin, P. E.
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway
Albany, New York 12233-7014

Re: Remedial Investigation Report
1333 East Dominick St., Site E633060
City of Rome, Oneida County, New York

File: 245.005

Dear Mr. Amin:

We are in receipt of your November 15, 2012 correspondence regarding the June 2012 Remedial Investigation (RI) Report prepared by Barton & Loguidice, P.C. (B&L) on behalf of the City of Rome for the Environmental Restoration Program (ERP) site located at 1333 East Dominick Street in the City of Rome, New York. As requested, presented below is the anticipated schedule for the completion of item Nos. 1and 3 contained in your letter.

Revised Interim Remedial Measure Work Plan

As you will recall, B&L previously notified the Department that it would be necessary to perform a supplemental site investigation at the 1333 East Dominick Street site in order to fully delineate the magnitude and extent of PCB contamination in the concrete flooring and underlying soils in the first floor area of the building. The data gathered from this supplemental investigation, which will likely consist of the collection and laboratory analysis of approximately 73 concrete chip/dust samples and the advancement of seven (7) soil borings, will be used to formulate the scope for the revised Interim Remedial Measure (IRM) Work Plan. In order to pay for the supplemental site investigation, B&L requested that the Department approve the City's use of state assistance contract (SAC) funding to pay for 90% of the costs. The Department approved this request based on the condition that B&L prepare and submit a Supplemental Site Investigation Work Plan to the NYSDEC for review and approval. Therefore, B&L intends to submit a Supplemental Site Investigation Work Plan to the Department for review and approval on or before December 31, 2012.

The experience to listen. The power to solve.
10 Airline Drive • Suite 200 • Albany, New York 12205
Telephone: 518-218-1801 • Facsimile: 518-218-1805 • www.BartonandLoguidice.com

B&L anticipates completing the supplemental site investigation at 1333 East Dominick Street by the end of January 2013. Based on this schedule, it would then be our intent to submit a revised IRM Work Plan to the Department by the end of February 2013. Given the fact that we don't currently know what tasks will be included in the performance of the IRM, it is very difficult to estimate with any degree of certainty the amount of time that will be required to implement the IRM. However, it is our hope that we can complete the IRM at 1333 East Dominick Street by the end of May 2013.

Redevelopment and Sampling of Monitoring Well MW-5

The redevelopment and sampling of monitoring well MW-5 will be performed in conjunction with the performance of the above described supplemental site investigation. As such, this task will be completed by the end of January 2013.

Please feel free to contact me should you have any questions regarding the above, or desire additional information. As requested, we have also enclosed one (1) hard copy of the Department-approved RI Report for your records. Also, we will upload the RI and PCB Site Investigation and Interim Remedial Measure (IRM) analytical data to EQuIS as requested.

Very truly yours,

BARTON & LOGUIDICE, P.C.

Stephen B. Le Fevre P.G., C.P.G.
Managing Hydrogeologist

SBL/akg
Enclosure
cc: D. Ripstein, NYSDOH with CD copy of enc.
N. Freeman, NYSDOH with CD copy of enc.
C. Mercurio, City of Rome with 2 hard copies and CD of enc.

New York State Department of Environmental Conservation
Division of Environmental Remediation
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625 Broadway, Albany, New York 12233-7014
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Website: www.dec.ny.gov

Joe Martens
Commissioner

Via E-mail and Regular Mail

November 15, 2012

Mr. Christian Mercurio
City of Rome
Department of Community and Economic Development
Rome City Hall
198 N. Washington St.
Rome, NY 13440-5815

Subject: Remedial Investigation (RI) report dated June 2012
1333 East Dominick, Site E633060
City of Rome, Oneida County

Dear Mr. Mercurio:

The New York State Department of Environmental Conservation (Department) in consultation with The New York State Department of Health (NYSDOH) reviewed the final Remedial Investigation report (RIR) prepared by Barton and Loguidice, P.C. (B&L)dated June 2012. As per 6 NYCRR Part 373-1.6(d)(1), the RI report is hereby approved with following modifications:

1. The B&L letter dated July 6, 2012 is made part of the approved RIR.

2. As the City of Rome has proposed, contamination within building foot print (floor drains in Boiler room, Shop A, floors and subsurface beneath the floor etc.) shall be remediated through implementing Interim Remedial Measure (IRM). Within two weeks of the receipt of this letter, City of Rome shall provide the Department schedule for submitting revised IRM Work Plan and the implementation of the same. Note that the Certification of Completion cannot be granted till entire site is remediated including building foot print.

3. The RI report indicates that certain metals exceeded applicable ground water standards and that may be attributed to elevated turbidity in the sample. Given above, the Department requires that MW-5 well be re developed and filtered and unfiltered sample should be taken for inorganics. The City of Rome shall have the analytical data appropriately validated and consider the data in performing Alternative Analysis report. Within two weeks of the receipt of this letter, City of Rome shall provide schedule for performing the above noted sampling.

4. The RI report indicates that some metals exceedances were observed in surface soil at sample SS-1. The City of Rome shall address surface soil contamination in Alternative Analysis report.

5. The City of Rome shall also sample soil borings SB-18 and SB-19 at 0-4' as required by the Department letter dated November 7, 2011. The City of Rome shall have the analytical data appropriately validated and consider the data in performing Alternative Analysis for the area in the vicinity of previously removed underground storage tank.

The City of Rome shall submit Alternative Analysis report in accordance of the Chapter 4 (Remedy Selection) of Technical Guidance for Site Investigation and Remediation (DER-10) within 45 days of the receipt of the validated data.

As per 6 NYCRR Part 375-1.6(d)(3), should the City of Rome elect to accept the modifications , please place approved RIR, enclosed fact sheet, and this letter in document repositories. Also note that the fact sheet is issued to the contacts on the Department's Listserve database.

Please submit one hard copy of approved RIR for our records and upload all sampling data in EQuIs. If you have any questions, please do not hesitate to contact me at 518-402-9662.

Sincerely,

Parag Amin, P.E.
Project Manager
Remedial Bureau C
Division of Environmental Remediation

Encl:

ec/cc w/encl: S. Le Fevre, Barton & Loguidice, P.C
D. Ripstein, NYSDOH
N. Freeman, NYSDOH

Ec/cc w/o encl: D. Crosby, CO

1313-1333 East Dominick Street
Environmental Restoration Project

City of Rome
Oneida County, New York

Remedial Investigation Report

New York State Assistance
Contract No. C303403
Site No. E633060

September 2011
(Revised June 2012)

Barton & Loguidice

1313-1333 East Dominick Street
Environmental Restoration Project

City of Rome
Oneida County, New York

Remedial Investigation Report
New York State Assistance
Contract No. E633060

September 2011
(Revised June 2012)

Prepared for:

City of Rome
Department of Planning and
Community Development
Rome City Hall
198 North Washington Street
Rome, New York 13440

and

New York State Department of Environmental Conservation
Region 6
317 Washington Street
Watertown, New York 13601-3787

Prepared by:

Barton & Loguidice, P.C.
290 Elwood Davis Road
Box 3107
Syracuse, New York 13220

I, the undersigned engineer, certify that I am currently a NYS registered professional engineer, This Remedial Investigation (RI) Report was prepared in accordance with all applicable statutes and regulations, and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10). All activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

STATE OF NEW YORK
SCOTT D. NOSTRAND
No. 075454
LICENSED PROFESSIONAL ENGINEER

Scott D. Nostrand, P.E.

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Appendices

Executive Summary

A Remedial Investigation was completed by Barton & Loguidice, P.C. (B&L) at the approximate 2.1 acre parcel located at 1313-1333 East Dominick Street (Site) in the City of Rome, located in Oneida County, New York. The property has a history of commercial use as a gasoline filling station and industrial use as a manufacturing facility before it was acquired by the City. The subsurface investigation and associated interim remedial measures (IRMs) were completed as part of an Environmental Restoration Program project funded in part by the 1996 Clean Water/Clean Air Environmental Bond Act (State Assistance Contract No. E633060). The Environmental Restoration Program (ERP) is administered by the New York State Department of Environmental Conservation (NYSDEC). In addition to the receipt of ERP funding from the NYSDEC, the City of Rome also received a Brownfields Assessment Grant from the U.S. Environmental Protection Agency (USEPA) to investigate and assess the contamination at the 1313-1333 East Dominick Street site.

The various IRMs performed at the site are described in detail in the previously issued IRM Construction Completion Report (CCR) (B&L, 2011), and therefore the reader is referred to that document for an in-depth discussion of the completed IRM activities. Briefly, the IRM activities completed at 1313-1333 East Dominick Street included the following:

- Removal of waste materials;
- Removal of ASTs stored inside the building;
- Cleaning of a machine pit sump and the Boiler Room floor;
- Closure and removal of one (1) UST and removal of associated petroleum-impacted soil;
- In-place closure of a second UST;
- Performance of a limited test pit investigation of previously identified suspect areas.

Site characterization activities determined the extent of surface soil, subsurface soil, and residual groundwater contamination stemming from the site. These activities also defined the future remedial efforts that would be necessary for the property to receive final indemnification by New York State upon completion of the remediation.

The field investigation activities included a review of available records, an existing building structural assessment, a pre-demolition asbestos and lead-based paint survey, a topographic site survey, a geophysical survey, an inventory of the drums and containers stored inside the abandoned building structure, and the excavation of backhoe test pits, the drilling of soil borings, and the installation of permanent groundwater monitoring wells. Media sampled as part of the investigation included floor drain and machine pit sediment, surface soil, subsurface soil (including clearance soil samples collected in conjunction with the performance of IRM activities), and groundwater.

The newly installed monitoring wells were surveyed and depth-to-groundwater measurements were collected. Variable head slug tests were performed in order to calculate hydraulic conductivity. This information was used to determine groundwater flow direction and hydraulic gradient, and to estimate average groundwater flow velocity and travel time.

The sample results were compared to the NYSDEC Part 703.5 Groundwater Standards and the NYSDEC Part 375 Restricted Use – Restricted Residential Soil Cleanup Objectives (SCOs). The data indicates the presence of limited surface soil and groundwater impacts on-site. The following exceedances of the above noted standards were observed:

- Exceedances of the NYSDEC Part 375 Restricted Use – Restricted Residential SCOs were reported for several the floor drain and machine pit sediment samples for several semi-volatile organic compounds (SVOCs), metals, and for total polychlorinated biphenyls (PCBs);

- Exceedances of the NYSDEC Part 375 Restricted Use – Restricted Residential SCOs for arsenic and manganese were reported at one of the two surface soil sample locations;
- Subsurface soil sample results from twenty-one soil borings (including several borings inside the building) indicated singular exceedances of the NYSDEC Part 375 Restricted Use – Restricted Residential SCO for copper and acetone, and two samples exceeded the applicable SCO for total PCBs;
- Groundwater sample results from six monitoring wells exhibited several concentration exceedances of iron, manganese, and sodium, which are likely attributable to elevated sample turbidity. In addition, the following metals were also reported above the Part 703.5 Groundwater Standard at the downgradient monitoring well MW-05: copper, chromium, arsenic, lead, magnesium, and nickel. The copper concentration also exceeded the standard at MW-03.

As a result of the detection of elevated concentrations of PCBs in a number of the analyzed media samples, a separate, multi-phased PCB investigation was performed by B&L in order to better characterize and delineate the two (2) areas in the building where PCBs were initially identified (the machine room and the boiler room). Additional PCB sampling was subsequently conducted of the concrete and wood flooring of the non-office areas within the site structure, including the performance of a limited sub-slab soil boring investigation. All of the aforementioned concrete and wood flooring samples, and all but one (1) of the subsurface soil samples exhibited detectable concentrations of PCBs. The PCB investigation and findings are described in the B&L Report entitled "Final PCB Site Investigation and Remedial Alternatives Analysis Report (SI/RAAR)" dated January 2012.

Based on the soil and groundwater sampling results, B&L performed a contaminant fate and transport evaluation which concluded that the PCB-contamination present inside the building is considered to be the primary environmental concern at the site (as detailed in the aforementioned Final PCB SI/RAAR. While relatively immobile, the PCBs will persist where present, unless remedial efforts are employed. Furthermore, an evaluation of potential exposure pathways determined that the potential absorption and ingestion pathways at the site are complete with regards to the occurrence of possible future site development activities (e.g., site construction) that could directly expose site workers to the residual contaminants. B&L determined that potential ingestion and absorption exposure pathways exist at the site with regards to the presence of exposed surface soils (specifically metals), the indoor floor drain sediments (SVOCs, metals, and PCBs), and subsurface soil below the concrete flooring in the building (PCBs).

Given the above findings, NYSDEC staff recommended that B&L design an IRM for the purpose of removing the PCB-contaminated subsurface soil, floor drain sediments, and wood and concrete flooring that exists within the building footprint. Therefore, on March 29, 2012, B&L submitted to the Department for review and approval an IRM Work Plan entitled "NYSDEC Interim Remedial Measures Work Plan and U.S. EPA Self-Implementation Cleanup Plan for the Remediation of Polychlorinated Biphenyl (PCB) Contamination". Following their review of the aforementioned IRM Work Plan, the NYSEC issued a comment letter to the City of Rome dated April 26, 2012 requesting that the IRM Work Plan be revised to address certain deficiencies, and then re-submitted to the Department for review and approval. Therefore, B&L is in the process of revising the IRM Work Plan in response to the NYSDEC comment letter, in addition to responding to comments provided by the EPA with regards to the Self-Implementation Cleanup Plan for the remediation of PCB contamination at 1333 East Dominick Street. Following NYSDEC and EPA approval of the revised Work Plan document, B&L will proceed with the implementation of IRM activities at the former Nolan Manufacturing building.

In addition to the above noted SVOCs, metals, and PCB contamination that exists within the building footprint, evidence of PCB soil contamination was detected in the subsurface soil sample collected from outdoor soil boring SB-06 which was located in the courtyard area in close proximity to the former location of the 7,000 gallon UST that was removed during the performance of IRM-3. Specifically, a concentration of 1.0 ppm total PCBs was detected in soil boring SB-06, which is equal to the maximum allowable concentration of PCBS for NYSDEC Part 375 Restricted Use – Restricted Residential Use. However, of potentially greater significance is the total PCBs concentration of 39.0 ppm that was detected in a grab soil sample obtained from the stockpile of petroleum contaminated soil that was removed from the tank grave of the former 7,000 gallon UST.

Given the close proximity of indoor soil borings SB-04 and PCB_Boring-6 to the former location of the 7,000 gallon UST and outdoor soil boring SB-06, and taking into account the fact that the detected PCB concentrations at each of these locations is either equal to or in exceedance of the applicable NYSDEC Part 375 Restricted Use – Restricted Residential Use SCO for PCBs, the Department has requested that additional subsurface soil samples be collected in the courtyard area in the vicinity of the former 7,000 gallon UST and analyzed for the presence of PCBs. Therefore, B&L will arrange to perform two (2) additional soil borings on the northeast and southwest sides, respectively, of the former UST. These two (2) newly proposed soil borings are designated as soil borings SB-18 and SB-19 on enclosed Figure 5 (Supplemental Soil Boring Location Plan). Specifically, it is intended that a single subsurface soil sample be collected from each soil boring at a depth of 6 to 8 feet bgs (which is equivalent to the depth of the former 7,000 gallon UST), and the two (2) soil samples submitted for the laboratory analysis of total PCBs.

The results of the supplemental subsurface soil sampling will be presented to the Department in the form of a letter report, and the findings appropriately incorporated into the ensuing Remedial Alternatives (RA) report to be prepared by B&L for the 1333 East Dominick Street site.

1.0 Introduction

The City of Rome is the current owner of the approximate 2.1 acre parcel located at 1313-1333 East Dominick Street (Site) in the City of Rome, Oneida County, New York (see Figure 1). As described herein, the Site has a history of commercial use as a gasoline filling station and industrial use as a manufacturing facility before it was acquired by the City. The site is currently unoccupied and contains several interconnected building structures in various states of disrepair. The City of Rome received funding from the New York State Department of Environmental Conservation (NYSDEC), under the provisions of the Environmental Restoration Program (ERP), to conduct a Remedial Investigation at the property, as described herein. The City also received a Brownfields Assessment Grant from the U.S. Environmental Protection Agency (USEPA) to investigate and assess the contamination at the Site.

1.1 Objectives

The overall objective of the Remedial Investigation is to define the nature and extent of contamination on the property related to former Site activities. The specific objectives of the Remedial Investigation include the following:

- Perform interim remedial measures (IRMs) to remove waste materials and petroleum storage tanks from the site;
- Define the presence and extent of soil and groundwater contamination on-site (and potentially off-site);
- Characterize the site hydrogeologic conditions, including identification of depth to groundwater and flow direction, and the possible presence of preferential groundwater flow pathways; and
- Conduct an evaluation of off-site impacts (if any) and an evaluation of contaminant fate and transport.

1.2 Report Organization

This report summarizes the Remedial Investigation activities and presents the findings specific to the characterization of existing hydrogeologic and environmental conditions and the presence and extent of contaminants at the site. The results of the field activities were used to assess the existing contamination and to evaluate potential exposure targets.

This report is organized into five major sections (including this introduction section). Tables and figures are located following the text, prior to the appendices in the back of the document. Section 2.0 presents the remedial investigation tasks and summarizes the methodologies used during the data collection field activities. Section 3.0 presents the findings of the site characterization phase of the project. Within Section 3.0, information is presented regarding the site's physical setting, the nature and extent of contamination, contaminant fate and transport, public health and wildlife risk evaluation, and the wetlands, floodplains, and sensitive environment survey. Section 4.0 summarizes the Remedial Investigation and presents the recommended action. Section 5.0 presents the references used for the Remedial Investigation Report.

1.3 Special Terms and Conditions

The Remedial Investigation was conducted in accordance with the Site Investigation Work Plan prepared by Barton & Loguidice, P.C. (B&L) dated May 2008. The Work Plan included a Sampling and Analysis Plan (SAP), a Health and Safety Plan (HASP), and a Citizen Participation Plan (CPP). Prior to approving the Remedial Investigation Work Plan, both the NYSDEC and the USEPA issued comment letters that resulted in B&L making several modifications to the Work Plan document. Specifically, B&L prepared separate letter responses, dated May 30th, August 20th, and October 20, 2008 respectively, which acknowledged several changes in sampling methods and procedures, which were then incorporated into the Remedial Investigation tasks. Comment letters from the USEPA and responses to these comments are found in Appendix A.

In addition to the specific provisions of the NYSDEC and USEPA-approved Work Plan, the Remedial Investigation was conducted in accordance with the 1997 NYSDEC Guidance Document for the “Brownfield Program” (DER 97-4058) and NYSDEC Draft DER-10 “Technical Guidance for Remedial Investigation and Remediation,” December 2002 (DER-10) (which has, since the performance of the Remedial Investigation, been finalized (May 2010)). The Standards, Criteria, and Guidance (SCGs) utilized for this project included, but were not limited to, the following publications: NYSDEC Draft DER-10 Technical Guidance for Remedial Investigation and Remediation, December 2002 (DER-10), 6 NYCRR Part 375 Environmental Remediation Programs, December 2006, NYSDEC T.O.G.S. 1.1.1 – Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations, 6 NYCRR Parts 700-706 – Water Quality Standards, 10 NYCRR Part 5 of the State Sanitary Code – Drinking Water Supplies, and NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

Tank closure activities were performed in accordance with USEPA, NYSDEC, and petroleum industry guidelines.

1.4 Background

1.4.1 Physical Setting

The Site is located on East Dominick Street in the City of Rome, Oneida County, New York (see Figure 1), and is designated on the City of Rome tax map as parcel numbers 243.070-001-024 and 243.070-001-025. The approximately 2.1 acre parcel is situated on the north side of

East Dominick Street, with Gansevoort Avenue to the east and Nock Street to the west and north.

1.4.2 Site Description

The Site contains a two-story brick structure with several single-story structures attached (Figure 2); the buildings consist of approximately 28,000 square feet of floor area. The general topography of the majority of the site is fairly level, with a very slight grade generally toward the southern property boundary along East Dominick Street and Gansevoort Avenue. Much of the site and surrounding grade have been raised with historic fill. According to the site topographic survey, there is an approximate 3-foot change in elevation across the site from north to south.

1.4.3 Adjacent Property Land Use

The property is bordered on the west and northwest by Nock Street and/or small commercial businesses and residences on both sides of the road. Revere Copper, a Rome-based copper rolling and extrusion company, operates a facility located on the north side of Nock Street, to the north of the site. Residences on Nock Street, Holland Avenue, and Gansevoort Avenue, are located immediately northeast of the site, and the site is bordered on the southeast by Gansevoort Avenue, with Caesars Auto Sales and other residences located on the east side of Gansevoort Avenue. East Dominick Street borders the property to the south, with an American Alloy Steel facility across the street.

1.4.4 Site History

The Site has supported a variety of uses dating back to 1914, when the building was initially used for the manufacturing of macaroni (a.k.a. Rome Macaroni Manufacturing). In the 1920s and 1930s, the property contained a gasoline filling station and automobile repair shop, as evidenced by the examination of Sanborn Fire Insurance Maps dated 1934 and 1930, respectively. However, based on the review of Sanborn Maps dated 1949 and 1971, the gasoline filling station no longer existed on the site, and the two-story brick building was labeled “Nolan Corporation.” Research suggests that the Nolan Corporation (aka Nolan Products, Inc.) used the building during this time period for the manufacturing of specialty machinery for the printing industry, and this premise is supported by equipment catalogues discovered in the building and the fact that portions of the building are labeled as “machine shop,” welding,” and boiler room,” on the 1948 and 1971 Sanborn Maps. Mr. Garrett Russitano reportedly purchased the property from the Nolan Corporation in the 1990s, and subsequently converted the building into a saw mill manufacturing facility. As of 2004, the saw mill manufacturing business was still in operation; shortly thereafter, the City of Rome foreclosed on the property for the non-payment of taxes.

1.4.5 Summary of Previous Assessments

A 2002 Limited Environmental Site Assessment (ESA) performed by Buck Engineering was the single prior remedial investigation conducted at the site identified by B&L. Based on information presented in the limited ESA, there were previously three (3) petroleum bulk storage tanks on the site that had been registered to the City of Rome. The tanks consisted of two (2) underground storage tanks (USTs) with storage capacities of 7,000 gallons and 1,000 gallons, respectively, and one (1) 550-gallon aboveground storage tank (AST). All three (3) tanks were reportedly used for the storage of fuel oil. No other pertinent information regarding the construction and/or environmental condition of the on-site structures is presented in the limited ESA, apparently due to the fact that Buck Engineering personnel were denied access to the site on

October 11, 2002 while conducting their site visit. However, based on the fact that a gasoline station and auto repair shop had been located on the site in the 1930s and 1940s, and taking into account the above referenced USTs and AST, the limited ESA report recommended a Phase II investigation be performed at the subject parcel in order to characterize soil and groundwater contamination at the site.

2.0 Remedial Investigation Tasks

The following section discusses the methodologies used during the field activities to collect the data necessary to characterize the physical and environmental conditions at the site, and to determine the appropriate level of remedial work required to bring the site into compliance with the guidelines of the NYSDEC Environmental Restoration Program (ERP).

The Remedial Investigation took place from August 2007 until February 2010. The general order of events is presented below:

- Site inspection with NYSDEC and New York State Department of Health (NYSDOH) personnel: August 17, 2007
- Chemical/waste inventory: August 19, 2008
- Geophysical survey: October 28-November 7, 2008
- Test pit installation: May 12-13, 2009
- Topographic site survey: May 2009
- IRM-2 – removal of waste materials and ASTs stored inside the building structure; cleaning of a machine pit sump and the Boiler Room floor: June 11 – July 14, 2009
- IRM-3 – closure and removal of USTs and associated petroleum impacted soil, and the performance of a limited test pit investigation of previously identified suspect areas: October 7-12, 2009
- Surface soil investigation: October 13-14, 2009
- Subsurface soil boring investigation: October 13-19, 2009
- Permanent monitoring well installation: October 19-23, 2009
- Permanent monitoring well sampling: February 24, 2010

- Asbestos Survey and Lead-Based Paint Characterization Report: May 2010
- Existing Building Structural Assessment Report: August 17, 2010

2.1 Review of Available Data and Literature

Available site information was acquired through the City of Rome. The data was reviewed to determine localized site conditions, and the results of the review are presented below.

The City informed B&L that the properties in the vicinity of the site are on public water supplies and a sanitary sewer system. The City also confirmed that the site is serviced by electric and gas utilities. With regard to environmental conditions at the site, the City provided B&L with a copy of the limited ESA Report prepared by Buck Engineering, as mentioned in Section 1.4.4.

2.2 Site Survey and Preparation of Site Map

A planimetric site base map was prepared in May 2009 from a topographic survey completed by Cornerstone Land Surveying. The survey data was used to develop a Base Site Plan for the presentation of data collected during the investigation (i.e., groundwater elevation contours, extent of contaminated soil and groundwater, etc.) and creating plan sheets for IRM-3. The base map identifies the property boundaries, utility poles, adjacent streets and properties, fences, manholes, subsurface utilities, and other distinguishing features present at the site. A benchmark elevation was also established at the site.

2.3 Geophysical Survey

A geophysical survey was conducted by Radar Solutions International (RSI) between October 28 and November 7, 2008, in order to identify subsurface anomalies at the site, including USTs, drain lines, septic tanks, and leach fields.

The survey was conducted using ground-penetrating radar (GPR) and electromagnetic terrain conductivity (EM) to map these subsurface structures.

The geophysical survey noted various potential underground anomalies, including possible piping, reinforced concrete, previous excavation sites, buried utilities, and USTs. Based on the findings, RSI recommended installing test pits in nine (9) locations. These recommendations were incorporated into the subsurface soil test pit investigation described in Section 2.7.1. The geophysical survey, dated February 2009, is included in Appendix B of this report.

2.4 Interim Remedial Measures (IRMs)

Two (2) IRMs were performed to remove potential source materials from the site, thereby reducing the risk of harm to human health, ecological resources, and the environment. These source materials included the removal of drums and other containers of waste, bulk PCB remediation waste, bulk storage tanks (USTs and ASTs), and contaminated soils.

The IRMs conducted at the Site are listed below, and are described fully in the Interim Remedial Measures Construction Completion Report prepared by B&L in August, 2011.

- IRM-2 – removal of waste materials and ASTs stored inside the building structure and the cleaning of a machine pit sump and the Boiler Room floor; and
- IRM-3 – closure and removal of one (1) UST and the removal of associated petroleum impacted soil; in-place closure of a second UST, and the performance of a limited test pit investigation of previously identified suspect areas.

The IRM activities performed at the site were completed as two (2) individual publicly bid construction projects, each of which were conducted at multiple City of Rome ERP site locations. B&L prepared design plans and specifications for each IRM project. Upon review and approval of the IRM Plans and Specifications by NYSDEC and the City of Rome, a contractor was selected through the competitive bid process. IRM-2 “Waste Removal” was completed by OP-TECH Environmental Services (OP-TECH), and IRM-3 “UST/Lift Closure” was completed by Paragon Environmental Construction, Inc. (PEC). The locations of the closed USTs are shown on Figure 3.

As previously noted, the IRMs are documented in the IRM Construction Completion Report (CCR) (B&L, 2011), prepared under separate cover.

2.4.1 Community Air Monitoring Program (CAMP)

Ground intrusive site activities (particularly test pits and excavation activities) required air monitoring in conformance with the NYSDOH Generic Community Air Monitoring Plan (CAMP). Specifically, real-time monitoring was conducted for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area during the performance of intrusive activities. CAMP monitoring conducted as part of the IRM activities is presented in the IRM CCR report referenced above.

In the downwind perimeter of the immediate work area (i.e., the exclusion zone), VOCs monitoring was conducted using Mini-RAE 2000 meters on a 15-minute logging cycle. Similarly, upwind concentrations were measured at the start of each intrusive activity, and then periodically thereafter to establish background conditions. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeded 5 parts per million (ppm) above background for a 15-minute average, work activities would be temporarily halted. However, elevated readings were not encountered during any phase of the project, and therefore work stoppage was not required.

In addition to the above, particulate concentrations were monitored continuously at the upwind and downwind perimeters of the exclusion zone or work area. Specifically, particulate matter less than 10 micrometers in size (PM-10) was monitored at the upwind and downwind perimeter of the immediate work area using a MIE-PDR 1000 meter on a 15-minute logging cycle. A difference of 100 micrograms per cubic meter (mcg/m^3) between the downwind and upwind monitors would require dust suppression techniques to be employed. Following the successful implementation of dust suppression techniques, a subsequent difference of 150 mcg/m^3 resulted in a work stoppage. However, these action levels were never surpassed; therefore, the use of dust control measures was not necessary. The CAMP data summary sheets are included in Appendix C.

2.5 Asbestos Survey and Lead-Based Paint Characterization

The City of Rome initiated an independently funded (non-ERP/EPA funds) Asbestos Survey and Lead-Based Paint Characterization of the main building (Office Building) located at the Site. The asbestos survey and lead-based paint characterization revealed the presence of asbestos containing materials (ACM) in portions of the flooring, stair treads, roofing, exterior window caulk, and pipe and pipe fitting insulation. Furthermore, lead was detected in all of the paint samples collected for analysis. The complete survey can be found in the report titled “Asbestos Survey and Lead-Based Paint Characterization” (B&L, 2010).

2.6 Structural Assessment

The City of Rome initiated an independently funded (non-ERP/EPA funds) structural evaluation of the buildings located at the Site. B&L conducted a structural assessment of the existing buildings at the site in July and August, 2010. During a site visit on July 1, 2010, B&L conducted visual observations of the building’s interior and exterior structural elements that were accessible and exposed to view, as well as a limited assessment of the building's non-structural exterior envelope, including brick and stone veneer, roofing, and windows.

B&L determined that the existing building is a combination of connected buildings with each section appearing to have been constructed at different points in time. The dates of construction are unknown. The Office Building portion of the structure is in extreme structural disrepair due to areas of the building envelope that are exposed to the elements (particularly precipitation), and that portion of the building is unsafe for occupancy in its current state. Deterioration observed in other portions of the building included the roof decking and masonry, both of which would require repair prior to reuse of the structure. Therefore, given the above noted structural assessment findings by B&L, the City of Rome acknowledges the fact that necessary structural improvements/repairs must be made to the building structure before the building can be deemed habitable by a future tenant/owner. Please note that the complete structural assessment can be found in the report titled "Existing Building Structural Assessment for Structures at 1333 East Dominick Street, Rome New York," (B&L, 2010).

2.7 Soil and Groundwater Investigation

2.7.1 Test Pit Investigation

Nine (9) test pits were excavated by the City of Rome Department of Public Works (DPW) on May 12-13, 2009 for the purpose of field investigating anomalies identified in the geophysical survey. The excavated soils were placed back in the test pits upon completion. The completed test pit locations, which are shown on Figure 2, are labeled with the prefix "TP" and are numbered 1 through 10 (there is no TP-9). The test pit findings are discussed below in Section 3.2, and the corresponding test pit logs are included in Appendix D.

2.7.2 Floor Drain and Machine Pit Sediment Sampling

On February 24, 2009, sediment samples were collected from the floor drain (later discovered to be an apparent dry well) in the boiler room (samples SED-01A, SED-01A DUP, SED-01A-MS/MSD, and SED-01B), and the machine pit sump in the machine room (samples SED-02A and SED-02B). On November 16, 2009, the sediment that had accumulated in the floor drain located in the main shop area (“Shop A”) was hand excavated in order to determine if an outlet to the drain existed. Upon excavating as much sediment as possible, an outlet was observed that appeared to have been previously closed. A composite sediment sample (1333ED-SED-SHOPA DRAIN) was formed from the material excavated from the floor drain. On this same date, the sediment that had accumulated in the floor drain located in the Boiler Room was also hand excavated. This floor drain was filled with cobbles and coarse sand which was observed to be oil stained. There was no drain catch basin structure observed below the drain grate in the Boiler Room, and it was therefore determined that the floor drain served as a dry well.

The aforementioned sediment samples were submitted to TestAmerica Laboratories of Buffalo, NY, for the analysis of semi-volatile organic compounds (SVOCs) by EPA Method 8270, polychlorinated biphenyls (PCBs) by EPA Method 8082, and the target analyte list (TAL) of metals (EPA Method 6010B). The Shop A floor drain sediment sample was also submitted for pesticides analysis (EPA Method 8081A). The sediment sampling results are discussed in Section 3.2.

Based on the nature and physical location of the sediment samples, the analytical results are compared to the NYSDEC Part 375 Restricted Use – Restricted Residential SCOs rather than sediment-specific criteria.

2.7.3 Surface Soil Sampling

Two (2) surface soil samples were collected from the site on October 13-14, 2009 in general accordance with the provisions of the approved Work Plan. As indicated on Figure 2, surface soil sample SS-1 was collected in the vegetated area to the northwest of the structure, while surface soil sample SS-2 was collected in the vegetated area south of the building, near East Dominick Street. The surface soil samples were collected with the use of one of the following methods: 1) advancing (i.e. pushing) a MacroCore® sampler into the ground surface; or 2) using a stainless steel scoop to collect a sample from approximately 4-8 inches below grade. The depth at which the aforementioned surface soil samples were collected represents a deviation from the Department-approved Work Plan, which stated that surface soil samples would be collected at a depth of 0 to 2 inches below grade. However, during the August 17, 2007 site visit with the NYSDEC and NYSDOH, the NYSDOH requested that B&L collect the surface soil samples from just beneath the root zone. Therefore, once the surface vegetation (i.e. grass) and root mass was removed at each of the surface soil sampling locations, the two (2) surface soil samples were collected at a depth of 4-8 inches below grade instead of the depth of 0-2 inches stated in the Work Plan.

The procured surface soil samples were homogenized in decontaminated stainless steel bowls and then placed in the appropriate sample containers. All samples were packed in a cooler on ice and picked up by the laboratory in accordance with chain of custody procedures defined in the Work Plan. The two (2) surface soil samples were submitted to TestAmerica for the analysis of VOCs (EPA Method 8260+MTBE), SVOCs, PCBs, TAL metals, and pesticides. The surface soil sampling results are discussed in Section 3.2.

2.7.4 Subsurface Soil Boring Investigation

As previously discussed, the purpose of the subsurface investigation described herein was to identify the presence and general extent of contaminants in subsurface soil that may have been impacted by historical site operations. The subsurface soil investigation was conducted October 13-19, 2009, and included the installation of twenty-one (21) direct push (Geoprobe®) soil borings, six (6) of which were subsequently completed as monitoring wells. The soil borings were installed at the locations depicted on Figure 2 using the “SB” prefix, and those that were completed as monitoring wells are depicted on Figure 2 using the “MW” prefix. The borings were generally positioned around the site structure and/or in otherwise suspect locations based on the site history.

Drilling activities were performed by Lyon Drilling, of Tully, New York, using a trailer-mounted (tow-behind) CME-45 drill rig equipped with 4 ¼-inch inner diameter hollow stem augers (HSAs) and direct-push (Geoprobe®) capabilities. The switch-over from rotary methods to direct-push tooling and vice-versa was somewhat time-consuming, so Lyon Drilling typically sampled all locations (soil borings and monitoring wells) first using the direct push tooling, and then returned to the well locations at a later time with the rotary tools. In general, soil samples were collected using successive pushes of a 4-foot long core barrel, which was assembled using a new and dedicated plastic liner before each sample.

A B&L hydrogeologist observed the drilling activities. The soil borings were advanced to groundwater, or to the presence of contamination or refusal. The samples were examined for moisture content and logged and described according to the Burmister Soil Classification System. Soil samples were also examined for visual and/or olfactory evidence of contamination. Soil borings were terminated at depths ranging from approximately 2 feet to 24 feet below ground surface (bgs) and borings to be completed as monitoring wells were extended to depths ranging from 27 feet to 28 feet bgs. Bedrock was not encountered during the remedial investigation. The MacroCore® and split-spoon samplers were decontaminated by scrubbing with an Alconox® and water mixture, followed by a potable water rinse. Augers, split spoons, and drill rods (when used) were steam cleaned on a decontamination pad prior to setting up at each drilling location.

A photo-ionization detector (PID) was utilized to screen the soils from each probe hole for the presence of volatile vapors. PID readings were recorded following a direct scan of the soil cores in the open acetate liners. Soil samples were then placed in a sealable bag and allowed to equilibrate with ambient daily temperatures, which were typically between 40 and 50 degrees Fahrenheit. The headspace was then measured by inserting the PID into the bag and recording the peak and sustained vapor concentration. All measurements were recorded in the field log.

Soil samples were homogenized in decontaminated stainless steel bowls and then placed in the appropriate sample containers. One (1) soil sample from each boring location was submitted to TestAmerica Laboratories for the analysis of VOCs, SVOCs, TAL metals, PCBs, and pesticides. The sample selected for laboratory analysis was typically collected from the depth interval just above the interpreted water table interface. The surface soil and subsurface soil samples submitted for VOCs analysis were collected using three (3) En-Core™ plunger type samplers per sample and unpreserved glass jars for the other analyses. All samples were packed in a cooler on ice and picked up by to the laboratory in accordance with chain of custody procedures defined in the Work Plan.

Subsurface soil boring logs are attached in Appendix E, and the soil sample Chains of Custody are found in Appendix F. The results of the subsurface soil sampling are discussed in Section 3.2.

2.7.5 Monitoring Well Installation and Development

Six (6) overburden monitoring wells were installed from October 19-23, 2009 by Lyon Drilling. The locations are depicted on Figure 2 with the "MW" prefix. The monitoring wells were installed to perform a number of functions including:

- To determine the direction, hydraulic gradient, and seasonal variation of groundwater flow;
- To determine potential routes of contaminant migration; and
- To characterize levels of contaminants present in the groundwater.

The wells were installed to depths ranging from 27 to 28 feet bgs. As described above, the borings were initially sampled using direct-push methods until encountering target depth or refusal. The direct push borings were then over-drilled using rotary methods and 4 1/4-inch HSAs to allow installation of a 2-inch diameter well. The MacroCore® and split-spoon samplers were decontaminated by scrubbing with an Alconox® and water mixture, followed by a potable water rinse. Augers, split spoons, and drill rods (when used) were steam cleaned on a decontamination pad prior to setting up at each monitoring well location.

Monitoring wells were constructed using 10-feet of 0.010-inch slotted 2-inch diameter PVC screen, positioned to straddle the water table. Each well was fitted with the appropriate length of riser and either a flush-mount protector (in paved areas) or a 4-inch diameter steel protective stick-up casing. A washed silica sand pack was placed around the screen and extended approximately 2 feet above the top of the screened interval. An approximately 3-foot thick bentonite plug was placed in the well annulus above the sand pack. The remaining annulus space was filled to 1-2 feet bgs with cement-bentonite grout. All surface completions consisted of the flush-mount cover or protective casing and a concrete surface pad, and the PVC risers were capped with expandable rubber-seal caps and fitted with locks. The monitoring well completion logs are found with the soil boring logs in Appendix E.

Upon installation (and after allowing the grout to cure), the wells were developed by B&L staff. Well development was conducted to remove sediments and suspended particles from the screened interval and filter pack. In addition to removing the residual effects of drilling disturbance, the procedure also results in the preferential sorting and distribution of natural formation particles within the emplaced sand pack, creating a natural filter that enables formation waters to enter the well and resists subsequent infilling by sediments. All monitoring wells were developed on February 11 and February 18, 2010 using disposable bailers and/or a submersible pump. Between approximately 20 to 115 gallons of groundwater was removed from each well until there was a visible decrease in turbidity. Field measurements of temperature, pH, specific conductance, oxidation reduction potential (ORP), and turbidity were recorded, and well development was considered complete when the field parameters had stabilized (where feasible). Well development records are included with the well completion logs in Appendix E.

2.7.6 Hydraulic Conductivity Testing

In-situ variable hydraulic conductivity testing was performed following the completion of monitoring well installation and well development activities. Testing equipment included an electronic water level probe, a 5/8-inch by 4-foot long solid PVC core and an In-Situ MiniTroll™ Data Logger (In-Situ, Inc.). The MiniTroll Data Logger is an automated measuring device designed to record small changes in a depressed or elevated head of water within a well. The instrument was connected to a pressure transducer that, when lowered into the water column, converted the pressure exerted by the head of water above it into a linear measurement of the depth of submergence.

The static water level was used as the reference point from which the instrument recorded test data. Falling head tests were performed by inserting the core (slug) into the water and recording incremental decreasing head data until the water level had recovered at least to within 90% of the reference level. Rising head tests were then performed by removing the core (slug) from the well and recording increasing head data until the water level had recovered at least to within 90% of the static water level. Rising head data collected from the In-Situ MiniTroll® were evaluated using Aqtesolv® Software (HydroSOLVE, Inc.). Data collected from the In-Situ MiniTroll was used to determine hydraulic conductivity as discussed in the Site Hydrogeology section of this report (Section 3.1.5). Hydraulic conductivity analyses are included in Appendix G.

2.7.7 Groundwater Sampling

Groundwater samples were collected from the newly installed monitoring wells on February 24, 2010. Prior to sampling, the wells were purged in order to collect a representative sample of the groundwater formation. Groundwater field sampling data sheets indicating the static water levels, amount of groundwater purged, and field characteristics of the samples are presented in Appendix H. Groundwater samples were collected from each monitoring well location using the following general methodology:

1. The static water level was measured, and recorded to the nearest 1/100th of a foot, using an electronic tape;
2. The volume of water in the well was calculated;
3. Three (3) volumes of well water were purged from each well (where feasible);
4. Groundwater samples were collected using disposal bailers and the sample bottles filled in the order designated in the Sampling and Analysis Plan;
5. Measurements including static water level and total depth of well were logged including the date and time of collection; and
6. Preserved samples were placed in coolers with ice along with the appropriate chain-of-custody forms for transport to the laboratory.

The groundwater samples were submitted to TestAmerica Laboratories of Buffalo, New York for the analysis of VOCs, SVOCs, TAL metals, PCBs, and pesticides. The results of the groundwater samples are discussed in Section 3.2.

2.7.8 Investigation Derived Waste

Investigation derived waste (IDW) was in the form of soil cuttings, purge water from groundwater sampling, or equipment decontamination water. Soil cuttings were either backfilled or currently remain onsite in sealed and labeled 55-gallon drums. Purge and equipment decontamination water was drummed into fourteen (14) 55-gal drums and disposed of at the City of Rome Water Pollution Control Facility.

2.8 Soil Vapor Intrusion Investigation

The Work Plan anticipated that a soil vapor intrusion investigation would be completed concurrently with a potential supplemental investigation at one or more of the City of Rome ERP sites, following a review of the subsurface soil and groundwater sampling results. At the request of the NYSDEC, this Remedial Investigation report has been prepared prior to conducting any supplemental investigations at any of the City of Rome ERP sites. Based on the subsurface soil and groundwater sample data collected at the 1313-1333 East Dominick Street site (as discussed in Section 3.2, there were very limited VOCs impacts found in the subsurface soil and groundwater) and the supportive field observations during the Remedial Investigation activities, B&L recommends that the soil vapor intrusion investigation be omitted. However, if the soil vapor intrusion investigation is deemed necessary by the NYSDEC, the sampling points will be installed and sampled in a second mobilization.

2.9 Quality Assurance/Quality Control

Several steps, as outlined below, were taken in the field to ensure that the procured groundwater samples were representative of site conditions while minimizing the potential for cross-contamination.

2.9.1 Decontamination Procedures

Upon the completion of each soil boring, all drilling equipment and down-hole tools were decontaminated. Between monitoring well installations, augers and tools were cleaned on a decontamination pad using a high-pressure steam system and allowed to air dry. Between each direct push soil sample, the MacroCore® sampler was scrubbed using an Alconox® soap wash and potable water rinse and lined with a new dedicated sleeve. Soil sampling equipment (stainless steel mixing bowl and spatula, etc.) was decontaminated in between use by applying an Alconox® wash and a deionized water rinse, and allowed to air dry.

2.9.2 Field and Trip Blanks

The purpose of collecting and analyzing field equipment blanks is to verify that field sampling procedures do not result in the cross-contamination of the environmental samples, and to document the effectiveness of the decontamination activities performed by B&L personnel. Therefore, in order to ensure that B&L field staff employed acceptable field sampling and equipment cleaning techniques, field equipment blanks were prepared on two (2) separate days during which soil samples were collected with the use of non-dedicated or non-disposable equipment. Specifically, field equipment blanks were prepared at the site by pouring laboratory-provided, analyte-free water over the decontaminated sampling device (e.g., MacroCore® liner) and the stainless steel spatula and mixing bowl, and collecting the runoff into sample bottles. Field equipment blanks were then submitted to TestAmerica Laboratories for the analysis of VOCs, SVOCs, metals, and PCBs. Although there were low level detections of VOCs, metals, and pesticides in one or both field blanks, the overall laboratory test results demonstrate adequate decontamination procedures. A detection of acetone (13 µg/l) was reported for the field equipment blank sample prepared on October 16; however, there were no acetone detections in the samples collected that day. Field blank analytical results are summarized in Table 1.

Trip blanks accompanied the sample containers in coolers throughout the soil and groundwater sample collection activities, and the trip blanks were analyzed by TestAmerica Laboratories for the presence of VOC parameters. The trip blank samples were handled and stored in an identical manner to the collected soil and groundwater quality samples to ensure that the sample bottles were properly prepared, handled, and analyzed by the laboratory without cross-contamination occurring. Occasional very low level VOCs were reported, but the overall the results appear acceptable. Trip blank analytical results are summarized in Table 1.

2.9.3 Documentation

Sample deliveries to the laboratory were accompanied with appropriate chain-of-custody records. Information relevant to the sampling activities was provided on these records, including sampling date and time, sample identification, number of bottles filled at each sampling location, preservatives used, bottle size, sampling method, date and time of shipment, trip blanks included, and release signature.

Field sampling data sheets were completed in the field for each monitoring well sampling location. Pertinent data, including sample location, date, volume purged, static water level, total well depth, weather conditions, sample appearance, parameters to be analyzed, and the results of field parameter determinations, were appropriately recorded. Groundwater sampling field data sheets are found in Appendix H and Chain-of-Custody records are found in Appendix F.

2.9.4 Equipment Calibration

Instrument calibrations were performed in general accordance with the SAP. Water quality instrument calibration records are included with the field sampling data sheets in Appendix H.

2.9.5 Data Usability

All sample data sets generated for this project (soil, groundwater, and quality assurance/quality control samples) were subjected to an independent third-party data validation by EnviroAnalytics, LLC of Ballston Spa, NY. Copies of the validation summaries and validated laboratory reports are included in Appendix J. The data validation indicates the site data to be considered technically defensible and usable in the validated form. Minor changes to laboratory qualifiers (U, J, E etc.) were made during the validation and these changes are reflected in Appendix H documentation.

2.10 Analytical Data Analysis

Throughout this report, the identified contaminants of concern (which are discussed in Section 3.0) in soil samples are compared to NYSDEC Part 375 Restricted Use – Restricted Residential Soil Cleanup Objectives (SCO), as requested by the NYSDEC and the City. This SCO applies to residential properties where there is common control of the property (e.g., apartment complexes, townhouse developments, etc.); single-family housing is excluded from this category. Farms and vegetable gardens are prohibited in this category, but community gardens may be allowed with NYSDEC approval (NYSDEC and NYSDOH, 2006). Groundwater data is compared to 6 NYCRR Part 703.5 Water Quality Standards.

Data summary tables were prepared for each of the analytical data packages received throughout the remedial investigation. The summary tables are found at the end of this report, while complete analytical laboratory reports are included electronically in Appendix I.

2.11 Wetlands, Floodplains, and Sensitive Environment Survey and Public Health and Wildlife Risk Evaluation

A limited wetland, floodplain, and sensitive environment survey was performed within areas immediately adjacent to the site to identify the presence and boundary of state-and federally-regulated features.

A qualitative assessment of potential ecological receptors was conducted during field visits by a B&L Environmental Scientist. The results of the Wetlands, Floodplains, and Sensitive Environment Survey and Public Health and Wildlife Risk Evaluation are presented in Sections 3.4 and 3.5, respectively.

3.0 Remedial Investigation Results

This section presents data collected through literature review and the aforementioned field investigations at the Site in order to characterize the climate, geologic setting and hydrogeologic characteristics, and the ecology, wetlands, and sensitive environments at the Site. The information gathered during the field investigation can aid in understanding and interpreting the analytical results, as well as determining potential future risks from residual contaminants that may remain at the Site.

3.1 Physical Setting

3.1.1 Surface Features

Most of the Site is paved or otherwise covered with impervious surfaces (pavement, concrete, rooftops, etc). A majority of the site is fairly level, with a very slight grade generally toward the southern property boundaries along East Dominick Street and Gansevoort Avenue. It is likely that precipitation not infiltrating the ground surface is directed via overland flow to the adjacent streets where it enters the municipal stormwater system.

3.1.2 Climate

The general climate in Oneida County is cool and humid, representative of the Northeastern United States (Pack, 1972). Summers are warm, with occasional short periods of high temperatures. Winters are typically long and cold, with high accumulations of snowfall.

Lengthy periods of either abnormally cold or warm weather result from the movement of high pressure (anti-cyclonic) systems into and through the Eastern United States. Cold winter temperatures prevail over

New York whenever Arctic air masses, under high barometric pressure, flow southward from central Canada or from Hudson Bay. High pressure systems often move just off the Atlantic coast, become more or less stagnant for several days, and then a persistent airflow from the southwest or south affects the State. This circulation brings the very warm, often humid weather of the summer season, and the mild, more pleasant temperatures during the fall and spring seasons (Pack, 1972).

Annual precipitation for the Rome area (as recorded at Griffiss Air Force Base) averaged approximately 46 inches for the period from 1971-2000. Average monthly precipitation was approximately 3.85 inches. The annual average temperature was 46.5 º F. January is the coldest month on average (20.8º F), while the average monthly temperature is highest in July (70.2º F).

3.1.3 Surface Water Hydrology

The general direction of surface water runoff within the vicinity of the site is dictated by the topography. Specifically, the site generally slopes from north to south towards the lower elevations and ultimately the Erie Canal. A majority of the site is covered by asphalt pavement or roof structures which route surface water runoff to municipal storm sewers. Other surfaces at the site, particularly the grassy courtyard area located between the loading docks on the north site of the building, and a grass-covered area situated adjacent to East Dominick Street, are more permeable, and therefore allow rainfall and snowmelt not captured by municipal storm sewers to infiltrate into the underlying ground as recharge.

3.1.4 Site Geology

The site is located along the boundary of the Hudson-Mohawk Lowlands, which is characterized by low elevation and relief, and the Tug Hill Plateau, a remnant of the Alleghany Plateau, which is higher in elevation with low relief. The soils of the site consist of mixed fill and native material consisting of cobble, gravel, and sand. The United States Department of Agriculture's (USDA) Soil Survey for Oneida County maps this area of East Dominick Street as Alton-Urban land complex. The Alton complex parent material is described as gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits. The Site is mapped on the New York Surficial Geology Map – Hudson Mohawk Sheet (Cadwell, et al., 1987) along a boundary between lacustrine sand and alluvium. According to the New York State Museum and Science Service's Geologic Map of New York dated 1970, the site is underlain by the Ordovician age Utica Shale. The Tug Hill Plateau is composed of younger Ordovician sedimentary strata such as shale and sandstone.

The subsurface investigation revealed some fill material and apparent glaciofluvial/outwash sand, gravel, and cobble at all of the boring locations. Occasional faint stratification was observed at depths typically greater than 10 feet below ground surface (bgs). Groundwater was usually encountered at depths of 16 to 21 ft bgs on the site. Bedrock was not encountered during the subsurface investigation. The subsurface boring logs and monitoring well completion diagrams are attached in Appendix D.

3.1.5 Site Hydrogeology

Static water level elevations measured from the on-site groundwater monitoring wells indicated a general groundwater flow direction from northeast to southwest towards the Erie Canal and the

Mohawk River. Figure 4 depicts the groundwater contours based on static water levels collected in the temporary monitoring wells in April 2010. Based on the April 2010 groundwater contours, the hydraulic gradient at the site was calculated to be 0.003 feet per foot.

In-situ variable hydraulic conductivity testing was performed following the completion of monitoring well installation and well development activities. Data collected from the Mini-Troll during rising head slug testing was used to determine hydraulic conductivity for an unconfined aquifer system by using various calculation methods within the AQTESOLV® Software Version 3.50 Professional (HydroSOLVE, Inc.). Specifically, the Bouwer-Rice and Hvorslev calculation methods, and occasionally the Hyder et al. (KGS Model) and/or Springer-Gelhar methods were utilized to determine the hydraulic conductivity at the site wells.

The results of the hydraulic conductivity testing are tabulated below, and the complete computational data for the slug tests are presented in Appendix G.

Well Number	Test	Bouwer-Rice	Hvorsley	KGS	Springer-Gelhart	Geomean
MW-1	Test 1	1.32E-01	5.98E-02	--	--	8.80E-02
	Test 2	8.45E-02	8.99E-02	--	--	
MW-2	Test 1	--	--	--	9.50E-02	7.77E-02
	Test 3	--	--	--	6.35E-02	
MW-3	Test 1	--	--	--	8.87E-02	9.29E-02
	Test 2	--	--	--	9.39E-02	
	Test 3	--	--	--	9.61E-02	
MW-4	Test 2	--	--	--	5.81E-02	6.11E-02
	Test 3	--	--	--	6.44E-02	
MW-5	Test 1	--	--	1.94E-02	1.97E-02	3.11E-02
	Test 2	--	--	4.88E-02	5.55E-02	
	Test 3	--	--	2.59E-02	3.39E-02	

Well Number	Test	Bouwer-Rice	Hvorsley	KGS	Springer-Gelhart	Geomean
MW-6	Test 1	--	--	--	6.36E-02	
	Test 2	--	--	--	3.89E-02	4.86E-02
	Test 3	--	--	--	4.64E-02	

Note: Hydraulic conductivity values are in cm/sec

Examination of the above table reveals that hydraulic conductivity values ranged from 1.94 x 10^{-2} cm/sec at monitoring well MW-05, to 1.32 x 10^{-1} cm/sec at monitoring well MW-01 for the outwash sand and gravel deposit present at the site. The overall geometric mean hydraulic conductivity based on the above slug test results at the six (6) on-site monitoring wells is 5.66 x 10^{-2} cm/sec. These values are generally consistent with published values for sand and gravel sediments (Fetter 1980, Freeze & Cherry 1979).

The nearest downgradient surface water discharge point from the Site is the Erie Canal, approximately 1,300 ft to the south. Based on the geometric mean hydraulic conductivity (5.66 x 10^{-2} cm/sec), the observed hydraulic gradient (0.003 ft per ft), and an assumed effective porosity of 25%, the average lateral groundwater seepage velocity was calculated to be approximately 1.9 ft per day. This suggests that a travel time of approximately 2 years is required for groundwater leaving the site to reach the Erie Canal.

3.2 Nature and Extent of Contamination

The following section discusses the results of the Site Characterization identifying the contaminant distribution at the site. Summary tables of the laboratory data are located at the end of the report, and the complete laboratory reports are found in Appendix I (electronic format).

Throughout this report, the reported soil concentration levels for the identified contaminants of concern are compared to NYSDEC Part 375 Restricted Use – Restricted Residential Soil Cleanup Objectives (SCOs). Restricted Use – Restricted Residential SCOs apply to future potential residential properties where there is common control of the property (e.g., apartment complexes, townhouse developments, etc.). The groundwater quality data collected at the site is compared to 6 NYCRR Part 703.5 Water Quality Standards.

3.2.1 Interim Remedial Measures Results

The details regarding the two (2) IRMs performed to remove source materials from the site are discussed in the IRM CCR prepared by B&L in August, 2011 and summarized below. The results for soil clearance sampling are also presented in the CCR and summarized below.

IRM 2 involved the removal of waste materials and ASTs stored inside the building structure, and the cleaning of a machine pit sump and the Boiler Room floor. OP-TECH Environmental Services, Inc. (OP-TECH) was selected as the low bidder to perform the IRM 2 work. OP-TECH mobilized to the site on June 11, 2009, and completed the work by July 14, 2009. The materials and quantities of each removed from the site for disposal/recycling, as well as copies of the bills of lading and hazardous/universal waste manifests for the removal of these materials (where applicable), are found in the IRM CCR.

IRM 3 involved the removal of one (1) known UST and an unknown vault by Paragon Environmental Construction, Inc. (PEC), the firm that was selected as the low bidder to perform the IRM 3 work. The UST was located in the fenced courtyard, and the vault (identified during the geophysical survey and subsequent test pit investigation) was located in a fenced grassy area in between the loading docks on the northwestern side of the building. PEC mobilized to the site on October 7, and completed the work on October 12, 2009.

As described in greater detail in the IRM CCR, the vault was found to be a wet well for the roof drains from the building and therefore was left in-place, as directed by Mr. Phil Waite (NYSDEC) in the field on October 8, 2009. The vent and fill pipes that were formerly believed to be associated with the vault feature were investigated further and found to be associated with a previously unknown UST containing unknown petroleum heating fuel (i.e., kerosene or heating oil) located under the building. The tank was found to extend underneath an interior wall and was very close to the building foundation. Given these conditions, and based on discussions in the field and by telephone with Mr. Phil Waite (NYSDEC) on October 9, 2009, it was decided that the tank should be closed in-place. Upon cleaning and removal of the tank piping connections, a soil clearance sample (1333EDSOILINTANK) was collected by drilling a hole through the bottom of the tank before it was filled with flowable concrete and closed.

IRM 3 also included the closure and removal of the UST found in the courtyard area. The contents of the UST (approximately 65 gallons of oil and water mixture) were evacuated using a vacuum truck on October 7, 2009, and the UST and a limited amount of associated petroleum impacted soil was removed using a tracked excavator on October 8, 2009. The tank was equipped with fuel supply and return pipes that ran under the floor slab inside the building and to the boiler room. The pipes were cut and residual contents were removed; however, it was not possible to remove the lines without demolishing the concrete floor slab. Stained soil was observed to extend below the floor slab in the vicinity of the pipes. Confirmatory soil samples were collected from the sidewalls and bottom of the tank grave and submitted for laboratory analysis of VOCs and SVOCs, per Mr. Phil Waite of the NYSDEC. A total of five (5) confirmatory soil samples were collected during the performance of IRM 3 and designated as follows: 1333EDSOILCYTNORTH, 1333EDSOILCYTEAST, 1333EDSOILCYTSOUTH, 1333EDSOILCYTWEST, and 1333EDSOILCYTBOTTOM. All of the sidewall soil samples were collected at a depth of approximately 6-8 feet below the ground surface, equivalent to the approximate depth of the tank bottom. The bottom soil confirmation sample was collected at a depth of approximately 10 feet below the ground surface, which was equivalent to the bottom elevation of the excavation following the removal of petroleum impacted soil. The excavation was immediately backfilled in order to prevent additional sloughing of the excavation wall and undermining of the building floor slab. Groundwater was not encountered in the tank excavation.

3.2.1.1 Confirmation Soil Sample Results – VOCs

There were no VOCs exceedances of the NYSDEC Part 375 Restricted-Residential SCO; however it is noted that for the 1333EDSOILCYTNORTH and 1333EDSOILCYTEAST samples (which were collected from the courtyard tank grave), the low-range samples were broken at the laboratory, and as a result only mid range soil extraction results were reported. The following detections were reported in the confirmation soil samples:

- 1,4-Dichlorobenzene was detected in the bottom sample collected from the courtyard tank grave (sample ID 1333EDSOILCYTBOTTOM) and was flagged “J,” indicating that the result is approximate.
- Chlorobenzene was also detected in the bottom sample collected from the courtyard tank grave and

was flagged “J,” indicating that the result is approximate.

- Chloroform was detected in the courtyard tank grave bottom sample and west sidewall sample and both results were flagged “J,” indicating that the results are approximate.
- Carbon disulfide was detected in the bottom sample collected from the tank that was closed in place (sample ID 1333EDSOILINTANK) and was flagged “J,” indicating that the result is approximate.

The confirmation soil sample results are summarized in Table 2 and the complete analytical results are found in Appendix I.

3.2.1.2 Confirmation Soil Sample Results – SVOCs

There were no SVOC exceedances of the applicable NYSDEC Part 375 Restricted Use – Restricted Residential SCOs. The following compounds were detected at low concentrations in at least one of the IRM confirmation samples collected from the courtyard tank excavation:

- 2-Methylnaphthalene
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(g,h,i)perylene
- Benzo(k)fluoranthene
- Chrysene
- Fluoranthene
- Indeno(1,2,3-cd) pyrene

- Phenanthrene
- Pyrene

All above detections were flagged with the “J” qualifier, indicating estimated concentrations, as well as the “D10” qualifier, indicating that the soil samples required dilution due to their sample color. As a result of the dilution, the detection limits reported by TestAmerica are higher than the applicable SCOs. These constituents are often associated with the by-products of combustion and may be derived from historical fill containing coal ash. The confirmation soil sample results are summarized in Table 2, and the complete analytical results are found in Appendix I.

3.2.1.3 Petroleum Contaminated Soil

A total of 106.84 tons of petroleum contaminated soil was excavated from the above described tank closure activities. It should be noted that PCBs were detected in the sample collected for disposal characterization at a total concentration of 39 ppm (compared to the Part 375 Restricted Residential SCO of 1.0 ppm).

3.2.2 Test Pit Investigation Results

Test pits were excavated at the site to investigate the presence of anomalies identified during the geophysical survey (Appendix B) and/or other suspect areas. The test pit locations are illustrated on Figure 2 and logs are found in Appendix D. The following table details visual observations made during the excavation of the test pits:

Test Pit	Test Pit Results
TP-1 5/12/2009	2 - 3 in dia. pipe oriented northwest-southeast horizontally found, followed ~20 ft northwest to where it appears to enter buried concrete block vault covered by ~1/4 in thick sheet metal (approx. 6 x 6 ft) and ~2 - 2.5 ft bgs, cover not removed, no elevated PID readings observed, a second line (3 in dia.?) from southeast corner of vault were thought to possibly be associated with vent/fill pipes near single garage bay door, no elevated PID readings during 5/12/09 test pit **Note:** During IRM 3 activities, the vault was re-exposed using a track-mounted excavator and was discovered to be a wet well for the roof drains from the building. Upon examination by Mr. Phil Waite (NYSDEC) in the field on October 8, 2009, the wet-well was left in-place.
TP-2 5/12/2009	Slight fuel/gas odor, top of tank uncovered at ~15 inches bgs, oriented east-west, lengthwise parallel to bldg brick wall, buried fill or vent pipe approx. 3 ft from garage door (assumed tank end), other end confirmed near 8 in cover in asphalt, grey staining, strong odor/PID hits (250 ppm) around this cover, tank ~25 ft long, estimated width ~ 6 ft.
TP-3 5/12/2009	Petroleum odor noted beneath asphalt, low PID hits, refusal on uneven concrete debris at ~1.5 ft, attempted to extend pit east but hard concrete debris continues.
TP-4 5/12/2009	Concrete fragments, debris such as glass bottles. No odor or visual evidence of contamination observed and no elevated PID readings.
TP-6 5/12/2009	Two (2) pipes (approximately 2 inch and 1.5 inch dia.) encountered within 1 ft of surface, oriented northwest-southeast, 2 inch pipe terminates in test pit, no odor in pipe. Small metal scraps encountered. No elevated PID readings.
TP-7 5/12/2009	Old automobile wheel encountered at 6-12 inches bgs, occasional miscellaneous scrap metal, license plate (NY '32), pipe scraps that don't appear to be intact, miscellaneous fill from 0-2 feet bgs. No visual/olfactory evidence of contamination and no elevated PID readings.
TP-8 5/12/2009	1.5 inch dia. pipe or scrap encountered immediately below surface. No visual/olfactory evidence of contamination and no elevated PID readings.
TP-9 5/12/2009	Vertical 1.5-2 inch dia. pipe encountered at ~6 inches bgs; horizontal 2 inch dia. line at ~15 inches bgs, oriented north-south, followed this line to about 8 feet from fence on south side of property, then pipe turns 90 degrees and runs west. Several additional lines encountered, all appear to be loose/not connected. No evidence of contamination observed, no elevated PID readings, no odor on/in pipes.
TP-10 5/12/2009	Grass and asphalt grades to mixed fill and debris, wire mesh, cinder block, brick, concrete, metal scraps, extending to at least 6 feet bgs. No odor or visual evidence of contamination observed.

No samples were collected during the performance of test pit investigation activities, as no visual or PID evidence of contamination was observed in the encountered soils, except around the UST discovered at TP-2 (this tank was later removed and clearance soil samples were collected from the excavation, as discussed previously).

3.2.3 Floor Drain and Machine Pit Sediment Sampling Results

Sediment samples were collected from three (3) locations within the building structure (see Figure 2). The three (3) sediment samples were submitted to TestAmerica Laboratories for the analysis of SVOCs, TAL metals, and PCBs, and one (1) of the sediment samples was also analyzed for the presence of pesticides.

The sediment sample results are summarized in Table 3 and discussed below, and the complete analytical results are found in Appendix I.

3.2.3.1 Sediment Results – SVOCs

All SVOCs analyses were performed by TestAmerica Laboratories at a dilution factor of 5 due to their sample color ("D10" qualifier), except for the SHOPA DRAIN sediment sample, which was diluted by a factor of 10. The following compound results exceed the applicable NYSDEC Part 375 Restricted Use – Restricted Residential SCOs:

- Chrysene (SCO=3,900 µg/kg) at SED-01A (7,500 µg/kg) , SED-01A-DUP (7,600 µg/kg), and SED-01B (9,700 µg/kg), all qualified "J", indicating the results were approximate;
- Indeno(1,2,3-cd)pyrene (SCO= 500 µg/kg) at SED-01A DUP (5,700 µg/kg, qualified) "J," and SED-01B (5,900 µg/kg) "J."
- Benzo(a)anthracene (SCO=1000 µg/kg) at SED-01A (7000 µg/kg), SED-01A-DUP (7300 µg/kg), SED-01B (8600 µg/kg), all qualified "J";

- Benzo(a)pyrene (SCO=1000 µg/kg) at SED-01A (7200 µg/kg), SED-01A-DUP (7200 µg/kg), SED-01B (9000 µg/kg), all qualified “J”;
- Benzo(b)fluoranthene (SCO=1000 µg/kg) at SED-01A (7700 µg/kg), SED-01A-DUP (8600 µg/kg), SED-01B (12000 µg/kg), all qualified “J”;

The following compounds were detected below their applicable NYSDEC Part 375 Restricted Use – Restricted Residential SCOs:

- 2-Methylnaphthalene in SED-01A, SED-01A-DUP, and SED-01B, all qualified “J”;
- Acenapthene in SED-01A and SED-01A-DUP, both qualified “J”;
- Acetophenone at SED-02A, qualified “J”;
- Anthracene at SED-01A, SED-01A-DUP, SED-01B, all qualified “J”;
- Benzo(g,h,i)perylene at SED-01A-DUP, qualified “J”;
- Benzo(k)fluoranthene at SED-01B, qualified “J”;
- bis(2-Ethylhexyl)phthalate at all locations, qualified “J” at SHOPA DRAIN only;
- Butylbenzylphthalate at SED-01A (qualified “J”), SED-01A-DUP, SED-01B (qualified “J”), and SED-02B;
- Di-n-butylphthalate at SED-02A, qualified “J”;
- Fluoranthene at SED-01A, SED-01A-DUP (both qualified “J”), and SED-01B;

- Fluorene at SED-01A, SED-01A-DUP, and SED-01B, all qualified “J”;
- Phenanthrene at SED-01A, SED-01A-DUP, and SED-01B, all unqualified, and SED-02A and SED-02B, both flagged “J”; and
- Pyrene at SED-01A, SED-01A-DUP, and SED-01B (all unqualified).

The sediment sample analytical results are summarized in Table 3, and the complete laboratory reports are included as Appendix I.

3.2.3.2 Sediment Results – Metals

Widespread detections and several exceedances were reported in the metals analyses of all of the sediment samples, including exceedances of cadmium and copper. The following parameters were also exceeded in one (1) or more of the sediment samples: arsenic, chromium, lead, manganese, mercury, and nickel. The table below summarizes the sediment sample exceedances. Table 3 summarizes all of the sediment sampling analytical results. The complete laboratory reports are found in Appendix I.

Parameter	Part 375 SCO	SED-01A	SED-01A-DUP	SED-01B	SED-02A	SED-02B	SED-SHOPA Drain
Arsenic	16	12.4	5.4	4.7	**46.2**	**22.5**	13.3
Cadmium	4.3	**14.9**	**7.1**	**7.2**	**6.5**	**9.6**	**9.54**
Chromium	110	77.1	84.0	52.5	**529**	**299**	**145**
Copper	270	**477**	**403**	**292**	**706**	**6680**	**431 B**
Lead	400	**450**	216	134	**913**	**1340**	**1320**
Manganese	2000	615	492	383	**2940**	1330	1050 B

Parameter	Part 375 SCO	SED-01A	SED-01A-DUP	SED-01B	SED-02A	SED-02B	SED-SHOPA Drain
Total Mercury	0.81	0.083	0.090	0.073	**0.92**	0.51	0.136
Nickel	310	92.4	81.4	40.2	**445**	**2270**	146

Notes:
All concentrations in mg/kg
SCO = NYSDEC Part 375 Restricted Residential (See Regulation for details)
Bold indicates exceedance of above SCO

Qualifiers:
B - Analyte was detected in the associated Method Blank.

3.2.3.3 Sediment Results – PCBs

The analytical results reported all sediment samples having total PCB concentrations above the applicable NYSDEC Part 375 Restricted Use – Restricted Residential SCO of 1,000 micrograms per kilogram (µg/kg), which is equivalent to parts per billion (ppb). Aroclor 1254 was detected at all of the sediment sample locations, and Aroclor 1260 was also detected at the SED-01A, SED-01A-DUP, and SED-01B sediment sampling locations. The total detectable PCB concentrations ranged from a low of 5,400 µg/kg at sediment sample location SED-01A (analyzed at dilution factor of 20), to 200,000 µg/kg at sediment sample location SED-02A (analyzed at a dilution factor of 1,000). Table 3 summarizes all of the sediment sampling analytical results. The complete laboratory reports are found in Appendix I.

As a result of the detection of elevated concentrations of PCBs in a number of the analyzed media samples (as described above and in the following pages), a separate, multi-phased PCB investigation was performed by B&L at the site in order to better characterize and delineate the two (2) areas in the building where the presence of PCBs were initially identified. The PCB investigation and findings are described in the B&L Report entitled

”Final PCB Site Investigation and Remedial Alternatives Analysis Report (SI/RAAR)” dated January 2012.

The first area of the building discovered by B&L to be contaminated with PCBs consists of an approximately 40-foot square room that is located between the office area and warehouse area. This portion of the building (referred to as the machine room) appears to have previously contained manufacturing equipment, as evidenced by the presence of a machine pit (aka concrete sump). The machine room, which is located on the ground floor of the main two-story brick building, is comprised of an un-coated concrete floor slab, painted concrete block walls, and a combination of glass block and pane glass windows. The concrete sump appears to have been incorporated into the floor during construction. The second area of the building in which PCBs were initially detected, and subsequently further investigated by B&L, is referred to as the boiler room. This portion of the building appears to previously have contained the heating equipment for the building. The boiler room is of similar construction to that of the machine room.

As noted above and further detailed in the previously referenced PCB Remedial Investigation Report, PCBs were detected at very high levels (200,000 µg/kg) in the concrete sump sludge sample (designated as SED-02A), and were also detected at concentrations above the regulatory threshold of 1,000 µg/kg in all of the other analyzed sediment samples. As a result of these initial findings, additional PCB sampling was conducted of the concrete and wood flooring of the non-office areas within the site structure, including the performance of a limited sub-slab soil boring investigation. All of the aforementioned concrete and wood flooring samples, and all but one (1) of the subsurface soil samples exhibited detectable concentrations of PCBs.

3.2.3.4 Sediment Results – Pesticides

Based on the location and possible uses of the drain in Shop A, the SHOPA DRAIN sample was submitted for pesticides analysis. The sample was analyzed by the laboratory at a dilution factor of 50. There were no exceedances of the NYSDEC Part 375 Restricted Residential SCO. The following detections were reported:

- 4,4'-DDT (520 µg/kg, which was qualified by a “J”, indicating that the result was estimated)
- Endosulfan I (52 µg/kg, qualified by a “J, J*, indicating that the result was estimated)
- Endosulfan II (36 µg/kg, qualified “J, J*”)
- Endrin (66 µg/kg, qualified “J”)
- gamma-Chlordane (110 µg/kg, qualified J*)
- Heptachlor epoxide (48 µg/kg, qualified “J, J*”)

Table 3 summarizes all of the sediment sampling analytical results. The complete laboratory reports are found in Appendix I.

3.2.4 Surface Soil Sampling Results

Two (2) surface soil samples (designated as SS-01 and SS-02, respectively), and a blind duplicate sample (obtained at the SS-01 location), were collected at the locations depicted on Figure 2. The three (3) surface soil samples were analyzed for the presence of VOCs, SVOCs, TAL metals, PCBs, and pesticides. The surface soil sample results are summarized in Table 3 and discussed below, and the complete analytical results are found in Appendix I.

3.2.4.1 Surface Soil Results – VOCs

There were no VOCs exceedances of the applicable NYSDEC Part 375 Restricted Use - Restricted Residential SCOs in the analyzed surface soil samples. Detected compounds are summarized below:

- Cyclohexane was detected at SS-02 and qualified by a “J”, indicating that the result is approximate;
- Methylene chloride was detected in all of the analyzed surface soil samples (including the blind duplicate collected at SS-01), and qualified by a “J.”

The VOCs analyses of the surface soil samples did not report any detections of tentatively identified compounds (TICs). The TICs data is found in the laboratory analytical data summary reports in Appendix I.

3.2.4.2 Surface Soil Results – SVOCs

There were no SVOCs exceedances of the applicable NYSDEC Part 375 Restricted Use - Restricted Residential SCOs in the analyzed surface soil samples. However, all of the surface soil samples required dilution for the analysis of SVOCs due to sample color (flagged D10 by TestAmerica), therefore the laboratory reporting limit was higher than the applicable SCOs. Detected compounds are summarized below:

- Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene were detected in all of the analyzed surface soil samples (including the blind duplicate) and qualified by a “J”, indicating that the results are approximate;
- Chrysene was detected in all of the analyzed surface soil samples (including the blind duplicate), and all were qualified by a “J”;
- Fluoranthene was detected in all of the analyzed surface soil samples (including the blind duplicate), and all were qualified by a “J”;
- Phenanthrene was detected in all of the analyzed surface soil samples collected (including the blind duplicate), and all were qualified by a “J”;
- Pyrene was detected in all of the analyzed surface soil samples (including the blind duplicate), and all were qualified by a “J”; and
- Indeno(1,2,3-cd)pyrene was detected in surface soil sample SS-02 and the blind duplicate sample (but not at SS-01, where the blind duplicate was collected); both were qualified by a “J.”

The SVOCs analyses of the surface soil samples did not report any TICs detections. The TICs data is found in the laboratory analytical data summary reports in Appendix I.

3.2.4.3 Surface Soil Results – Metals

The surface soil sample analytical results reported two (2) exceedances of the applicable NYSDEC Part 375 Restricted Use - Restricted Residential SCOs, as described below:

- Arsenic was reported at concentrations above the SCO (16 mg/kg) in the surface soil sample and blind duplicate sample collected at SS-01 (16.3 mg/kg and 17.8 mg/kg, respectively);
- Manganese exceeded the SCO (2,000 mg/kg) at SS 01, where it was detected at a concentration of 2,180 mg/kg, but just below the SCO in the blind duplicate (which was collected at the SS-01 location), where it was detected at a concentration of 1,990 mg/kg. Both were qualified by a "B," indicating that the analyte was detected in the associated Method Blank.

While both arsenic and manganese are naturally occurring in soil, and both metal parameters were detected in a majority of the analyzed surface soil and subsurface soil samples (and groundwater samples) collected during the investigation (refer to data summary tables), the somewhat elevated concentrations of arsenic and manganese detected in the surface soil samples may also be attributable to the urban site setting.

With the exception of the above, none of the other analyzed TAL metal parameters had reported concentrations in excess of their respective Part 375 SCOs. However, as indicated in Table 3, the detected metals concentrations were above the applicable laboratory detection limits at all of the surface soil sample locations.

3.2.4.4 Surface Soil Results – PCBs

The PCBs analyses revealed detectable concentrations of Aroclor 1254 and Aroclor 1260 in surface soil sample SS-01 and the blind duplicate sample, and Aroclor 1262 in surface soil sample SS-02; however, the total detected PCB concentrations were well below the applicable NYSDEC Part 375 Restricted Use – Restricted Residential SCO. Specifically, the concentration of PCBs (i.e., total detected Aroclor 1260) ranged from 26 µg/kg at surface soil sample location SS-02, to 59 µg/kg in the blind duplicate sample collected at surface soil sample location SS-01 (compared to applicable SCO of 1,000 µg/kg).

3.2.4.5 Surface Soil Results – Pesticides

There were no pesticides exceedances of the applicable NYSDEC Part 375 Restricted Use - Restricted Residential SCOs in the analyzed surface soil samples. The detected pesticide compounds are summarized below:

- alpha-BHC was detected at SS-01 and the blind duplicate (also collected at the SS-01 location), and the results were qualified “J”, indicating that the result is approximate;
- delta-BHC was detected at SS-01, but not the blind duplicate (also collected at the SS-01 location) or at SS-02. The result was qualified “J”;

- endosulfan I and endosulfan II were detected at SS-01, and endosulfan I was also detected in the blind duplicate (collected at SS-01); the results were qualified with a “J” and/or “J*”;
- heptachlor was detected at SS-01, but was not detected in the blind duplicate (collected at SS-01); the result was qualified with a “J.”

As previously mentioned, Table 3 summarizes all of the surface soil and sediment sampling analytical results, while the complete laboratory reports can be found in Appendix I.

3.2.5 Subsurface Soil Boring Investigation Results

Twenty-one (21) soil borings were installed (six of which were completed as monitoring wells) during the subsurface soil boring investigation activities (boring logs are found in Appendix E). Soil samples were collected continuously throughout each boring and, based upon the field screening data, one (1) subsurface soil sample was selected from each boring and submitted for laboratory analysis. If impacted soils were not observed in a particular boring, the sample above the observed water table was typically selected for laboratory analysis. The following table summarizes the vertical extent of contamination and peak Photo-ionizer Detector (PID) readings noted during the soil boring installation:

Soil Boring No. (Sample Depth in feet bgs)	Visual/Olfactory Evidence of Contamination	Peak PID Reading (ppm)	Depth of Impacts
SB-01B (0’-8’)	None noted	1.2 (BG)	N/A
SB-02 (16’-20’)	None noted	3.4 (HS)	N/A
SB-03 (20’-24’)	None noted	3.7 (HS)	N/A
SB-04 (0’-4’)	None noted	0.0	N/A
SB-06 (8’-13’)	None noted	2.4 (HS)	N/A

Soil Boring No. (Sample Depth in feet bgs)	Visual/Olfactory Evidence of Contamination	Peak PID Reading (ppm)	Depth of Impacts
SB-07 (16'-20')	Slight petroleum/asphalt odor at surface Slightly elevated PID readings at 12 ft; no odor or visual evidence of contamination observed	10.3	N/A
SB-08 / MW-06 (12'-20')	Slight odor 0-8 ft; no staining or sheen Slight odor at 16 ft; no staining or sheen	29.9 (HS)	0-4 ft
SB-09 (12'-16')	Slight petroleum/asphalt odor at surface, slight odor 0-8 ft; no staining or sheen Slight petroleum odor at 12 ft; no staining or sheen	8.4 (HS)	0-4 ft
SB-10 (16'-20')	None noted	3.1 (HS)	N/A
SB-11 (4'-16')	None noted	6.4 (HS)	N/A
SB-12 (12'-16')	None noted	3.5 (HS)	N/A
SB-13 (16'-20')	None noted	0.0	N/A
SB-14 (12'-16')	None noted	4.6 (HS)	N/A
SB-15A/B (8'-12')	Musty odor at surface, refusal before water table	0.0	N/A
SB-16 (0'-20')	None noted	2.1 (HS)	N/A
SB-17 (16'-20')	None noted	1.7 (HS)	N/A
MW-01 (16'-20')	None noted	4.2 (HS)	N/A
MW-02 (16'-20')	None noted	4.2 (HS)	N/A
MW-03 (16'-20')	None noted	2.9 (HS)	N/A
MW-04 (12'-20')	None noted	6.9 (HS)	N/A
MW-05 (4'-12')	None noted	1.5 (HS)	N/A
Notes: HS indicates a headspace measurement BG indicates the background PID reading			

Twenty-two (22) soil samples (including the blind duplicate sample) were collected as part of the subsurface soil boring program on October 13-19, 2009. Sample locations are depicted on Figure 2. The samples were analyzed for VOCs, SVOCs, PCBs, metals, and pesticides. The subsurface soil sample results are summarized in Table 4 and discussed below, and the complete analytical results are found in Appendix I.

3.2.5.1 Subsurface Soil Sample Results – VOCs

There were no exceedances of the applicable NYSDEC Part 375 Restricted Use – Restricted Residential SCOs in the subsurface soil sample data.

Other compounds were detected at concentrations below the SCOs, as summarized below:

- Acetone and 2-butanone were detected in the sample collected at SB-04;
- Acetone was detected in the sample collected at SB-01 and SB-15; both results were qualified with a “J”, indicating that the result is approximate;
- Chloroform was detected in the samples collected at SB-02, SB-07, SB-13, SB-17, MW-02, MW-03, and MW-04; all results were qualified by a “J”;
- Cyclohexane was detected in the sample and blind duplicate sample collected at SB-08, as well as the samples collected at SB-16 and MW-03; all were qualified with a “B”, indicating that the compound was also detected in the method blank, and/or “J”;
- Ethylbenzene was detected in the sample collected at SB-8 and qualified by a “J”, but was not detected in the blind duplicate collected at this location;
- Methylcyclohexane was detected in the sample and blind duplicate sample collected at SB-08, and only the blind duplicate sample was qualified by a “J”;

- Methylene chloride was detected in all of the subsurface soil samples and was flagged with a “J” and/or “B” at most locations; and
- Xylene was detected in the sample and blind duplicate sample collected at SB-08 and qualified by a “J”.

The VOCs analyses reported tentatively identified compounds (TICs), where detected. Most sample results did not report detectable TICs. TICs were detected in the samples collected from SB-01 (total detected 121 µg/kg), SB-08 (total detected 6 µg/kg), and SB-15 (total detected 62 µg/kg). There were no other VOC TICs detected in the subsurface soil samples.

3.2.5.2 Subsurface Soil Sample Results – SVOCs

There were no SVOCs exceedances of the applicable NYSDEC Part 375 Restricted Use - Restricted Residential SCOs. However, the TestAmerica laboratory results were flagged with a “D10” qualifier indicating a dilution due to sample color. Detected compounds reported below the SCOs are summarized below:

- Phenanthrene was detected in sample collected from SB-02 and was flagged “J,” indicating that the result is considered approximate.

The SVOCs analyses reported tentatively identified compounds (TICs), where detected. The following table summarizes the SVOCs TICs subsurface soil data.

Sample No. (Sample Depth ft. bgs)	Total TICs (µg/kg)
1313ED-SB-01 (0'-8')	2,220
1313ED-SB-02 (16'-20')	ND
1313ED-SB-03 (20'-24')	300
1313ED-SB-04 (0'-4')	7,400
1313ED-SB-06 (8'-13')	ND
1313ED-SB-07 (16'-20')	ND
1313ED-SB-08 (12'-20')	10,000
BLIND DUPLICATE	13,500
1313ED-SB-09 (12'-16')	ND
1313ED-SB-10 (16'-20')	13,000
1313ED-SB-11 (4'-16')	12,000
1313ED-SB-12 (12'-16')	16,000
1313ED-SB-13 (16'-20')	ND
1313ED-SB-14 (12'-16')	7,000
1313ED-SB-15 (8'-12')	3,700
1313ED-SB-16 (0'-20')	ND
1313ED-SB-17 (16'-20')	ND
1313ED-MW-01 (16'-20')	180
1313ED-MW-02 (16'-20')	ND
1313ED-MW-3 (16'-20')	ND
1313ED-MW-04 (12'-20')	14,000
1313ED-MW-5 (4'-12')	ND

3.2.5.3 Subsurface Soil Results – Metals

A single metal exceedance of the applicable NYSDEC Part 375 Restricted Use – Restricted Residential SCO was reported in the subsurface soil sample results, as described below:

- Copper was detected at SB-03 at a concentration of 307 mg/kg (compared to the SCO of 270 mg/kg); however, the result was flagged with a “B” qualifier, indicating that the compound was also detected in the corresponding method blank.

There were otherwise no exceedances of metals parameters reported for the subsurface soil samples collected during this investigation. There were detectable metal concentrations above the laboratory detection limits at all sample locations, as summarized in Table 4.

3.2.5.4 Subsurface Soil Results - PCBs

Two (2) exceedances of the applicable NYSDEC Part 375 Restricted Use - Restricted Residential SCOs were reported for the subsurface soil samples collected, as described below:

- The samples collected at SB-04 (25,000 µg/kg) and SB-06 (1,000 µg/kg) both exceeded the applicable SCO (1,000 ug/kg). However, it is important to note that soil boring SB-04 is located inside the building structure, therefore the boring was advanced through the concrete floor and into the underlying soils. Soil boring SB-06 was drilled immediately outside the building structure in the fenced courtyard area in the vicinity of the former 7,000 gallon UST that was removed during the IRMs.

The subsurface soil sample results reported the following detections:

- Aroclor 1254 was detected at the following soil boring locations: SB-02, SB-04, SB-06, SB-07, SB-08 (sample and blind duplicate), SB-14, SB-15, SB-16, SB-17, MW-01, MW-03, and MW-05. Arochlor 1254 concentrations in these samples ranged from 8.9

µg/kg at soil boring location MW-01, to 310 µg/kg at soil boring location MW-03.

The results of the subsurface soil sample PCBs analyses are summarized in Table 4.

3.2.5.5 Subsurface Soil Results – Pesticides

There were no exceedances of NYSDEC Part 375 Restricted Use – Restricted Residential SCOs for pesticides in the analyzed subsurface soil samples. The detected pesticide compounds are summarized below:

- 4,4'-DDE was detected in soil borings SB-08 (0.73 µg/kg) and SB-17 (6.5 µg/kg). SB-08 was flagged with a "J" (indicating that the concentration is approximate) and "B" (indicating that the analyte was detected in the Method Blank). SB-17 was flagged with a "J";
- 4,4'-DDD was detected in soil samples SB-15 (16 µg/kg), SB-17 (11 µg/kg) and MW-5 (0.94 µg/kg). Detections were flagged with a "J" and/or "J*" (indicating an approximated result);
- 4,4'-DDT was detected in soil borings SB-12 (9.3 µg/kg) and SB-17 (16 µg/kg). SB-12 was flagged with a "J" and "UJ" (indicating the detection limit is approximate);
- alpha-BHC was detected in soil samples SB-18 (0.91 µg/kg) and MW-3 (0.94 µg/kg). SB-18 was flagged with a "J" while MW-3 was flagged with a "J" and "B";

- Endosulfan I was detected in the soil boring SB-17 at 2.3 µg/kg (flagged “J”);
- Endosulfan II was detected in soil borings SB-17 (1.5 µg/kg) and SB-18 (0.58 µg/kg). Detections were flagged with a “J”;
- Gamma-Chlordane was detected in soil samples SB-16 (40 µg/kg), SB-17 (3.6 µg/kg) and MW-5 (18 µg/kg). Detections were flagged with a “J” and/or “J*”; and
- Heptachlor epoxide was detected in soil borings SB-13 (7.2 ug/kg) and SB-17 (1.7 ug/kg). SB-17 was flagged with a “J” and/or “J*.”

3.2.6 Groundwater Sampling Results

Groundwater samples were collected from the six (6) permanent on-site monitoring wells on February 23, 2010. A tabulated summary of the groundwater analytical data is provided in Table 5. The well locations and the groundwater contours are presented on Figure 4. The analytical results are summarized below, and the complete analytical results are found in Appendix I.

Well ID	Well Depth (ft bgs)	Water Table Depth (ft bgs)	Screened Interval (ft bgs)
MW-01	28.0	23.0	18-28
MW-02	28.0	18.85	17.5-27.5
MW-03	28.0	21.64	17.1-27.1
MW-04	28.0	19.84	18-28
MW-05	28.0	19.98	18-28
MW-06	28.0	19.82	18-28

3.2.6.1 Groundwater Sample Results - VOCs

Examination of Table 5 reveals that there were no exceedances of VOC parameters in the analyzed groundwater samples as compared to the applicable NYSDEC Part 703 Groundwater Standards.

Very few detections of VOC parameters were reported for the analyzed groundwater samples, as summarized below:

- Chloroform was detected in all of the analyzed groundwater samples, with the exception of the sample collected at MW-01, at concentrations ranging from 3.7 µg/l to 6.9 µg/l; and
- Acetone was detected in the groundwater samples collected from MW-01 (2.9 µg/l) and MW-02 (3.6 µg/l); both results were qualified “J,” indicating an estimated result, and MW-02 was also qualified L1, indicating that the Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.

There were no detectable TICs reported in the results of the groundwater sample VOCs analyses. The VOCs analytical results are summarized in Table 5, and the complete laboratory reports, which include the TICs data, are included as Appendix I.

3.2.6.2 Groundwater Sample Results - SVOCs

There were no exceedances of SVOC parameters in the analyzed groundwater samples when compared to the applicable NYSDEC Part 703 Groundwater Standards. Detected compounds are summarized below:

- 4-Chloroaniline was detected at MW-02 (2.3 µg/l), MW-03 (1.3 µg/l), MW-04 (1.2 µg/l), and the sample and blind duplicate sample collected at MW-05 (both 1.4 µg/l); all detections was qualified “J”, indicating concentrations are approximate;
- -Nitroaniline was detected at MW-03 (3.2 µg/l) and was flagged “J”;
- bis(2-Ethylhexyl)phthalate was detected at MW-06 (1.8 µg/l) and was flagged “J”;
- Butylbenzylphthalate was detected at MW-01 (0.44 µg/l) and was flagged “J”;
- Caprolactam was detected in all groundwater water samples except MW-03, ranging from 10 µg/l to 15 µg/l; and
- Di-n-butylphthalate was detected at MW-06 (0.61 µg/l) and the blind duplicate sample (0.36 µg/l) that was collected at MW-05 (this parameter was not detected at MW-05); both were qualified by a “J.”

The laboratory testing of SVOCs also included the analysis and reporting of TICs when detected. Specifically, SVOC TICs were detected in all of the analyzed groundwater samples, with the total concentration of SVOC TICs ranging from 411.7 µg/l at monitoring well MW-03, to 656.6 ug/l and 893 µg/l, respectively, in the groundwater sample and blind duplicate sample collected at monitoring well location MW-05.

The SVOCs analytical results are summarized in Table 5, and the complete laboratory reports, which include the TICs data, are included as Appendix I.

3.2.6.3 Groundwater Sample Results – Metals

As expected, metals parameters were detected in all of the analyzed groundwater samples, and there were numerous metals parameter concentration exceedances when compared to the applicable NYSDEC Part 703 Groundwater Standards. Specifically, parameter concentration exceedances were reported for iron, manganese, and sodium, as summarized below. However, given the elevated turbidity levels of the procured groundwater samples (see field sampling data in Appendix H), it is likely that the metals detections are largely due to sediment-bound particles suspended in the groundwater sample.

- Reported iron concentrations exceeded the Part 703 Groundwater Standard (0.3 mg/l) at all monitoring well locations, ranging from 6.74 mg/l at MW-06, to 190 mg/l and 199 mg/l in the groundwater sample and blind duplicate sample, respectively, collected at downgradient monitoring well MW-05;
- Manganese exceeded the Part 703 Groundwater Standard (0.3 mg/l) in all of the analyzed groundwater samples, ranging from 0.408 mg/l at monitoring well MW-06, to 19.8 mg/l and 20.4 mg/l, respectively, in

the groundwater sample and blind duplicate sample collected at downgradient monitoring well MW-05; results were qualified with a “J” and/or “D08” (indicating sample was diluted);

- Sodium exceeded the Part 703 Groundwater Standard (20 mg/l) at all of the on-site monitoring well locations, with the exception of the groundwater sample collected at upgradient monitoring well MW-01 (12.4 mg/l). Specifically, the detected sodium concentrations ranged from 143 mg/l at monitoring well MW-06, to 204 mg/l at monitoring well MW-02;
- Chromium was detected at concentrations above the applicable Part 703 Groundwater Standard (0.05 mg/l) in the groundwater sample and blind duplicate sample collected at downgradient monitoring well MW-05 (0.194 mg/l and 0.202 mg/l, respectively), and chromium was also detected slightly above the Part 703 standard at monitoring well MW-03, where it was reported 0.0506 mg/l; and
- In addition, the following metals parameters exceedances were also observed in the groundwater sample and blind duplicate sample collected at downgradient monitoring well MW-05:

Parameter	Pt 703.5 GW Std	MW- 05	Blind Duplicate
Arsenic	0.025	**0.0826**	**0.0866**
Copper	0.2	**0.462**	**0.479**
Lead	0.025	**0.105**	**0.11**
Magnesium	35	**42.9**	**44.4**
Nickel	0.1	**0.194**	**0.202**

Notes:
Bold indicates exceedance of NYSDEC Part 703.5 Groundwater Standards
The standard for arsenic applies to dissolved form. See Regulation for additional information.
Concentrations in mg/l

The metals analytical results are summarized in Table 5 and the complete laboratory reports are included as Appendix I.

3.2.6.4 Groundwater Sample Results – PCBs

There were no PCBs detected in any of the groundwater samples collected at the Site, as summarized in Table 5. The complete laboratory reports are included in Appendix I.

3.2.6.5 Groundwater Sample Results – Pesticides

There were no exceedances of pesticides detected in the analyzed groundwater samples when compared to NYSDEC Part 703 Groundwater Standards pesticides. Limited detections of pesticides were reported, as summarized below:

- delta-BHC was detected at concentrations below the applicable Part 703 Groundwater Standard (0.04 µg/l) at monitoring well locations MW-01, MW-02, MW-04, MW-05 (the blind duplicate sample only), and MW-06, at concentrations ranging from 0.04 µg/l in the blind duplicate sample, to 0.034 at monitoring well MW-04.

It should be noted that all of the aforementioned results were qualified "J," indicating the results were estimated, a "B," indicating that the parameter was also detected in the method blank, and "UJ", indicating the detection limit is approximate.

Based on the laboratory qualifiers, it is possible that the pesticide detections are laboratory artifacts, and are therefore not representative of true groundwater quality at the site.

The pesticide analytical results are summarized in Table 5, and the complete laboratory report is included as Appendix i.

3.3 Contaminant Fate and Transport

Many physical and chemical processes can affect contamination migration within the different matrices at the Site. Contaminants in vapor, groundwater, and surface water migrate primarily via advection, mechanical dispersion, and/or diffusion. In this section, the contaminants encountered at the site (as discussed in Section 3.2), and their chemical properties are discussed with regard to the potential routes of migration and transport mechanisms.

Although VOCs, SVOCs, pesticides, metals, and PCBs were detected in various sample matrices at the site, the most significant exceedances of the standards (NYSDEC Part 375 Restricted-Residential for soil and floor drain sediment samples and NYSDEC Part 703 Water Quality Criteria for groundwater samples) were limited to the SVOCs, metals, and PCBs exceedances in the floor drain samples (these samples were not submitted for VOCs). In addition, there were detectable PCB concentrations in several of the subsurface soil samples (including exceedances of the SCO at soil boring locations SB-04 and SB-06). Therefore, the following discussion will focus on these constituents.

3.3.1 Potential Routes of Migration

3.3.1.1 Contaminant Transport – Vapor

The lateral migration of non-particulate airborne contaminants typically occurs as a function of air movement. Vertically, contaminants can also migrate according to their specific densities and/or as a result of changes in air pressure gradients. Volatilization from groundwater and/or soil is the primary route of airborne contamination. Due to the limited VOC exceedances in groundwater and soil samples (see Section 3.2), this transport mechanism does not appear to warrant further evaluation.

3.3.1.2 Contaminant Transport – Soil

Transport of contaminants bound to soil particles can occur via a number of natural or anthropogenic mechanisms, including: particulate transport by wind or water (i.e. wind or water erosion), mechanical excavation and hauling, and transport on shoes or tires.

Two (2) subsurface soil samples exceeded the SCO for PCBs, and the presence of PCB contamination at the site (specifically inside the building) is further documented in a separate PCB investigation conducted by B&L as mentioned in Section 3.2 and described fully in the previously referenced PCB Remedial Investigation Report. PCBs tend to attach to particles of soil and sediment, and do not dissolve easily in water. Furthermore, metals tend to form cations and bind to negatively charged soil. Exposure of contaminated subsurface soil during excavation activities or disturbance of contaminated surface soil or floor drain sediment can provide opportunities for the transport of contaminated soil through the mechanisms listed above. Therefore, further evaluation of contaminant transport in the soil is warranted at this time, and this evaluation will be included in the Remedial Alternatives Report to be issued under separate cover.

3.3.1.3 Contaminant Transport – Groundwater

Infiltration of recharge downward through the vadose zone is a potential transport mechanism (i.e., leaching) that allows contaminants to enter the groundwater regime. There were several SVOCs exceedances in the floor drain sediment samples, which could be transported via groundwater; however, these samples were collected from features in indoor locations, where recharge is minimal. The floor drain sediment samples also exhibited elevated PCBs and metals concentrations (often exceeding the applicable standards). Additionally, many of the subsurface soil samples exhibited detectable concentrations of PCBs, including two (2) soil boring locations (one of which was located inside the building, while the second boring was located immediately outside of the building) where the applicable SCO for PCBs was exceeded. In general, however, PCBs and most metals tend have lower mobility in water, and therefore are less likely to leach into, or migrate via the groundwater flow regime. As such, it does not appear that groundwater is a likely contaminant transport mechanism at the site.

3.3.1.4 Contaminant Transport – Surface Water

Although there are no surface water bodies at the site, groundwater leaving the site and discharging to downgradient surface water bodies is a viable contaminant transport mechanism. However, since the groundwater does not appear to be significantly impacted (see Section 3.2), and groundwater contaminant transport is not expected to play a significant role as stated above, this transport mechanism does not appear to warrant further evaluation.

3.3.2 Contaminant Persistence and Migration

The IRM activities, which included the removal of waste materials and ASTs stored inside the building structure, the cleaning of the machine pit sump and the Boiler Room floor, the closure of two (2) USTs (one of which was closed in place while the other UST was removed, as described in Section 2.4) and associated petroleum impacted soil, have eliminated many of the formerly existing potential sources of contamination at the site, and have minimized the potential for future associated contaminant migration.

Based on the above, the PCB-contamination present inside the building is considered to be the primary environmental concern at the site (more information on the degree and extent of PCB contamination at the site can be found in the previously referenced PCB Remedial Investigation Report prepared by B&L). While relatively immobile, the PCBs will persist where present, unless remedial efforts are employed. Remedial options are discussed in the PCB Remedial Investigation Report, and will also be discussed in greater detail in the Remedial Alternatives Report to be issued under separate cover.

3.4 Public Health and Wildlife Risk Evaluation

3.4.1 Evaluation of Possible Exposure Pathways

Based on our assessment of the encountered site soil and groundwater contaminant conditions as described above, and taking into account the migration potential of these contaminants, an evaluation was performed to determine which potential exposure pathways represent a level of risk requiring possible site remediation. Our evaluation also considered possible future site development activities (e.g., site construction) that could directly expose site workers to residual contaminants.

Typical exposure pathways for site contaminants include direct contact with impacted soil or groundwater (absorption pathway), inhalation of vapors from soil or groundwater contamination (inhalation pathway), and ingestion of soil or groundwater contaminants (ingestion pathway). These pathways are discussed briefly below with respect to the site conditions encountered during the Remedial Investigation.

3.4.2 Evaluation of Absorption Pathway

Examination of the surface soil sample analytical laboratory test results revealed that surface soil sample SS-01 reported two (2) metals parameters (arsenic and manganese) with concentrations slightly above the applicable NYSDEC Part 375 Restricted-Residential SCOs. Because the surface soils at the site are exposed, a potential exposure pathway exists with regards to the presence of surface soils at the site. Results of the floor drain sediment sampling (performed inside the building) identified additional metals (such as mercury, lead, copper, chromium, cadmium and/or nickel), several polycyclic aromatic hydrocarbons (PAH) compounds, and PCBs in one (1) or more of the analyzed sediment samples that were reported at concentrations greater than the applicable SCOs. Although the building structure at the site is secured, because the floor drains are exposed within the building, a potential exposure pathway exists with regards to the sediment in the floor drains at the site.

PCBs were also detected in several of the analyzed subsurface soil samples, although concentration exceedances were only reported at two (2) of the soil boring locations. As such, a potential exposure absorption pathway exists with regards the subsurface soils at the site (especially if the subsurface soil is exposed during future excavation activities, etc.).

3.4.3 Evaluation of Inhalation Pathway

Volatilization of VOCs present in the groundwater and/or soil is the primary route of airborne contamination. However, due to the limited VOC exceedances detected in the analyzed groundwater and soil samples, this pathway does not appear to warrant further evaluation.

3.4.4 Evaluation of Ingestion Pathway

There are no private water supply wells serving nearby residents (residents are on the City's public water supply), and as such, there are no complete exposure pathways for the ingestion of groundwater from the site.

Based on the analytical results discussed above, a potential ingestion pathway exists at the site with regard to the presence of metals in the surface soil, PCBs in the subsurface soil (if the subsurface soil is exposed during a future excavation, etc.), and SVOCs, metals, and PCBs in the floor drain sediment.

3.4.5 Summary of Evaluation of Possible Exposure Pathways

Based on the above noted evaluation of possible exposure pathways, the potential absorption and ingestion pathways at the site are complete. Our evaluation also determined that there are potential exposure pathways with regards to the occurrence of possible future site development activities (e.g., site construction) that could directly expose site workers to the residual contaminants.

3.5 Wetland, Floodplains, and Sensitive Environment Survey

B&L performed a review of available information relative to the presence of wetlands on and near the project site. Specifically, New York State Freshwater Wetland and National Wetland Inventory (NWI) maps were reviewed, and based on this information it was determined that there are no mapped Freshwater Wetlands adjacent to the site. In addition, field visits to the site confirmed the absence of freshwater wetlands on and adjacent to the site. Furthermore, review of the Federal Emergency Management Agency (FEMA) flood zone maps indicates that the site is located in an area of minimal flooding.

Potential wildlife impacts at the site were assessed by B&L staff during the performance of field inspections. The site area is located in an urban section of the City of Rome, and the land use on and adjacent to the site consists of residential and commercial, with some nearby industrial properties. As such, the land-use in the area would discourage many types of wildlife from utilizing the site, and therefore the potential impacts to wildlife are limited and likely negligible.

Potential species that could inhabit or traverse the site environs include mice, voles, rats, squirrels, woodchucks, rabbits, raccoons, opossum, and deer. The potential pathway for surface exposure is ingestion/ absorption of contaminated surface soils or groundwater. Since no large burrows were observed on the site, this analysis is limited to mice, voles, and rats being the species that could receive primary exposure to site contaminants. It is possible that some secondary exposure to contaminants could occur in predators that consume contaminated rodents.

As contamination of surface soils and groundwater is isolated, there is minimal risk of wildlife impacts at the site and it appears that the completion of a Fish and Wildlife Impact Analysis (FWIA) is not warranted for the site.

4.0 Remedial Investigation Summary and Recommendations

4.1 Site Characterization Summary

The phased Remedial Investigation of the property described herein included an ecological evaluation, a test pit investigation, a surface soil sampling program, a subsurface boring and well installation program, a groundwater and subsurface soil sampling program, and in-place testing of hydraulic conductivity.

The subsurface investigation in October, 2009 revealed some fill material and apparent alluvial sand, gravel, and cobble at all of the boring locations. Groundwater was typically encountered at a depth of 16 to 21 ft on the site. Bedrock was not encountered during the subsurface investigation. The direction of groundwater flow at the site, which is based on the measurement and evaluation of static water levels from the on-site monitoring wells, was found to flow generally to the southwest.

Two (2) IRMs were performed at the site during the period of June to July, 2009, and October of 2009, respectively, which included the removal of waste materials and ASTs stored inside the building structure, the cleaning of the machine pit sump and the Boiler Room floor, and the closure of two (2) USTs and removal of associated petroleum impacted soil. Soil clearance samples were collected from the tank closures and submitted for the analysis of VOCs and SVOCs, and there were no exceedances of the SCOs reported.

Surface soil and subsurface soil samples were collected at the site in October, 2009. Limited metals exceedances of the Part 375 Restricted-Residential SCOs were reported in the surface soil sampling results, including arsenic and manganese at surface soil sample SS-01 (however, manganese was also detected in the associated method blank). These exceedances may be attributable to the urban site setting or natural background soil conditions. There were very limited exceedances of the SCOs in the subsurface soil boring samples, including a single exceedance of the NYSDEC Part 375 Restricted-Residential SCO for copper at soil boring SB-03, and exceedances of the SCO for total PCBs at soil boring SB-04 (inside the building) and soil boring SB-06 (which was drilled immediately outside the building structure in the fenced courtyard area in the vicinity of the former 7,000 gallon UST that was removed during the IRMs).

Groundwater samples were collected by B&L in February, 2010 following the completion of monitoring well development activities. There were widespread detections and several metals parameter exceedances reported for iron, manganese, and sodium as compared to the applicable NYSDEC Part 703 Groundwater Standards. MW-05 exhibited exceedances for arsenic, chromium, copper, nickel, lead and magnesium, as well as the three (3) previously referenced metal parameters. However, given the elevated turbidity levels in the procured groundwater samples, the elevated concentrations are likely attributable to sediment-bound particles rather than the more representative dissolved groundwater quality.

Based on our evaluation of the soil and groundwater analytical laboratory test results, a Contaminant Fate and Transport assessment, which also considered possible future site development activities (e.g., site construction) that could potentially expose site workers to residual contaminants, B&L determined that potential ingestion and absorption exposure pathways exist at the site with regards to the presence of exposed surface soils (specifically metals), the indoor floor drain sediments (SVOCs, metals, and PCBs), and subsurface soil below the concrete flooring in the building (PCBs).

4.2 Recommendations

Based on the Remedial Investigation findings described herein (and as summarized above), it is the opinion of B&L that the nature and extent of contamination present within the building structure footprint at 1333 East

Dominick Street has been sufficiently characterized, and the respective contaminant source areas identified. As previously discussed, several of the analyzed floor drain and machine pit sediment samples exhibited parameter concentration exceedances of select SVOC constituents, various metals parameters, and total PCBs.

Due to the detection of elevated concentrations of PCBs in a number of the analyzed media samples collected from within the building structure, a separate, multi-phased PCB investigation was performed in order to further characterize and delineate the two (2) areas in the building where PCBs were initially identified (the machine room and the boiler room). Furthermore, PCB sampling of the concrete and wood flooring of the non-office areas within the site structure was also conducted, including the performance of a limited sub-slab soil boring investigation. Examination of the corresponding analytical laboratory test results revealed that, with the exception of one (1) subsurface soil sample, all of the analyzed media samples exhibited detectable concentrations of PCBs.

In discussing the above noted findings with NYSDEC staff, it was recommended by the Department that B&L design an IRM for the purpose of removing the PCB-contaminated subsurface soil, floor drain sediments, and wood and concrete flooring that exists within the building footprint. Therefore, on March 29, 2012, B&L submitted to the Department for review and approval an IRM Work Plan entitled “NYSDEC Interim Remedial Measures Work Plan and U.S. EPA Self-Implementation Cleanup Plan for the Remediation of Polychlorinated Biphenyl (PCB) Contamination”. Following their review of the aforementioned IRM Work Plan, the NYSEC issued a comment letter to the City of Rome dated April 26, 2012 requesting that the IRM Work Plan be revised and then re-submitted to the Department for review and approval. Therefore, B&L is in the process of revising the IRM Work Plan in response to the NYSDEC comment letter, in addition to responding to comments provided by the EPA with regards to the Self-Implementation Cleanup Plan for the remediation of PCB contamination at 1333 East Dominick Street. Following NYSDEC and EPA approval of the revised Work Plan document, B&L will proceed with the implementation of IRM activities at the former Nolan Manufacturing building.

In addition to the above noted SVOCs, metals, and PCB contamination that exists within the building footprint, evidence of PCB soil contamination was detected in the subsurface soil sample collected from outdoor soil boring SB-06 which was located in the courtyard area in close proximity to the former location of the 7,000 gallon UST that was removed during the performance of IRM-3. Specifically, a concentration of 1.0 ppm total PCBs was detected in soil boring SB-06, which is equal to the maximum allowable concentration of PCBS for NYSDEC Part 375 Restricted Use – Restricted Residential Use. However, of potentially greater significance is the total PCBs concentration of 39.0 ppm that was detected in a grab soil sample obtained from the stockpile of petroleum contaminated soil that was removed from the tank grave of the former 7,000 gallon UST.

Given the close proximity of indoor soil borings SB-04 and PCB_Boring-6 to the former location of the 7,000 gallon UST and outdoor soil boring SB-06, and taking into account the fact that the detected PCB concentrations at each of these locations is either equal to or in exceedance of the applicable NYSDEC Part 375 Restricted Use – Restricted Residential Use SCO for PCBs, the Department has requested that additional subsurface soil samples be collected in the courtyard area in the vicinity of the former 7,000 gallon UST and analyzed for the presence of PCBs. Therefore, B&L will arrange to perform two (2) additional soil borings on the northeast and southwest sides, respectively, of the former UST. These two (2) newly proposed soil borings are designated as soil borings SB-18 and SB-19 on enclosed Figure 5 (Supplemental Soil Boring Location Plan). Specifically, it is intended that a single subsurface soil sample be collected from each soil boring at a depth of 6 to 8 feet bgs (which is equivalent to the depth of the former 7,000 gallon UST), and the two (2) soil samples submitted for the laboratory analysis of total PCBs.

The results of the supplemental subsurface soil sampling will be presented to the Department in the form of a letter report, and the findings appropriately incorporated into the ensuing Remedial Alternatives (RA) report to be prepared by B&L for the 1333 East Dominick Street site.

5.0 References

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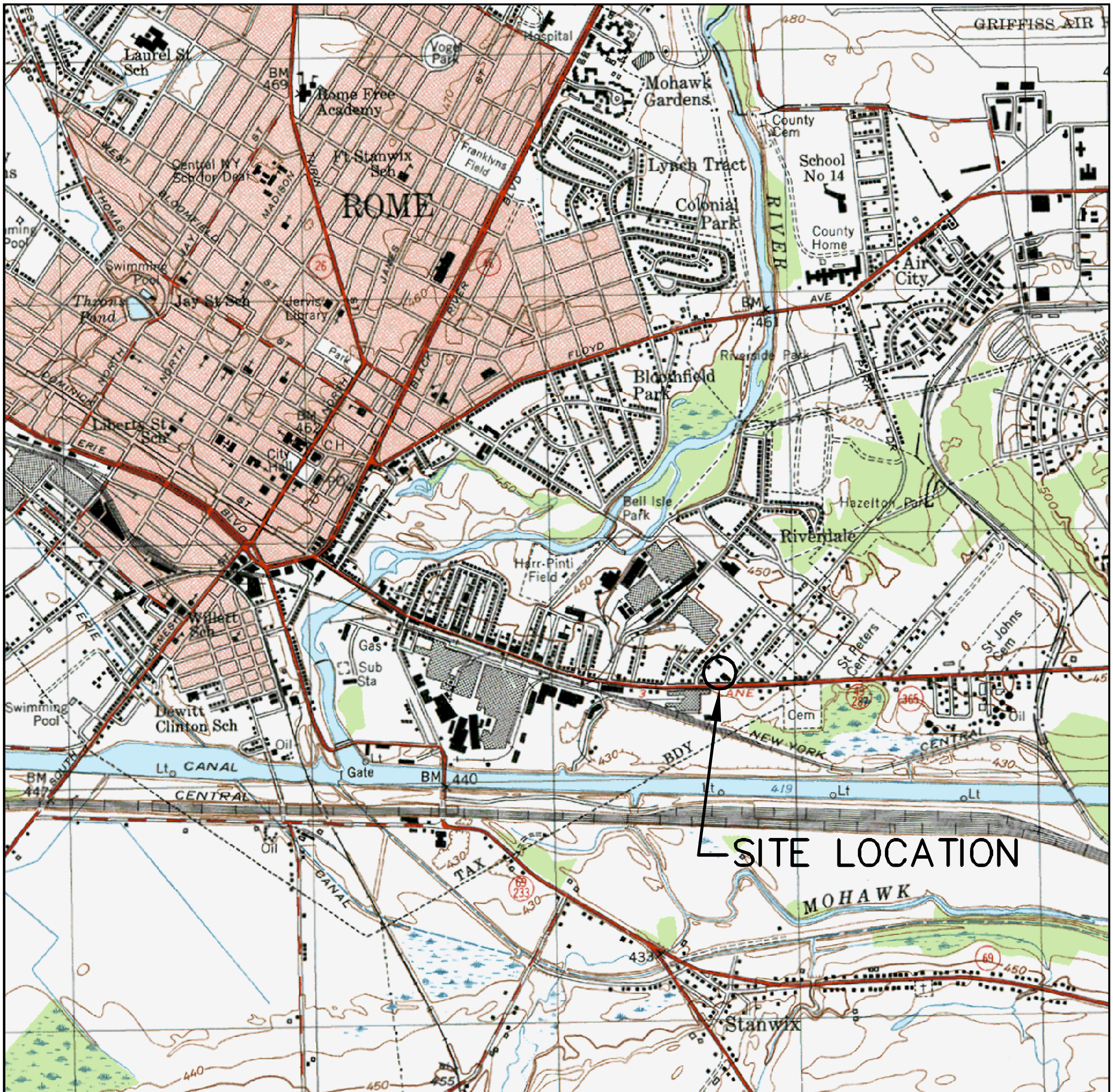
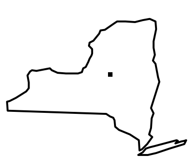
Figures



SOURCE: ROME, NEW YORK U.S.G.S. QUADRANGLE MAPS, DATE 1984.



QUADRANGLE LOCATION

2000' 0 2000'

1"=2000'

N

Barton & Loguidice, P.C.

Date	Scale
JULY, 2011	1" = 2000'

CITY OF ROME

SITE INVESTIGATION REPORT

1313–1333 EAST DOMINICK STREET

SITE LOCATION PLAN

CITY OF ROME

ONEIDA COUNTY, NEW YORK

Figure Number

1

Project Number

245.005

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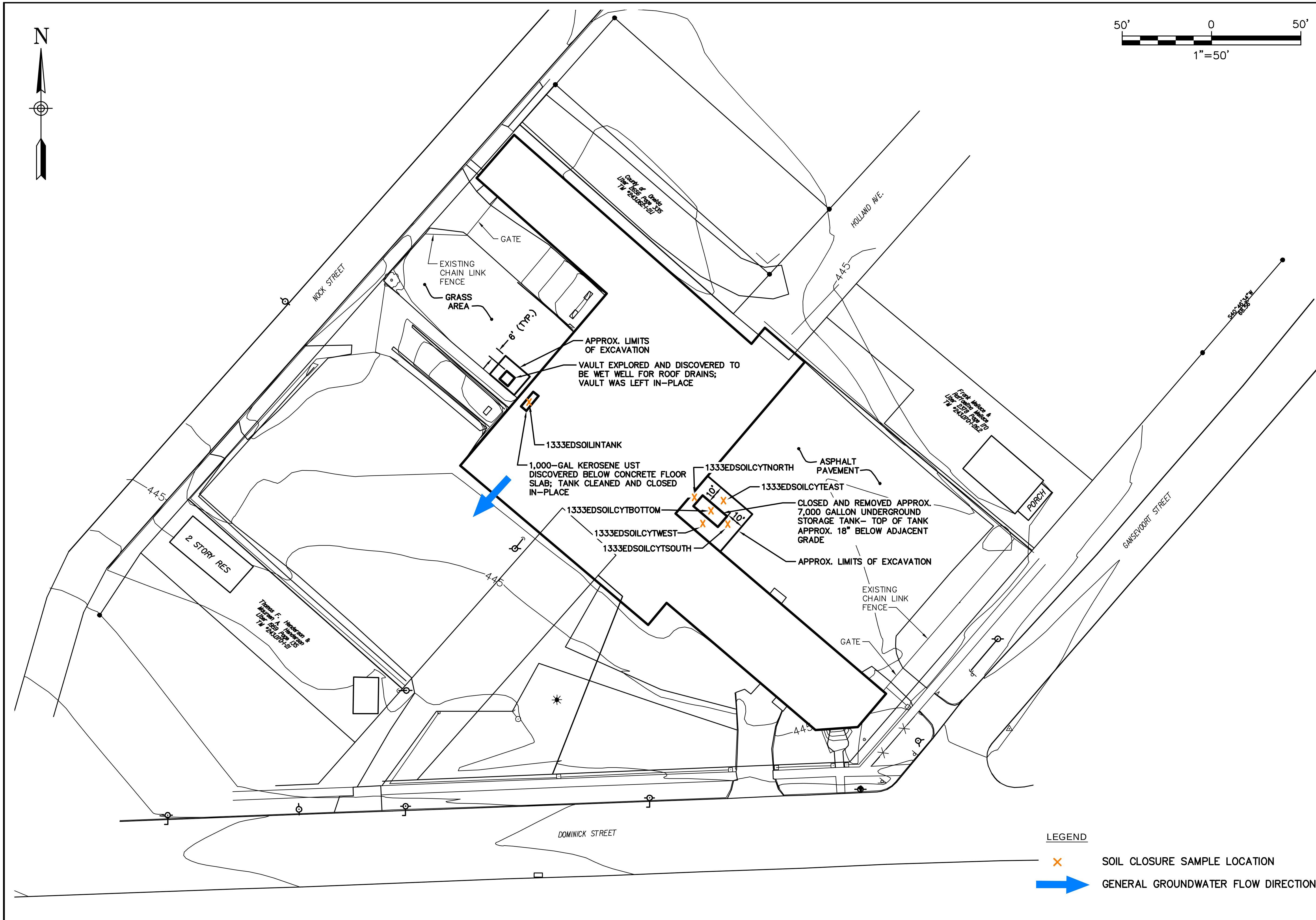

CITY OF ROME
SITE INVESTIGATION REPORT
1313-1333 EAST DOMINICK STREET
IRM LOCATION PLAN

ONEIDA COUNTY, NEW YORK

CITY OF ROME

Barton & Loguidice, P.C.

JUNE, 2012

Scale 1" = 50'

Figure Number 3

Project Number 245.005

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Groundwater Sample SCO Exceedances

Constituent	RSCO	Sample	Concentration (mg/L)
Arsenic	0.025	MW-05	0.083
		DUPE Y (MW-05)	0.087
Chromium	0.05	MW-03	0.05
		MW-05	0.11
		DUPE Y (MW-05)	115.00
Copper	0.20	MW-05	0.46
		DUPE Y (MW-05)	0.48
Iron	0.3	MW-01	9.62
		MW-02	10.8
		MW-03	64.2
		MW-04	45.1
		MW-05	190
		DUPE Y (MW-05)	199
		MW-06	6.74
Lead	0.025	MW-05	0.11
		DUPE Y (MW-05)	0.11
Magnesium	35	MW-05	42.9
		DUPE Y (MW-05)	44.4
Manganese	0.3	MW-01	0.42
		MW-02	0.76
		MW-03	4.26
		MW-04	3.44
		MW-05	19.8
		DUPE Y (MW-05)	20.4
		MW-06	0.41
Nickel	0.1	MW-05	0.194
		DUPE Y (MW-05)	0.202
Sodium	20	MW-02	204
		MW-03	144
		MW-04	158
		MW-05	147
		DUPE Y (MW-05)	146
		MW-06	143

CITY OF ROME
SITE INVESTIGATION REPORT
1313-1333 EAST DOMINICK STREET

POTENTIOMETRIC SURFACE MAP – APRIL 2010

ONEIDA COUNTY, NEW YORK

CITY OF ROME

Barton & Loguidice, P.C.

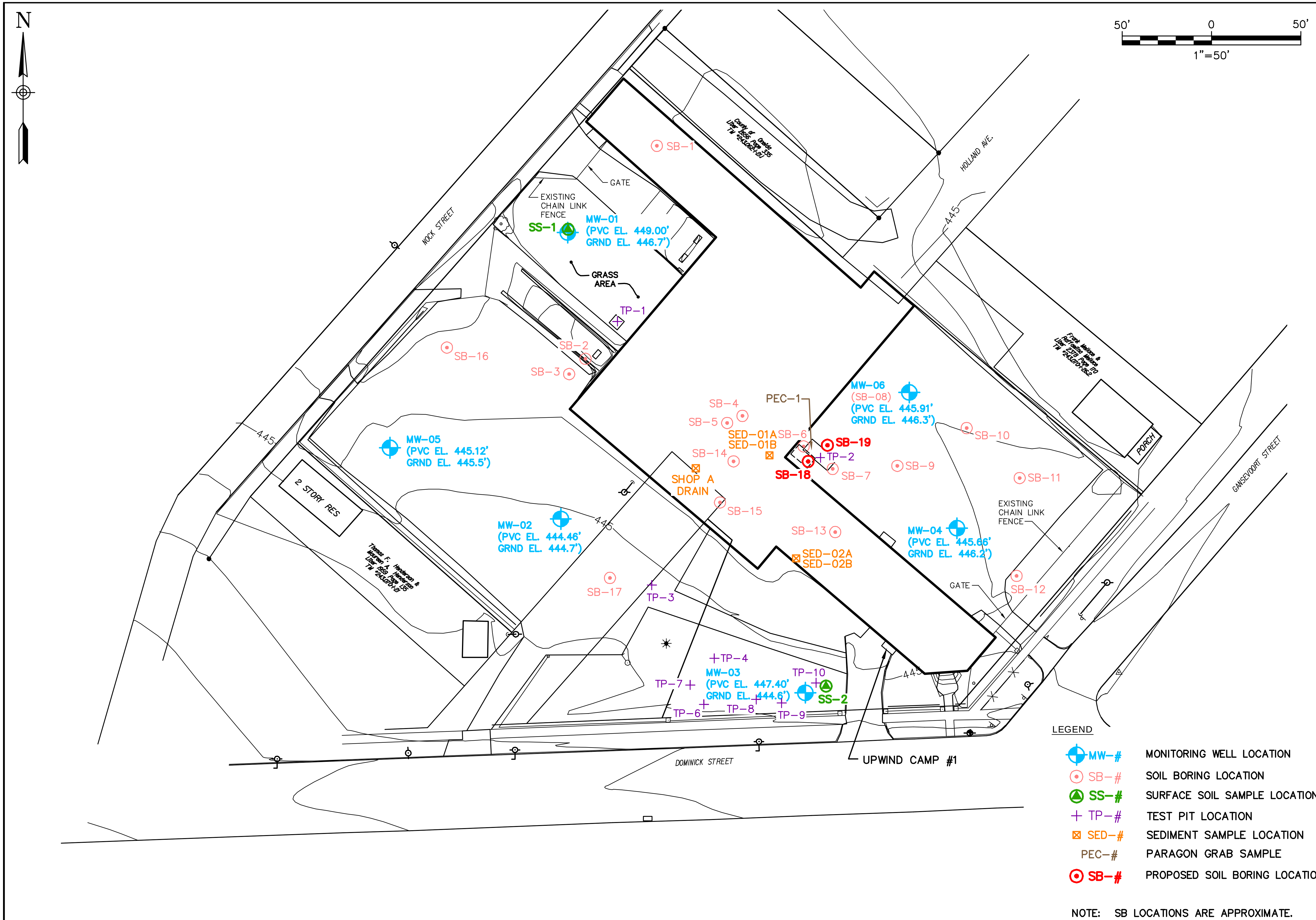
JUNE, 2012

Scale
1" = 50'

Figure Number
4

Project Number
245.005

Plotted: Jun 11, 2012 – 8:37AM SYR By: jgs
I:\Shared\200\245005-S\SIR FIGURES\1313-1333 E DOM\245005_SIR_FIG 4-R.dwg



CITY OF ROME
SITE INVESTIGATION REPORT
1313-1333 EAST DOMINICK STREET

SUPPLEMENTAL SOIL BORING LOCATION PLAN

ONEIDA COUNTY, NEW YORK

CITY OF ROME

Barton & Loguidice, P.C.

JUNE, 2012

Scale
1" = 50'

Figure Number
5

Project Number
245.005

Plotted: Jun 20, 2012 - 3:19PM SYR By: jgs
I:\Shared\200\245005-S\SIR FIGURES\1313-1333 E DOM\245005_SIR_FIG 5.dwg

Tables

Tables 1-5
Explanation of Footnotes and Qualifiers

General Notes:
Highlighted cell indicates exceedance of groundwater standard or soil cleanup objective.

NYSDEC Part 703.5 Groundwater Standard Footnotes:

a	The principal organic contaminant standard for groundwater of 5 ug/L (described in 6 NYCRR Part 703.5) applies to this substance.
b	The principal organic contaminant standard for groundwater of 5 ug/L (described in 6 NYCRR Part 703.5) applies to each isomer (1,2,3-, 1,2,4- and 1,3,5-trichlorobenzene) individually.
k	Dissolved arsenic form.
o	Applies to the sum of these substances.

NYSDEC Part 375 Soil Cleanup Objectives Footnotes:

a	The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value
d	of 100 ppm. See TSD section 9.3
e	For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.
f	For constituents where the calculated SCO was lower than the rural soil background concentration as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 2 SCO value for this use of the site.
h	The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.
j	This SCO is the lower of the values for mercury (elemental) or mercury (inorganic salts). See TSD Table 5.6-1.

Data Qualifiers:
Data summary tables include any additional qualification resulting from data validation report.

U	Analyte was undetected.
B	Analyte was detected in the associated Method Blank.
Ba	The analyte was foun in an associated blank, as well as in the sample.
B1	Analyte was detected in the associated method / calibration blank. Analyte concentration in the sample is greater than 10x the concentration found in the method blank.
B3	Target analyte detected in calibration blank at or above the method reporting limit.
C	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected above the laboratory PQL, data not impacted.
C4	Calibration Verification recovery was below the method control limit for this analyte.
D02	Dilution required due to sample matrix effects
D08	Dilution required due to high concentration of target analyte(s)
D10	Dilution required due to sample color
D12	Dilution required due to sample viscosity
E	Concentration exceeds the calibration range and therefore result is semi-quantitative.
ID4	Benzo(b)fluoranthene coelutes with Benzo(k)fluoranthene. The reported result is a summation of the isomers and the concentration is based on the response factor of Benzo(b)fluoranthene
J	Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). Concentrations within this range are estimated.
Ja	Indicates an estimated value.
L	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above the acceptance limits. Analyte not detected, data not impacted.
L2	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below acceptance limits.
L4	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the acceptance limits. A low bias to sample results is indicated.
*	LCS or LCSD exceeds the control limits.
S6	Sediment present.
UJ	Indicates the detection limit for the analyst in sample should be considered approximate. Qualifier is used when the data validation process identifies a deficiency in the data generation process.

TABLE 1
FIELD/TRIP BLANKS

Part 703.5 Water Standard

				SAMPLE ID:	TRIP BLANK			TRIP BLANK			FIELD BLANK 1			TRIP BLANK		
				LAB ORDER:	RTB1061-10			RSJ0969-05			RSJ1025-07			RSJ1025-08		
				SAMPLE DATE:	02/24/2010 00:00			10/15/2009 00:00			10/16/2009 15:22			10/16/2009 00:00		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	5	a	UG/L	0.26	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,1,2,2-Tetrachloroethane	79-34-5	5	a	UG/L	0.21	U	1	1.0	U,L,UJ	1	1.0	U	1	1.0	U	1
1,1,2-Trichloroethane	79-00-5	1	-	UG/L	0.23	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	5	a	UG/L	0.31	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,1-Dichloroethane	75-34-3	5	a	UG/L	0.38	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,1-Dichloroethene	75-35-4	5	a	UG/L	0.29	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,2,4-Trichlorobenzene	120-82-1	5	b	UG/L	0.41	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,2-Dibromo-3-chloropropane	96-12-8	0.04	-	UG/L	0.39	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,2-Dibromoethane	106-93-4	5	-	UG/L	0.17	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,2-Dichlorobenzene	95-50-1	3	-	UG/L	0.20	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,2-Dichloroethane	107-06-2	0.6	-	UG/L	0.21	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,2-Dichloropropane	78-87-5	1	-	UG/L	0.32	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,3-Dichlorobenzene	541-73-1	3	-	UG/L	0.36	U	1	1.0	U	1	1.0	U	1	1.0	U	1
1,4-Dichlorobenzene	106-46-7	3	-	UG/L	0.39	U	1	1.0	U	1	1.0	U	1	1.0	U	1
2-Butanone	78-93-3	50	-	UG/L	1.3	U	1	5.0	U	1	2.2	J	1	5.0	U	1
2-Hexanone	591-78-6	50	-	UG/L	1.2	U	1	5.0	U	1	5.0	U	1	5.0	U	1
4-Methyl-2-pentanone	108-10-1	-	-	UG/L	0.91	U	1	5.0	U	1	5.0	U	1	5.0	U	1
Acetone	67-64-1	50	-	UG/L	1.3	U	1	5.0	U	1	13		1	5.0	U	1
Benzene	71-43-2	1	-	UG/L	0.41	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Bromodichloromethane	75-27-4	-	-	UG/L	0.39	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Bromoform	75-25-2	50	-	UG/L	0.26	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Bromomethane	74-83-9	5	a	UG/L	0.28	U	1	1.0	U	1	1.0	U	1	1.0	U	1
CarbonDisulfide	75-15-0	60	-	UG/L	0.19	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Carbontetrachloride	56-23-5	5	-	UG/L	0.27	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Chlorobenzene	108-90-7	5	a	UG/L	0.32	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Dibromochloromethane	124-48-1	50	-	UG/L	0.32	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Chloroethane	75-00-3	5	a	UG/L	0.32	U	1	1.0	U, UJ	1	1.0	U	1	1.0	U	1
Chloroform	67-66-3	7	-	UG/L	0.34	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Chloromethane	74-87-3	5	a	UG/L	0.35	U	1	1.0	U	1	1.0	U	1	1.0	U	1
cis-1,2-Dichloroethene	156-59-2	5	a	UG/L	0.38	U	1	1.0	U	1	1.0	U	1	1.0	U	1
cis-1,3-Dichloropropene	10061-01-5	0.4	-	UG/L	0.36	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Cyclohexane	110-82-7	-	-	UG/L	0.53	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Dichlorodifluoromethane	75-71-8	5	a	UG/L	0.29	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Ethylbenzene	100-41-4	5	a	UG/L	0.18	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Isopropylbenzene	98-82-8	5	a	UG/L	0.19	U	1	1.0	U,L,UJ	1	1.0	U	1	1.0	U	1
MethylAcetate	79-20-9	-	-	UG/L	0.50	U	1	1.0	U, UJ	1	1.0	U,L	1	1.0	U,L	1
Methyltert-butylether	1634-04-4	10	-	UG/L	0.16	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Methylcyclohexane	108-87-2	-	-	UG/L	0.50	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Methylenechloride	75-09-2	5	a	UG/L	0.44	U	1	1.6		1	1.0	U	1	1.0	U	1
Styrene	100-42-5	5	a	UG/L	0.18	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Tetrachloroethene	127-18-4	5	a	UG/L	0.36	U	1	1.0	U,L4,UJ	1	1.0	U	1	1.0	U	1
Toluene	108-88-3	5	a	UG/L	0.51	U	1	1.0	U	1	1.0	U	1	1.0	U	1
trans-1,2-Dichloroethene	156-60-5	5	a	UG/L	0.42	U	1	1.0	U	1	1.0	U	1	1.0	U	1
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/L	0.37	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Trichloroethene	79-01-6	5	a	UG/L	0.46	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Trichlorofluoromethane	75-69-4	5	a	UG/L	0.15	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Vinylchloride	75-01-4	2	-	UG/L	0.24	U	1	1.0	U	1	1.0	U	1	1.0	U	1
Xylene	1330-20-7	5	-	UG/L	0.66	U	1	2.0	U	1	2.0	U	1	2.0	U	1
TOTAL DETECTABLE				**UG/L**	**0**			**1.6**			**15.2**			**0**		

TABLE 1
FIELD/TRIP BLANKS

Part 703.5 Water Standard

				SAMPLE ID:	FIELD BLANK 2			TRIP BLANK			FIELD BLANK			1333ED-METHODBLANK		
				LAB ORDER:	RSJ1079-05			RSJ1079-06			RTA0949-02			RTB0895-11		
				SAMPLE DATE:	10/19/2009 17:00			10/19/2009 00:00			01/21/2010 15:15			02/19/2010 14:30		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79-34-5	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,1,2-Trichloroethane	79-00-5	1	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,1,2-Trichlorotrifluoroethane	76-13-1	5	a	UG/L	1.0	U, UJ	1	1.0	U, UJ	1	-	-	-	-	-	-
1,1-Dichloroethane	75-34-3	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,1-Dichloroethene	75-35-4	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120-82-1	5	b	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96-12-8	0.04	-	UG/L	1.0	U, UJ	1	1.0	U, UJ	1	-	-	-	-	-	-
1,2-Dibromoethane	106-93-4	5	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,2-Dichlorobenzene	95-50-1	3	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,2-Dichloroethane	107-06-2	0.6	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,2-Dichloropropane	78-87-5	1	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,3-Dichlorobenzene	541-73-1	3	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
1,4-Dichlorobenzene	106-46-7	3	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
2-Butanone	78-93-3	50	-	UG/L	5.0	U	1	5.0	U	1	-	-	-	-	-	-
2-Hexanone	591-78-6	50	-	UG/L	5.0	U	1	5.0	U	1	-	-	-	-	-	-
4-Methyl-2-pentanone	108-10-1	-	-	UG/L	5.0	U	1	5.0	U	1	-	-	-	-	-	-
Acetone	67-64-1	50	-	UG/L	5.0	U	1	5.0	U	1	-	-	-	-	-	-
Benzene	71-43-2	1	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Bromodichloromethane	75-27-4	-	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Bromoform	75-25-2	50	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Bromomethane	74-83-9	5	a	UG/L	1.0	U,L	1	1.0	U,L	1	-	-	-	-	-	-
CarbonDisulfide	75-15-0	60	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Carbontetrachloride	56-23-5	5	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Chlorobenzene	108-90-7	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Dibromochloromethane	124-48-1	50	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Chloroethane	75-00-3	5	a	UG/L	1.0	U,L,UJ	1	1.0	U,L,UJ	1	-	-	-	-	-	-
Chloroform	67-66-3	7	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Chloromethane	74-87-3	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
cis-1,2-Dichloroethene	156-59-2	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
cis-1,3-Dichloropropene	10061-01-5	0.4	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Cyclohexane	110-82-7	-	-	UG/L	2.4	U	1	1.3	U	1	-	-	-	-	-	-
Dichlorodifluoromethane	75-71-8	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Ethylbenzene	100-41-4	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Isopropylbenzene	98-82-8	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
MethylAcetate	79-20-9	-	-	UG/L	1.0	U, UJ	1	1.0	U, UJ	1	-	-	-	-	-	-
Methyltert-butylether	1634-04-4	10	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Methylcyclohexane	108-87-2	-	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Methylenechloride	75-09-2	5	a	UG/L	3.9	U	1	2.4	U	1	-	-	-	-	-	-
Styrene	100-42-5	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Tetrachloroethene	127-18-4	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Toluene	108-88-3	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
trans-1,2-Dichloroethene	156-60-5	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Trichloroethene	79-01-6	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Trichlorofluoromethane	75-69-4	5	a	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Vinylchloride	75-01-4	2	-	UG/L	1.0	U	1	1.0	U	1	-	-	-	-	-	-
Xylene	1330-20-7	5	-	UG/L	2.0	U	1	2.0	U	1	-	-	-	-	-	-
TOTAL DETECTABLE				**UG/L**	**0**			**0**			**0**			**0**		

TABLE 1
FIELD/TRIP BLANKS

Part 703.5 Water Standard

				SAMPLE ID:	TRIP BLANK			TRIP BLANK			FIELD BLANK 1			TRIP BLANK		
				LAB ORDER:	RTB1061-10			RSJ0969-05			RSJ1025-07			RSJ1025-08		
				SAMPLE DATE:	02/24/2010 00:00			10/15/2009 00:00			10/16/2009 15:22			10/16/2009 00:00		
SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2,4,6-Trichlorophenol	88-06-2	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2,4-Dichlorophenol	120-83-2	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2,4-Dimethylphenol	105-67-9	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2,4-Dinitrophenol	51-28-5	-	-	UG/L	-	-	-	-	-	-	10	U	1	-	-	-
2,4-Dinitrotoluene	121-14-2	5	a	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2,6-Dinitrotoluene	606-20-2	5	a	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2-Chloronaphthalene	91-58-7	10	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2-Chlorophenol	95-57-8	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2-Methylnaphthalene	91-57-6	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
o-Cresol	95-48-7	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2-Nitroaniline	88-74-4	5	a	UG/L	-	-	-	-	-	-	10	U,L4,UJ	1	-	-	-
2-Nitrophenol	88-75-5	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
3,3-Dichlorobenzidine	91-94-1	5	a	UG/L	-	-	-	-	-	-	5.2	U,L4,UJ	1	-	-	-
3-Nitroaniline	99-09-2	5	a	UG/L	-	-	-	-	-	-	10	U	1	-	-	-
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/L	-	-	-	-	-	-	10	U	1	-	-	-
4-Bromophenyl-phenylether	101-55-3	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
4-Chloroaniline	106-47-8	5	a	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
4-Methylphenol	106-44-5	-	-	UG/L	-	-	-	-	-	-	10	U	1	-	-	-
4-Nitroaniline	100-01-6	5	a	UG/L	-	-	-	-	-	-	10	U,L4,UJ	1	-	-	-
4-Nitrophenol	100-02-7	-	-	UG/L	-	-	-	-	-	-	10	U	1	-	-	-
Acenaphthene	83-32-9	20	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Acenaphthylene	208-96-8	20	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Acetophenone	98-86-2	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Anthracene	120-12-7	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Atrazine	1912-24-9	7.5	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Benzaldehyde	100-52-7	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Benzo(a)anthracene	56-55-3	0.002	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Benzo(a)pyrene	50-32-8	ND	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Benzo(b)fluoranthene	205-99-2	0.002	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Benzo(g,h,i)perylene	191-24-2	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Benzo(k)fluoranthene	207-08-9	0.002	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
1,1-Biphenyl	92-52-4	5	a	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
bis(2-Chloroethoxy)methane	111-91-1	5	a	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
bis(2-Chloroethyl)Ether	111-44-4	1	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
2,2-oxybis(1-Chloropropane)	108-60-1	5	a	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
bis(2-Ethylhexyl)phthalate	117-81-7	5	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Butylbenzylphthalate	85-68-7	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Caprolactam	105-60-2	-	-	UG/L	-	-	-	-	-	-	5.2	U,UJ	1	-	-	-
Carbazole	86-74-8	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Chrysene	218-01-9	0.002	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Dibenzo(a,h)anthracene	53-70-3	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Dibenzofuran	132-64-9	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Diethylphthalate	84-66-2	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Dimethylphthalate	131-11-3	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Di-n-butylphthalate	84-74-2	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Di-n-octylphthalate	117-84-0	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Fluoranthene	206-44-0	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Fluorene	86-73-7	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Hexachlorobenzene	118-74-1	0.04	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Hexachlorobutadiene	87-68-3	0.5	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Hexachlorocyclopentadiene	77-47-4	5	a	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Hexachloroethane	67-72-1	5	a	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Indeno(1,2,3-cd)pyrene	193-39-5	0.002	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Isophorone	78-59-1	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Naphthalene	91-20-3	10	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Nitrobenzene	98-95-3	0.4	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
N-Nitroso-di-n-propylamine	621-64-7	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
N-Nitrosodiphenylamine(1)	86-30-6	50	-	UG/L	-	-	-	-	-	-	5.2	U,L	1	-	-	-
Pentachlorophenol	87-86-5	-	-	UG/L	-	-	-	-	-	-	10	U	1	-	-	-
Phenanthrene	85-01-8	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Phenol	108-95-2	-	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
Pyrene	129-00-0	50	-	UG/L	-	-	-	-	-	-	5.2	U	1	-	-	-
TOTAL DETECTABLE				**UG/L**	**0**			**0**			**0**			**0**		

TABLE 1
FIELD/TRIP BLANKS

Part 703.5 Water Standard

				SAMPLE ID:	FIELD BLANK 2			TRIP BLANK			FIELD BLANK			1333ED-METHODBLANK		
				LAB ORDER:	RSJ1079-05			RSJ1079-06			RTA0949-02			RTB0895-11		
				SAMPLE DATE:	10/19/2009 17:00			10/19/2009 00:00			01/21/2010 15:15			02/19/2010 14:30		
SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	88-06-2	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	120-83-2	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	105-67-9	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	51-28-5	-	-	UG/L	10	U	1	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	121-14-2	5	a	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	606-20-2	5	a	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	91-58-7	10	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2-Chlorophenol	95-57-8	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	91-57-6	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
o-Cresol	95-48-7	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2-Nitroaniline	88-74-4	5	a	UG/L	10	U, UJ	1	-	-	-	-	-	-	-	-	-
2-Nitrophenol	88-75-5	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
3,3-Dichlorobenzidine	91-94-1	5	a	UG/L	5.0	U, UJ	1	-	-	-	-	-	-	-	-	-
3-Nitroaniline	99-09-2	5	a	UG/L	10	U	1	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/L	10	U	1	-	-	-	-	-	-	-	-	-
4-Bromophenyl-phenylether	101-55-3	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
4-Chloroaniline	106-47-8	5	a	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
4-Methylphenol	106-44-5	-	-	UG/L	10	U	1	-	-	-	-	-	-	-	-	-
4-Nitroaniline	100-01-6	5	a	UG/L	10	U,L4,UJ	1	-	-	-	-	-	-	-	-	-
4-Nitrophenol	100-02-7	-	-	UG/L	10	U	1	-	-	-	-	-	-	-	-	-
Acenaphthene	83-32-9	20	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Acenaphthylene	208-96-8	20	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Acetophenone	98-86-2	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Anthracene	120-12-7	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Atrazine	1912-24-9	7.5	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Benzaldehyde	100-52-7	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	56-55-3	0.002	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	50-32-8	ND	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	205-99-2	0.002	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	191-24-2	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	207-08-9	0.002	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
1,1-Biphenyl	92-52-4	5	a	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	111-91-1	5	a	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)Ether	111-44-4	1	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
2,2-oxybis(1-Chloropropane)	108-60-1	5	a	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	117-81-7	5	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Butylbenzylphthalate	85-68-7	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Caprolactam	105-60-2	-	-	UG/L	5.0	U,L4,UJ	1	-	-	-	-	-	-	-	-	-
Carbazole	86-74-8	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Chrysene	218-01-9	0.002	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	53-70-3	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Dibenzofuran	132-64-9	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Diethylphthalate	84-66-2	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Dimethylphthalate	131-11-3	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	84-74-2	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Di-n-octylphthalate	117-84-0	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Fluoranthene	206-44-0	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Fluorene	86-73-7	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	118-74-1	0.04	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	87-68-3	0.5	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	77-47-4	5	a	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Hexachloroethane	67-72-1	5	a	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	193-39-5	0.002	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Isophorone	78-59-1	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Naphthalene	91-20-3	10	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Nitrobenzene	98-95-3	0.4	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
N-Nitroso-di-n-propylamine	621-64-7	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine(1)	86-30-6	50	-	UG/L	5.0	U,L4	1	-	-	-	-	-	-	-	-	-
Pentachlorophenol	87-86-5	-	-	UG/L	10	U	1	-	-	-	-	-	-	-	-	-
Phenanthrene	85-01-8	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Phenol	108-95-2	-	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
Pyrene	129-00-0	50	-	UG/L	5.0	U	1	-	-	-	-	-	-	-	-	-
TOTAL DETECTABLE				**UG/L**	**0**			**0**			**0**			**0**		

TABLE 1
FIELD/TRIP BLANKS

Part 703.5 Water Standard				SAMPLE ID:	TRIP BLANK			TRIP BLANK			FIELD BLANK 1			TRIP BLANK		
				LAB ORDER:	RTB1061-10			RSJ0969-05			RSJ1025-07			RSJ1025-08		
				SAMPLE DATE:	02/24/2010 00:00			10/15/2009 00:00			10/16/2009 15:22			10/16/2009 00:00		
METALS (EPA METHOD 6010B)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	-	-	MG/L	-	-	-	-	-	-	0.200	U	1	-	-	-
Antimony	7440-36-0	0.003	-	MG/L	-	-	-	-	-	-	0.0078	J	1	-	-	-
Arsenic	7440-38-2	0.025	k	MG/L	-	-	-	-	-	-	0.0100	U	1	-	-	-
Barium	7440-39-3	1	-	MG/L	-	-	-	-	-	-	0.0008	J	1	-	-	-
Beryllium	7440-41-7	-	-	MG/L	-	-	-	-	-	-	0.0020	U	1	-	-	-
Cadmium	7440-43-9	0.005	-	MG/L	-	-	-	-	-	-	0.0010	U	1	-	-	-
Calcium	7440-70-2	-	-	MG/L	-	-	-	-	-	-	0.1	J	1	-	-	-
Chromium	18540-29-9	0.05	-	MG/L	-	-	-	-	-	-	0.0040	U	1	-	-	-
Cobalt	7440-48-4	-	-	MG/L	-	-	-	-	-	-	0.0040	U	1	-	-	-
Copper	7440-50-8	0.2	-	MG/L	-	-	-	-	-	-	0.0100	U	1	-	-	-
Iron	7439-89-6	0.3	-	MG/L	-	-	-	-	-	-	0.036	J	1	-	-	-
Lead	7439-92-1	0.025	-	MG/L	-	-	-	-	-	-	0.0050	U	1	-	-	-
Magnesium	7439-95-4	35	-	MG/L	-	-	-	-	-	-	0.200	U	1	-	-	-
Manganese	7439-96-5	0.3	-	MG/L	-	-	-	-	-	-	0.0014	J, B	1	-	-	-
TotalMercury	7439-97-6	0.0007	-	MG/L	-	-	-	-	-	-	0.0002	U	1	-	-	-
Nickel	7440-02-0	0.1	-	MG/L	-	-	-	-	-	-	0.0100	U	1	-	-	-
Potassium	7440-09-7	-	-	MG/L	-	-	-	-	-	-	0.500	U	1	-	-	-
Selenium	7782-49-2	0.01	-	MG/L	-	-	-	-	-	-	0.0150	U	1	-	-	-
Silver	7440-22-4	0.05	-	MG/L	-	-	-	-	-	-	0.0030	U	1	-	-	-
Sodium	7440-23-5	20	-	MG/L	-	-	-	-	-	-	0.8	J	1	-	-	-
Thallium	7440-28-0	0.0005	-	MG/L	-	-	-	-	-	-	0.0200	U	1	-	-	-
Vanadium	7440-62-2	-	-	MG/L	-	-	-	-	-	-	0.0050	U	1	-	-	-
Zinc	7440-66-6	2	-	MG/L	-	-	-	-	-	-	0.0060	J, B	1	-	-	-
TOTAL DETECTABLE				**MG/L**	**0**			**0**			**0.952**			**0**		

TABLE 1
FIELD/TRIP BLANKS

Part 703.5 Water Standard

				SAMPLE ID:	FIELD BLANK 2			TRIP BLANK			FIELD BLANK			1333ED-METHODBLANK		
				LAB ORDER:	RSJ1079-05			RSJ1079-06			RTA0949-02			RTB0895-11		
				SAMPLE DATE:	10/19/2009 17:00			10/19/2009 00:00			01/21/2010 15:15			02/19/2010 14:30		
METALS (EPA METHOD 6010B)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	-	-	MG/L	0.200	U	1	-	-	-	-	-	-	-	-	-
Antimony	7440-36-0	0.003	-	MG/L	0.0200	U	1	-	-	-	-	-	-	-	-	-
Arsenic	7440-38-2	0.025	k	MG/L	0.0100	U	1	-	-	-	-	-	-	-	-	-
Barium	7440-39-3	1	-	MG/L	0.0020	U	1	-	-	-	-	-	-	-	-	-
Beryllium	7440-41-7	-	-	MG/L	0.0020	U	1	-	-	-	-	-	-	-	-	-
Cadmium	7440-43-9	0.005	-	MG/L	0.0010	U	1	-	-	-	-	-	-	-	-	-
Calcium	7440-70-2	-	-	MG/L	0.2	J	1	-	-	-	-	-	-	-	-	-
Chromium	18540-29-9	0.05	-	MG/L	0.0040	U	1	-	-	-	-	-	-	-	-	-
Cobalt	7440-48-4	-	-	MG/L	0.0040	U	1	-	-	-	-	-	-	-	-	-
Copper	7440-50-8	0.2	-	MG/L	0.0100	U	1	-	-	-	-	-	-	-	-	-
Iron	7439-89-6	0.3	-	MG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Lead	7439-92-1	0.025	-	MG/L	0.0050	U	1	-	-	-	-	-	-	-	-	-
Magnesium	7439-95-4	35	-	MG/L	0.058	J	1	-	-	-	-	-	-	-	-	-
Manganese	7439-96-5	0.3	-	MG/L	0.0006	J, B	1	-	-	-	-	-	-	-	-	-
TotalMercury	7439-97-6	0.0007	-	MG/L	0.0002	U	1	-	-	-	-	-	-	-	-	-
Nickel	7440-02-0	0.1	-	MG/L	0.0100	U	1	-	-	-	-	-	-	-	-	-
Potassium	7440-09-7	-	-	MG/L	0.500	U	1	-	-	-	-	-	-	-	-	-
Selenium	7782-49-2	0.01	-	MG/L	0.0150	U	1	-	-	-	-	-	-	-	-	-
Silver	7440-22-4	0.05	-	MG/L	0.0030	U	1	-	-	-	-	-	-	-	-	-
Sodium	7440-23-5	20	-	MG/L	1.0	U	1	-	-	-	-	-	-	-	-	-
Thallium	7440-28-0	0.0005	-	MG/L	0.0200	U	1	-	-	-	-	-	-	-	-	-
Vanadium	7440-62-2	-	-	MG/L	0.0050	U	1	-	-	-	-	-	-	-	-	-
Zinc	7440-66-6	2	-	MG/L	0.0100	U	1	-	-	-	-	-	-	-	-	-
TOTAL DETECTABLE				**MG/L**	**0.2586**			**0**			**0**			**0**		

TABLE 1
FIELD/TRIP BLANKS

Part 703.5 Water Standard

			SAMPLE ID:	TRIP BLANK			TRIP BLANK			FIELD BLANK 1			TRIP BLANK		
			LAB ORDER:	RTB1061-10			RSJ0969-05			RSJ1025-07			RSJ1025-08		
			SAMPLE DATE:	02/24/2010 00:00			10/15/2009 00:00			10/16/2009 15:22			10/16/2009 00:00		
PCBs (EPA METHOD 8080)	CAS	GWCO	Comment	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	- -	UG/L	-	- -		-	- -		0.56	U	1	-	- -	
Aroclor1221	11104-28-2	- -	UG/L	-	- -		-	- -		0.56	U	1	-	- -	
Aroclor1232	11141-16-5	- -	UG/L	-	- -		-	- -		0.56	U	1	-	- -	
Aroclor1242	53469-21-9	- -	UG/L	-	- -		-	- -		0.56	U	1	-	- -	
Aroclor1248	12672-29-6	- -	UG/L	-	- -		-	- -		0.56	U	1	-	- -	
Aroclor1254	11097-69-1	- -	UG/L	-	- -		-	- -		0.56	U	1	-	- -	
Aroclor1260	11096-82-5	- -	UG/L	-	- -		-	- -		0.56	U	1	-	- -	
Aroclor1262	37324-23-5	- -	UG/L	-	- -		-	- -		0.56	U	1	-	- -	
Aroclor1268	11100-14-4	- -	UG/L	-	- -		-	- -		0.56	U	1	-	- -	
TOTAL DETECTABLE	**1336-36-3**	0.09 o	**UG/L**	**0**			**0**			**0**			**0**		

TABLE 1
FIELD/TRIP BLANKS

Part 703.5 Water Standard

				SAMPLE ID:	FIELD BLANK 2			TRIP BLANK			FIELD BLANK			1333ED-METHODBLANK		
				LAB ORDER:	RSJ1079-05			RSJ1079-06			RTA0949-02			RTB0895-11		
				SAMPLE DATE:	10/19/2009 17:00			10/19/2009 00:00			01/21/2010 15:15			02/19/2010 14:30		
PCBs (EPA METHOD 8080)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	- -		UG/L	0.50	U	1	-	- -		0.18	U	1	0.17	U,C	1
Aroclor1221	11104-28-2	- -		UG/L	0.50	U	1	-	- -		0.18	U	1	0.17	U	1
Aroclor1232	11141-16-5	- -		UG/L	0.50	U	1	-	- -		0.18	U	1	0.17	U	1
Aroclor1242	53469-21-9	- -		UG/L	0.50	U	1	-	- -		0.18	U	1	0.17	U	1
Aroclor1248	12672-29-6	- -		UG/L	0.50	U	1	-	- -		0.18	U	1	0.17	U	1
Aroclor1254	11097-69-1	- -		UG/L	0.50	U	1	-	- -		0.25	U	1	0.24	U	1
Aroclor1260	11096-82-5	- -		UG/L	0.50	U	1	-	- -		0.25	U	1	0.24	U,C	1
Aroclor1262	37324-23-5	- -		UG/L	0.50	U	1	-	- -		0.25	U	1	0.24	U	1
Aroclor1268	11100-14-4	- -		UG/L	0.50	U	1	-	- -		0.25	U	1	0.24	U	1
TOTAL DETECTABLE	**1336-36-3**	0.09	o	**UG/L**	**0**			**0**			**0**			**0**		

TABLE 1
FIELD/TRIP BLANKS

Part 703.5 Water Standard

				SAMPLE ID:	TRIP BLANK			TRIP BLANK			FIELD BLANK 1			TRIP BLANK		
				LAB ORDER:	RTB1061-10			RSJ0969-05			RSJ1025-07			RSJ1025-08		
				SAMPLE DATE:	02/24/2010 00:00			10/15/2009 00:00			10/16/2009 15:22			10/16/2009 00:00		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	0.3	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
4,4'-DDE	72-55-9	0.2	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
4,4'-DDT	50-29-3	0.2	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Aldrin	309-00-2	-	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
alpha-BHC	319-84-6	0.01	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Chlordane(alpha)	5103-71-9	-	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
beta-BHC	319-85-7	0.04	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Chlordane	57-74-9	0.05	-	UG/L	-	-	-	-	-	-	0.56	U	1	-	-	-
delta-BHC	319-86-8	0.04	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Dieldrin	60-57-1	0.004	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
EndosulfanI	959-98-8	-	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
EndosulfanII	33213-65-9	-	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Endosulfansulfate	1031-07-8	-	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Endrin	72-20-8	ND	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Endrinaldehyde	7421-93-4	5	a	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Endrinketone	53494-70-5	5	a	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Lindane	58-89-9	0.05	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
gamma-Chlordane	5566-34-7	-	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Heptochlor	76-44-8	0.04	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Heptachlorepoxide	1024-57-3	0.03	-	UG/L	-	-	-	-	-	-	0.015	J	1	-	-	-
Methoxychlor	72-43-5	35	-	UG/L	-	-	-	-	-	-	0.056	U	1	-	-	-
Toxaphene	8001-35-2	0.06	-	UG/L	-	-	-	-	-	-	0.56	U	1	-	-	-
TOTAL DETECTABLE				**UG/L**	**0**			**0**			**0.015**			**0**		

TABLE 1
FIELD/TRIP BLANKS

			SAMPLE ID:	**FIELD BLANK 2**			**TRIP BLANK**			**FIELD BLANK**			**1333ED-METHODBLANK**		
Part 703.5 Water Standard			LAB ORDER:	RSJ1079-05			RSJ1079-06			RTA0949-02			RTB0895-11		
			SAMPLE DATE:	10/19/2009 17:00			10/19/2009 00:00			01/21/2010 15:15			02/19/2010 14:30		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	GWCO	Comment	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	0.3	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
4,4'-DDE	72-55-9	0.2	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
4,4'-DDT	50-29-3	0.2	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Aldrin	309-00-2	-	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
alpha-BHC	319-84-6	0.01	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Chlordane(alpha)	5103-71-9	-	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
beta-BHC	319-85-7	0.04	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Chlordane	57-74-9	0.05	- UG/L	0.50	U	1	-	-	-	-	-	-	-	-	-
delta-BHC	319-86-8	0.04	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Dieldrin	60-57-1	0.004	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
EndosulfanI	959-98-8	-	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
EndosulfanII	33213-65-9	-	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Endosulfansulfate	1031-07-8	-	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Endrin	72-20-8	ND	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Endrinaldehyde	7421-93-4	5	a UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Endrinketone	53494-70-5	5	a UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Lindane	58-89-9	0.05	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
gamma-Chlordane	5566-34-7	-	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Heptochlor	76-44-8	0.04	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Heptachlorepoxide	1024-57-3	0.03	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Methoxychlor	72-43-5	35	- UG/L	0.050	U	1	-	-	-	-	-	-	-	-	-
Toxaphene	8001-35-2	0.06	- UG/L	0.50	U	1	-	-	-	-	-	-	-	-	-
TOTAL DETECTABLE			**UG/L**	**0**			**0**			**0**			**0**		

TABLE 2
Clearance Samples

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential															
SAMPLE ID:					1333EDSOILCYT NORTH			1333EDSOILCYT EAST			1333EDSOILCYT SOUTH			1333EDSOILCY WEST	
LAB ORDER:					RSJ0721-01			RSJ0721-02			RSJ0721-03			RSJ0721-04	
SAMPLE DATE:					10/09/2009 10:00			10/09/2009 10:00			10/09/2009 10:00			10/09/2009 10:0	
VOLATILE ORGANIC COMPOUNDS								Solid Extraction			Solid Extraction				
(EPA METHOD 8260)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL
1,1,1-Trichloroethane	71-55-6	100000	a	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,1,2,2-Tetrachloroethane	79-34-5	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,1,2-Trichloroethane	79-00-5	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,1,2-Trichlorotrifluoroethane	76-13-1	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,1-Dichloroethane	75-34-3	26000	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,1-Dichloroethene	75-35-4	100000	a	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,2,4-Trichlorobenzene	120-82-1	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,2-Dibromo-3-chloropropane	96-12-8	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,2-Dibromoethane	106-93-4	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,2-Dichlorobenzene	95-50-1	100000	a	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,2-Dichloroethane	107-06-2	3100	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,2-Dichloropropane	78-87-5	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,3-Dichlorobenzene	541-73-1	49000	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
1,4-Dichlorobenzene	106-46-7	13000	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
2-Butanone	78-93-3	100000	a	UG/KG	22	U	1	240	U	1	240	U	1	23	U
2-Hexanone	591-78-6	-	-	UG/KG	22	U	1	240	U	1	240	U	1	23	U
4-Methyl-2-pentanone	108-10-1	-	-	UG/KG	22	U	1	240	U	1	240	U	1	23	U
Acetone	67-64-1	100000	b	UG/KG	22	U	1	240	U	1	240	U	1	23	U
Benzene	71-43-2	4800	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Bromodichloromethane	594-18-3	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Bromoform	75-25-2	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Bromomethane	74-83-9	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
CarbonDisulfide	75-15-0	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Carbontetrachloride	56-23-5	2400	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Chlorobenzene	108-90-7	100000	a	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Dibromochloromethane	124-48-1	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Chloroethane	75-00-3	-	-	UG/KG	4.4	U, UJ	1	47	U	1	47	U	1	4.7	U, UJ
Chloroform	67-66-3	49000	-	UG/KG	4.4	U	1	47	U	1	47	U	1	2.3	J
Chloromethane	74-87-3	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
cis-1,2-Dichloroethene	156-59-2	100000	a	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
cis-1,3-Dichloropropene	10061-01-5	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Cyclohexane	110-82-7	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Dichlorodifluoromethane	75-71-8	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Ethylbenzene	100-41-4	41000	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Isopropylbenzene	98-82-8	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
MethylAcetate	79-20-9	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Methyltert-butylether	1634-04-4	100000	a	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Methylcyclohexane	108-87-2	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Methylenechloride	75-09-2	100000	a	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Styrene	100-42-5	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Tetrachloroethene	127-18-4	19000	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Toluene	108-88-3	100000	a	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
trans-1,2-Dichloroethene	156-60-5	100000	a	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Trichloroethene	79-01-6	21000	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Trichlorofluoromethane	75-69-4	-	-	UG/KG	4.4	U	1	47	U	1	47	U	1	4.7	U
Vinylchloride	75-01-4	900	-	UG/KG	8.7	U	1	94	U	1	95	U	1	9.4	U
Xylene	1330-20-7	100000	a	UG/KG	8.7	U	1	94	U	1	95	U	1	9.4	U
TOTAL DETECTABLE					**0**			**0**			**0**			**2.3**	

TABLE 2
Clearance Samples

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID: 'T W		**1333EDSOILCYT BOTTOM**			**1333GDSOILINTANK**		
				LAB ORDER:		RSJ0721-05			RSJ0775-01		
				SAMPLE DATE: 0		10/09/2009 10:00			10/12/2009 09:45		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	RSCO	Comment		DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	100000	a	UG/KG	1	4.1	U	1	4.3	U	1
1,1,2,2-Tetrachloroethane	79-34-5	-	-	UG/KG	1	4.1	U	1	4.3	U	1
1,1,2-Trichloroethane	79-00-5	-	-	UG/KG	1	4.1	U	1	4.3	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	-	-	UG/KG	1	4.1	U	1	4.3	U	1
1,1-Dichloroethane	75-34-3	26000	-	UG/KG	1	4.1	U	1	4.3	U	1
1,1-Dichloroethene	75-35-4	100000	a	UG/KG	1	4.1	U	1	4.3	U	1
1,2,4-Trichlorobenzene	120-82-1	-	-	UG/KG	1	4.1	U	1	4.3	U	1
1,2-Dibromo-3-chloropropane	96-12-8	-	-	UG/KG	1	4.1	U	1	4.3	U	1
1,2-Dibromoethane	106-93-4	-	-	UG/KG	1	4.1	U	1	4.3	U	1
1,2-Dichlorobenzene	95-50-1	100000	a	UG/KG	1	4.1	U	1	4.3	U	1
1,2-Dichloroethane	107-06-2	3100	-	UG/KG	1	4.1	U	1	4.3	U	1
1,2-Dichloropropane	78-87-5	-	-	UG/KG	1	4.1	U	1	4.3	U	1
1,3-Dichlorobenzene	541-73-1	49000	-	UG/KG	1	4.1	U	1	4.3	U	1
1,4-Dichlorobenzene	106-46-7	13000	-	UG/KG	1	0.84	J	1	4.3	U	1
2-Butanone	78-93-3	100000	a	UG/KG	1	20	U	1	21	U	1
2-Hexanone	591-78-6	-	-	UG/KG	1	20	U	1	21	U	1
4-Methyl-2-pentanone	108-10-1	-	-	UG/KG	1	20	U	1	21	U	1
Acetone	67-64-1	100000	b	UG/KG	1	20	U	1	21	U	1
Benzene	71-43-2	4800	-	UG/KG	1	4.1	U	1	4.3	U	1
Bromodichloromethane	594-18-3	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Bromoform	75-25-2	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Bromomethane	74-83-9	-	-	UG/KG	1	4.1	U	1	4.3	U, UJ	1
CarbonDisulfide	75-15-0	-	-	UG/KG	1	4.1	U	1	0.87	J	1
Carbontetrachloride	56-23-5	2400	-	UG/KG	1	4.1	U	1	4.3	U	1
Chlorobenzene	108-90-7	100000	a	UG/KG	1	3.7	J	1	4.3	U	1
Dibromochloromethane	124-48-1	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Chloroethane	75-00-3	-	-	UG/KG	1	4.1	U, UJ	1	4.3	U, UJ	1
Chloroform	67-66-3	49000	-	UG/KG	1	2	J	1	4.3	U	1
Chloromethane	74-87-3	-	-	UG/KG	1	4.1	U	1	4.3	U	1
cis-1,2-Dichloroethene	156-59-2	100000	a	UG/KG	1	4.1	U	1	4.3	U	1
cis-1,3-Dichloropropene	10061-01-5	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Cyclohexane	110-82-7	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Dichlorodifluoromethane	75-71-8	-	-	UG/KG	1	4.1	U, UJ	1	4.3	U, UJ	1
Ethylbenzene	100-41-4	41000	-	UG/KG	1	4.1	U	1	4.3	U	1
Isopropylbenzene	98-82-8	-	-	UG/KG	1	4.1	U	1	4.3	U	1
MethylAcetate	79-20-9	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Methyltert-butylether	1634-04-4	100000	a	UG/KG	1	4.1	U	1	4.3	U	1
Methylcyclohexane	108-87-2	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Methylenechloride	75-09-2	100000	a	UG/KG	1	4.1	U	1	4.3	U	1
Styrene	100-42-5	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Tetrachloroethene	127-18-4	19000	-	UG/KG	1	4.1	U	1	4.3	U	1
Toluene	108-88-3	100000	a	UG/KG	1	4.1	U	1	4.3	U	1
trans-1,2-Dichloroethene	156-60-5	100000	a	UG/KG	1	4.1	U	1	4.3	U	1
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Trichloroethene	79-01-6	21000	-	UG/KG	1	4.1	U	1	4.3	U	1
Trichlorofluoromethane	75-69-4	-	-	UG/KG	1	4.1	U	1	4.3	U	1
Vinylchloride	75-01-4	900	-	UG/KG	1	8.2	U	1	8.5	U	1
Xylene	1330-20-7	100000	a	UG/KG	1	8.2	U	1	8.5	U	1
TOTAL DETECTABLE						**6.54**			**0.87**		

TABLE 2
Clearance Samples

Restricted Soil Cleanup Objectives (SCO) -
Restricted Residential

SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Comment		NORTH RESULT	QUAL	DF	EAST RESULT	QUAL	DF	SOUTH RESULT	QUAL	DF	WEST RESULT	QUAL
SAMPLE ID:					1333EDSOILCYT NORTH			1333EDSOILCYT EAST			1333EDSOILCYT SOUTH			1333EDSOILCY WEST	
LAB ORDER:					RSJ0721-01			RSJ0721-02			RSJ0721-03			RSJ0721-04	
SAMPLE DATE:					10/09/2009 10:00			10/09/2009 10:00			10/09/2009 10:00			10/09/2009 10:0	
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	3800	U	10	370	U	1	3700	U	10	1900	U
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2-Chloronaphthalene	91-58-7	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2-Chlorophenol	95-57-8	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2-Methylnaphthalene	91-57-6	-	-	UG/KG	2000	U	10	190	U	1	96	J	10	970	U
o-Cresol	95-48-7	100000	a	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2-Nitroaniline	88-74-4	-	-	UG/KG	3800	U	10	370	U	1	3700	U	10	1900	U
2-Nitrophenol	88-75-5	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
3-Nitroaniline	99-09-2	-	-	UG/KG	3800	U	10	370	U	1	3700	U	10	1900	U
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	3800	U	10	370	U	1	3700	U	10	1900	U
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
4-Chloroaniline	106-47-8	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
4-Methylphenol	106-44-5	100000	a	UG/KG	3800	U	10	370	U	1	3700	U	10	1900	U
4-Nitroaniline	100-01-6	-	-	UG/KG	3800	U	10	370	U	1	3700	U	10	1900	U
4-Nitrophenol	100-02-7	-	-	UG/KG	3800	U	10	370	U	1	3700	U	10	1900	U
Acenaphthene	83-32-9	100000	a	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Acenaphthylene	208-96-8	100000	a	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Acetophenone	98-86-2	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Anthracene	120-12-7	100000	a	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Atrazine	1912-24-9	-	-	UG/KG	2000	U,L4,UJ	10	190	U,L4,UJ	1	1900	U,L4,UJ	10	970	U,L4,UJ
Benzaldehyde	100-52-7	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	310	J	10	190	U	1	1900	U	10	170	J
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	250	J	10	190	U	1	1900	U	10	140	J
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	300	J	10	190	U	1	1900	U	10	260	ID4, J
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	160	J	10	190	U	1	1900	U	10	110	J
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	130	J	10	190	U	1	1900	U	10	970	U
1,1-Biphenyl	92-52-4	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Butylbenzylphthalate	85-68-7	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Caprolactam	105-60-2	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Carbazole	86-74-8	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Chrysene	218-01-9	3900	-	UG/KG	290	J	10	190	U	1	1900	U	10	150	J
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Dibenzofuran	132-64-9	59000	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Diethylphthalate	84-66-2	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Dimethylphthalate	131-11-3	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Di-n-butylphthalate	84-74-2	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Di-n-octylphthalate	117-84-0	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Fluoranthene	206-44-0	100000	a	UG/KG	510	J	10	190	U	1	1900	U	10	360	J
Fluorene	86-73-7	100000	a	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Hexachlorobenzene	118-74-1	1200	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Hexachlorobutadiene	87-68-3	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Hexachloroethane	67-72-1	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	140	J	10	190	U	1	1900	U	10	89	J
Isophorone	78-59-1	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Naphthalene	91-20-3	100000	a	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Nitrobenzene	98-95-3	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Pentachlorophenol	87-86-5	6700	-	UG/KG	3800	U	10	370	U	1	3700	U	10	1900	U
Phenanthrene	85-01-8	100000	a	UG/KG	190	J	10	190	U	1	100	J	10	240	J
Phenol	108-95-2	100000	a	UG/KG	2000	U	10	190	U	1	1900	U	10	970	U
Pyrene	129-00-0	100000	a	UG/KG	470	J	10	190	U	1	110	J	10	300	J
TOTAL DETECTABLE					**2750**			**0**			**306**			**1819**	

TABLE 2
Clearance Samples

		1333EDSOILCYT BOTTOM	1333GDSOILINTANK
	SAMPLE ID: 'T W		
Restricted Soil Cleanup Objectives (SCO) -	LAB ORDER:	RSJ0721-05	RSJ0775-01
Restricted Residential	SAMPLE DATE: '0	10/09/2009 10:00	10/12/2009 09:45

SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Comment		DF	RESULT	QUAL	DF	RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	5	940	U	5	180	U	1
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	5	940	U	5	180	U	1
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	5	940	U	5	180	U	1
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	5	940	U	5	180	U	1
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	5	1800	U	5	350	U	1
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	5	940	U	5	180	U	1
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	5	940	U	5	180	U	1
2-Chloronaphthalene	91-58-7	-	-	UG/KG	5	940	U	5	180	U	1
2-Chlorophenol	95-57-8	-	-	UG/KG	5	940	U	5	180	U	1
2-Methylnaphthalene	91-57-6	-	-	UG/KG	5	940	U	5	180	U	1
o-Cresol	95-48-7	100000	a	UG/KG	5	940	U	5	180	U	1
2-Nitroaniline	88-74-4	-	-	UG/KG	5	1800	U	5	350	U	1
2-Nitrophenol	88-75-5	-	-	UG/KG	5	940	U	5	180	U	1
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	5	940	U	5	180	U	1
3-Nitroaniline	99-09-2	-	-	UG/KG	5	1800	U	5	350	U	1
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	5	1800	U	5	350	U	1
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	5	940	U	5	180	U	1
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	5	940	U	5	180	U	1
4-Chloroaniline	106-47-8	-	-	UG/KG	5	940	U	5	180	U	1
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	5	940	U	5	180	U	1
4-Methylphenol	106-44-5	100000	a	UG/KG	5	1800	U	5	350	U	1
4-Nitroaniline	100-01-6	-	-	UG/KG	5	1800	U	5	350	U	1
4-Nitrophenol	100-02-7	-	-	UG/KG	5	1800	U	5	350	U	1
Acenaphthene	83-32-9	100000	a	UG/KG	5	940	U	5	180	U	1
Acenaphthylene	208-96-8	100000	a	UG/KG	5	940	U	5	180	U	1
Acetophenone	98-86-2	-	-	UG/KG	5	940	U	5	180	U	1
Anthracene	120-12-7	100000	a	UG/KG	5	940	U	5	180	U	1
Atrazine	1912-24-9	-	-	UG/KG	5	940	U,L4,UJ	5	180	U, UJ	1
Benzaldehyde	100-52-7	-	-	UG/KG	5	940	U	5	180	U	1
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	5	50	J	5	180	U	1
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	5	940	U	5	180	U	1
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	5	940	U	5	180	U	1
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	5	940	U	5	180	U	1
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	5	940	U	5	180	U	1
1,1-Biphenyl	92-52-4	-	-	UG/KG	5	940	U	5	180	U	1
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	5	940	U	5	180	U	1
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	5	940	U	5	180	U	1
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	5	940	U	5	180	U	1
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	5	940	U	5	180	U	1
Butylbenzylphthalate	85-68-7	-	-	UG/KG	5	940	U	5	180	U	1
Caprolactam	105-60-2	-	-	UG/KG	5	940	U	5	180	U	1
Carbazole	86-74-8	-	-	UG/KG	5	940	U	5	180	U	1
Chrysene	218-01-9	3900	-	UG/KG	5	940	U	5	180	U	1
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	5	940	U	5	180	U	1
Dibenzofuran	132-64-9	59000	-	UG/KG	5	940	U	5	180	U	1
Diethylphthalate	84-66-2	-	-	UG/KG	5	940	U	5	180	U	1
Dimethylphthalate	131-11-3	-	-	UG/KG	5	940	U	5	180	U	1
Di-n-butylphthalate	84-74-2	-	-	UG/KG	5	940	U	5	180	U	1
Di-n-octylphthalate	117-84-0	-	-	UG/KG	5	940	U	5	180	U	1
Fluoranthene	206-44-0	100000	a	UG/KG	5	940	U	5	180	U	1
Fluorene	86-73-7	100000	a	UG/KG	5	940	U	5	180	U	1
Hexachlorobenzene	118-74-1	1200	-	UG/KG	5	940	U	5	180	U	1
Hexachlorobutadiene	87-68-3	-	-	UG/KG	5	940	U	5	180	U	1
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	5	940	U	5	180	U	1
Hexachloroethane	67-72-1	-	-	UG/KG	5	940	U	5	180	U	1
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	5	940	U	5	180	U	1
Isophorone	78-59-1	-	-	UG/KG	5	940	U	5	180	U	1
Naphthalene	91-20-3	100000	a	UG/KG	5	940	U	5	180	U	1
Nitrobenzene	98-95-3	-	-	UG/KG	5	940	U	5	180	U	1
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	5	940	U	5	180	U	1
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	5	940	U	5	180	U,L	1
Pentachlorophenol	87-86-5	6700	-	UG/KG	5	1800	U	5	350	U	1
Phenanthrene	85-01-8	100000	a	UG/KG	5	940	U	5	180	U	1
Phenol	108-95-2	100000	a	UG/KG	5	940	U	5	180	U	1
Pyrene	129-00-0	100000	a	UG/KG	5	940	U	5	180	U	1
TOTAL DETECTABLE						**50**			**0**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit
Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	**1313ED-SED-01A**			**1313ED-SED-01A-DUP**			**1313ED-SED-01B**			**1313ED-SED-02A**		
				LAB ORDER:	220-8178-1			220-8178-2			220-8178-3			220-8178-4		
				SAMPLE DATE:	2/24/09 11:30			2/24/09 11:30			2/24/09 11:30			2/24/09 11:55		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,1,2,2-Tetrachloroethane	79-34-5	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,1,2-Trichloroethane	79-00-5	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,1,2-Trichlorotrifluoroethane	76-13-1	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,1-Dichloroethane	75-34-3	26000	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,1-Dichloroethene	75-35-4	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,2,4-Trichlorobenzene	120-82-1	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,2-Dibromo-3-chloropropane	96-12-8	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,2-Dibromoethane	106-93-4	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,2-Dichlorobenzene	95-50-1	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,2-Dichloroethane	107-06-2	3100	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,2-Dichloropropane	78-87-5	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,3-Dichlorobenzene	541-73-1	49000	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
1,4-Dichlorobenzene	106-46-7	13000	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
2-Butanone	78-93-3	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
2-Hexanone	591-78-6	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
4-Methyl-2-pentanone	108-10-1	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Acetone	67-64-1	100000	b	UG/KG	-	- -		-	- -		-	- -		-	- -	
Benzene	71-43-2	4800	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Bromodichloromethane	594-18-3	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Bromoform	75-25-2	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Bromomethane	74-83-9	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
CarbonDisulfide	75-15-0	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Carbontetrachloride	56-23-5	2400	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Chlorobenzene	108-90-7	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
Dibromochloromethane	124-48-1	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Chloroethane	75-00-3	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Chloroform	67-66-3	49000	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Chloromethane	74-87-3	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
cis-1,2-Dichloroethene	156-59-2	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
cis-1,3-Dichloropropene	10061-01-5	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Cyclohexane	110-82-7	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Dichlorodifluoromethane	75-71-8	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Ethylbenzene	100-41-4	41000	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Isopropylbenzene	98-82-8	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
MethylAcetate	79-20-9	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Methyltert-butylether	1634-04-4	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
Methylcyclohexane	108-87-2	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Methylenechloride	75-09-2	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
Styrene	100-42-5	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Tetrachloroethene	127-18-4	19000	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Toluene	108-88-3	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
trans-1,2-Dichloroethene	156-60-5	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Trichloroethene	79-01-6	21000	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Trichlorofluoromethane	75-69-4	-	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Vinylchloride	75-01-4	900	-	UG/KG	-	- -		-	- -		-	- -		-	- -	
Xylene	1330-20-7	100000	a	UG/KG	-	- -		-	- -		-	- -		-	- -	
TOTAL DETECTABLE					**0**			**0**			**0**			**0**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID: 1313ED-SED-02B			SAMPLE ID: 1333ED-SED-SHOPA DRAIN			SAMPLE ID: 1313ED-SS-01			SAMPLE ID: 1313ED-SS-2		
				LAB ORDER: 220-8178-5			RSK0820-05			RSJ0867-05			RSJ0800-04		
				SAMPLE DATE: 2/24/09 11:55			11/16/2009 12:40			10/14/2009 14:50			10/13/2009 13:30		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	RSCO	Comment	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	100000 a	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,1,2,2-Tetrachloroethane	79-34-5	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,1,2-Trichloroethane	79-00-5	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,1-Dichloroethane	75-34-3	26000 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,1-Dichloroethene	75-35-4	100000 a	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,2,4-Trichlorobenzene	120-82-1	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,2-Dibromo-3-chloropropane	96-12-8	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,2-Dibromoethane	106-93-4	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,2-Dichlorobenzene	95-50-1	100000 a	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,2-Dichloroethane	107-06-2	3100 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,2-Dichloropropane	78-87-5	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,3-Dichlorobenzene	541-73-1	49000 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
1,4-Dichlorobenzene	106-46-7	13000 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
2-Butanone	78-93-3	100000 a	UG/KG	-	- -		-	- -		27	U	1	30	U	1
2-Hexanone	591-78-6	- -	UG/KG	-	- -		-	- -		27	U	1	30	U	1
4-Methyl-2-pentanone	108-10-1	- -	UG/KG	-	- -		-	- -		27	U	1	30	U	1
Acetone	67-64-1	100000 b	UG/KG	-	- -		-	- -		27	U	1	30	U	1
Benzene	71-43-2	4800 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Bromodichloromethane	594-18-3	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Bromoform	75-25-2	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Bromomethane	74-83-9	- -	UG/KG	-	- -		-	- -		5.3	U, UJ	1	6.0	U	1
CarbonDisulfide	75-15-0	- -	UG/KG	-	- -		-	- -		5.3	U, UJ	1	6.0	U	1
Carbontetrachloride	56-23-5	2400 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Chlorobenzene	108-90-7	100000 a	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Dibromochloromethane	124-48-1	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Chloroethane	75-00-3	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U, UJ	1
Chloroform	67-66-3	49000 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Chloromethane	74-87-3	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
cis-1,2-Dichloroethene	156-59-2	100000 a	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
cis-1,3-Dichloropropene	10061-01-5	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Cyclohexane	110-82-7	- -	UG/KG	-	- -		-	- -		5.3	U	1	1.3	J	1
Dichlorodifluoromethane	75-71-8	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Ethylbenzene	100-41-4	41000 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Isopropylbenzene	98-82-8	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
MethylAcetate	79-20-9	- -	UG/KG	-	- -		-	- -		5.3	U, UJ	1	6.0	U	1
Methyltert-butylether	1634-04-4	100000 a	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Methylcyclohexane	108-87-2	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Methylenechloride	75-09-2	100000 a	UG/KG	-	- -		-	- -		3.8	J	1	5.7	J	1
Styrene	100-42-5	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Tetrachloroethene	127-18-4	19000 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Toluene	108-88-3	100000 a	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
trans-1,2-Dichloroethene	156-60-5	100000 a	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
trans-1,3-Dichloropropene	10061-02-6	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Trichloroethene	79-01-6	21000 -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Trichlorofluoromethane	75-69-4	- -	UG/KG	-	- -		-	- -		5.3	U	1	6.0	U	1
Vinylchloride	75-01-4	900 -	UG/KG	-	- -		-	- -		11	U	1	12	U	1
Xylene	1330-20-7	100000 a	UG/KG	-	- -		-	- -		11	U	1	12	U	1
TOTAL DETECTABLE				**0**			**0**			**3.8**			**7**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

SAMPLE ID:					1313ED-SED-01A			1313ED-SED-01A-DUP			1313ED-SED-01B			1313ED-SED-02A		
LAB ORDER:					220-8178-1			220-8178-2			220-8178-3			220-8178-4		
SAMPLE DATE:					2/24/09 11:30			2/24/09 11:30			2/24/09 11:30			2/24/09 11:55		
SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	88000	U	5	87000	U	5	86000	U	5	92000	U	5
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	88000	U *	5	87000	U *	5	86000	U *	5	92000	U *	5
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
2-Chloronaphthalene	91-58-7	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
2-Chlorophenol	95-57-8	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
2-Methylnaphthalene	91-57-6	-	-	UG/KG	3400	J	5	3700	J	5	3200	J	5	15000	U	5
o-Cresol	95-48-7	100000	a	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
2-Nitroaniline	88-74-4	-	-	UG/KG	88000	U	5	87000	U	5	86000	U	5	92000	U	5
2-Nitrophenol	88-75-5	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	35000	U	5	34000	U	5	34000	U	5	36000	U	5
3-Nitroaniline	99-09-2	-	-	UG/KG	88000	U	5	87000	U	5	86000	U	5	92000	U	5
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	88000	U	5	87000	U	5	86000	U	5	92000	U	5
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
4-Chloroaniline	106-47-8	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
4-Methylphenol	106-44-5	100000	a	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
4-Nitroaniline	100-01-6	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
4-Nitrophenol	100-02-7	-	-	UG/KG	88000	U	5	87000	U	5	86000	U	5	92000	U	5
Acenaphthene	83-32-9	100000	a	UG/KG	3500	J	5	3700	J	5	14000	U	5	15000	U	5
Acenaphthylene	208-96-8	100000	a	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Acetophenone	98-86-2	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	3400	J	5
Anthracene	120-12-7	100000	a	UG/KG	5200	J	5	5600	J	5	5700	J	5	15000	U	5
Atrazine	1912-24-9	-	-	UG/KG	17000	U	5	17000	U	5	17000	U	5	18000	U	5
Benzaldehyde	100-52-7	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	7000	J	5	7300	J	5	8600	J	5	15000	U	5
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	7200	J	5	7200	J	5	9000	J	5	15000	U	5
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	7700	J	5	8600	J	5	12000	J	5	15000	U	5
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	14000	U	5	7900	J	5	14000	U	5	15000	U	5
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	14000	U	5	14000	U	5	2800	J	5	15000	U	5
1,1-Biphenyl	92-52-4	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	99000		5	110000		5	130000		5	79000		5
Butylbenzylphthalate	85-68-7	-	-	UG/KG	11000	J	5	14000		5	12000	J	5	15000	U	5
Caprolactam	105-60-2	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Carbazole	86-74-8	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Chrysene	218-01-9	3900	-	UG/KG	7500	J	5	7600	J	5	9700	J	5	15000	U	5
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Dibenzofuran	132-64-9	59000	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Diethylphthalate	84-66-2	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Dimethylphthalate	131-11-3	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Di-n-butylphthalate	84-74-2	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	4200	J	5
Di-n-octylphthalate	117-84-0	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Fluoranthene	206-44-0	100000	a	UG/KG	11000	J	5	11000	J	5	14000		5	15000	U	5
Fluorene	86-73-7	100000	a	UG/KG	8400	J	5	10000	J	5	8000	J	5	15000	U	5
Hexachlorobenzene	118-74-1	1200	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Hexachlorobutadiene	87-68-3	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	35000	U	5	34000	U	5	34000	U	5	36000	U	5
Hexachloroethane	67-72-1	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	14000	U	5	5700	J	5	5900	J	5	15000	U	5
Isophorone	78-59-1	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Naphthalene	91-20-3	100000	a	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Nitrobenzene	98-95-3	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Pentachlorophenol	87-86-5	6700	-	UG/KG	88000	U	5	87000	U	5	86000	U	5	92000	U	5
Phenanthrene	85-01-8	100000	a	UG/KG	36000		5	37000		5	31000		5	5800	J	5
Phenol	108-95-2	100000	a	UG/KG	14000	U	5	14000	U	5	14000	U	5	15000	U	5
Pyrene	129-00-0	100000	a	UG/KG	21000		5	20000		5	23000		5	15000	U	5
TOTAL DETECTABLE					**227900**			**259300**			**274900**			**92400**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit
Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SED-02B			1333ED-SED-SHOPA DRAIN			1313ED-SS-01			1313ED-SS-2		
				LAB ORDER:	220-8178-5			RSK0820-05			RSJ0867-05			RSJ0800-04		
				SAMPLE DATE:	2/24/09 11:55			11/16/2009 12:40			10/14/2009 14:50			10/13/2009 13:30		
SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	92000	U	5	19000	U	10	1000	U	5	1900	U	10
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	92000	U *	5	36000	U	10	1900	U	5	3700	U	10
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
2-Chloronaphthalene	91-58-7	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
2-Chlorophenol	95-57-8	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
2-Methylnaphthalene	91-57-6	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
o-Cresol	95-48-7	100000	a	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
2-Nitroaniline	88-74-4	-	-	UG/KG	92000	U	5	36000	U	10	1900	U	5	3700	U	10
2-Nitrophenol	88-75-5	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	36000	U	5	19000	U	10	1000	U,L	5	1900	U	10
3-Nitroaniline	99-09-2	-	-	UG/KG	92000	U	5	36000	U	10	1900	U	5	3700	U	10
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	92000	U	5	36000	U	10	1900	U	5	3700	U	10
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
4-Chloroaniline	106-47-8	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
4-Methylphenol	106-44-5	100000	a	UG/KG	15000	U	5	36000	U	10	1900	U	5	3700	U	10
4-Nitroaniline	100-01-6	-	-	UG/KG	15000	U	5	36000	U	10	1900	U	5	3700	U	10
4-Nitrophenol	100-02-7	-	-	UG/KG	92000	U	5	36000	U	10	1900	U	5	3700	U	10
Acenaphthene	83-32-9	100000	a	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Acenaphthylene	208-96-8	100000	a	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Acetophenone	98-86-2	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Anthracene	120-12-7	100000	a	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Atrazine	1912-24-9	-	-	UG/KG	18000	U	5	19000	U	10	1000	U	5	1900	U	10
Benzaldehyde	100-52-7	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	15000	U	5	19000	U	10	76	J	5	220	J	10
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	15000	U	5	19000	U	10	53	J	5	220	J	10
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	15000	U	5	19000	U	10	68	J	5	280	J	10
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	15000	U	5	19000	U	10	41	J	5	98	J	10
1,1-Biphenyl	92-52-4	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	68000		5	14000	J	10	1000	U	5	1900	U	10
Butylbenzylphthalate	85-68-7	-	-	UG/KG	150000		5	19000	U	10	1000	U	5	1900	U	10
Caprolactam	105-60-2	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Carbazole	86-74-8	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Chrysene	218-01-9	3900	-	UG/KG	15000	U	5	19000	U	10	72	J	5	210	J	10
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Dibenzofuran	132-64-9	59000	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Diethylphthalate	84-66-2	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Dimethylphthalate	131-11-3	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Di-n-butylphthalate	84-74-2	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Di-n-octylphthalate	117-84-0	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Fluoranthene	206-44-0	100000	a	UG/KG	15000	U	5	19000	U	10	110	J	5	360	J	10
Fluorene	86-73-7	100000	a	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Hexachlorobenzene	118-74-1	1200	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Hexachlorobutadiene	87-68-3	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	36000	U	5	19000	U	10	1000	U	5	1900	U	10
Hexachloroethane	67-72-1	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	150	J	10
Isophorone	78-59-1	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Naphthalene	91-20-3	100000	a	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Nitrobenzene	98-95-3	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	15000	U	5	19000	U	10	1000	U,L	5	1900	U,L	10
Pentachlorophenol	87-86-5	6700	-	UG/KG	92000	U	5	36000	U	10	1900	U	5	3700	U	10
Phenanthrene	85-01-8	100000	a	UG/KG	5000	J	5	19000	U	10	78	J	5	240	J	10
Phenol	108-95-2	100000	a	UG/KG	15000	U	5	19000	U	10	1000	U	5	1900	U	10
Pyrene	129-00-0	100000	a	UG/KG	15000	U	5	19000	U	10	98	J	5	320	J	10
TOTAL DETECTABLE					**223000**			**14000**			**596**			**2098**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

SAMPLE ID:				1313ED-SED-01A			1313ED-SED-01A-DUP			1313ED-SED-01B			1313ED-SED-02A		
LAB ORDER:				220-8178-1			220-8178-2			220-8178-3			220-8178-4		
SAMPLE DATE:				2/24/09 11:30			2/24/09 11:30			2/24/09 11:30			2/24/09 11:55		
METALS (EPA METHOD 6010B)	CAS	RSCO	Comment	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	-	- MG/KG	4620		1	5120		1	6950		1	3920		1
Antimony	7440-36-0	-	- MG/KG	22.3	J	1	5.4	J	1	2.4	J	1	34.0	J	1
Arsenic	7440-38-2	16	f MG/KG	12.4	J	1	5.4	J	1	4.7	J	1	46.2	J	1
Barium	7440-39-3	400	- MG/KG	120		1	105		1	75.1		1	167		1
Beryllium	7440-41-7	72	- MG/KG	0.87		1	1.3		1	1.4		1	0.11	J	1
Cadmium	7440-43-9	4.3	- MG/KG	14.9	J	1	7.1	J	1	7.2	J	1	6.5	J	1
Calcium	7440-70-2	-	- MG/KG	12200		1	41200		1	43800		1	9040		1
Chromium	18540-29-9	110	- MG/KG	77.1		1	84.0		1	52.5		1	529		1
Cobalt	7440-48-4	-	- MG/KG	14.1	J	1	10.4	J	1	7.3	J	1	50.5	J	1
Copper	7440-50-8	270	- MG/KG	477		1	403		1	292		1	706		1
Iron	7439-89-6	-	- MG/KG	104000		1	59500		1	47700		1	463000		1
Lead	7439-92-1	400	- MG/KG	450		1	216		1	134		1	913		1
Magnesium	7439-95-4	-	- MG/KG	6820		1	24600		1	27200		1	2410		1
Manganese	7439-96-5	2000	f MG/KG	615		1	492		1	383		1	2940		1
TotalMercury	7439-97-6	0.81	j MG/KG	0.083		1	0.090		1	0.073		1	0.92		1
Nickel	7440-02-0	310	- MG/KG	92.4	J	1	81.4	J	1	40.2	J	1	445	J	1
Potassium	7440-09-7	-	- MG/KG	1070	J	1	1290	J	1	1440	J	1	1240	J	1
Selenium	7782-49-2	180	- MG/KG	0.72	J,UJ	1	0.53	J,UJ	1	0.62	J,UJ	1	0.73	U,J,UJ	1
Silver	7440-22-4	180	- MG/KG	2.0	J,UJ	1	1.0	J,UJ	1	0.75	J,UJ	1	1.9	J,UJ	1
Sodium	7440-23-5	-	- MG/KG	897		1	1110		1	846		1	977		1
Thallium	7440-28-0	-	- MG/KG	0.68	U	1	0.91	U	1	0.75	U	1	0.73	U	1
Vanadium	7440-62-2	-	- MG/KG	73.7	J	1	56.4	J	1	37.6	J	1	69.4	J	1
Zinc	7440-66-6	10000	d MG/KG	4100		1	3820		1	1690		1	1340		1
TOTAL DETECTABLE			**MG/KG**	**135679.6**			**138109**			**130665**			**487837**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SED-02B			1333ED-SED-SHOPA DRAIN			1313ED-SS-01			1313ED-SS-2		
				LAB ORDER:	220-8178-5			RSK0820-05			RSJ0867-05			RSJ0800-04		
				SAMPLE DATE:	2/24/09 11:55			11/16/2009 12:40			10/14/2009 14:50			10/13/2009 13:30		
METALS (EPA METHOD 6010B)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	-	-	MG/KG	22800		1	4620		1	9550	B,J	1	8310	J	1
Antimony	7440-36-0	-	-	MG/KG	78.5	J	1	6.0	J	1	0.6	J,UJ	1	17.5	U,UJ	1
Arsenic	7440-38-2	16	f	MG/KG	22.5	J	1	13.3		1	16.3		1	7.5	B	1
Barium	7440-39-3	400	-	MG/KG	306		1	89.8	J	1	87.0		1	89.1		1
Beryllium	7440-41-7	72	-	MG/KG	0.14	J	1	0.361	J	1	0.415	J	1	0.397	B	1
Cadmium	7440-43-9	4.3	-	MG/KG	9.6	J	1	9.54		1	0.801		1	1.36		1
Calcium	7440-70-2	-	-	MG/KG	10700		1	22300		1	1290		1	19100		1
Chromium	18540-29-9	110	-	MG/KG	299		1	145		1	9.76		1	12.6		1
Cobalt	7440-48-4	-	-	MG/KG	41.0	J	1	22.7		1	6.84		1	5.77		1
Copper	7440-50-8	270	-	MG/KG	6680		1	431	B	1	97.2	B	1	121	J	1
Iron	7439-89-6	-	-	MG/KG	132000		1	184000	D08	5	19100		1	19900		1
Lead	7439-92-1	400	-	MG/KG	1340		1	1320	J	1	36.4		1	101		1
Magnesium	7439-95-4	-	-	MG/KG	2210		1	3390	J	1	2470		1	2990	B	1
Manganese	7439-96-5	2000	f	MG/KG	1330		1	1050	B,J	1	2180	B	1	1030	B1, B	1
TotalMercury	7439-97-6	0.81	j	MG/KG	0.51		1	0.136		1	0.083		1	0.0834		1
Nickel	7440-02-0	310	-	MG/KG	2270	J	1	146	J	1	13.1		1	17.5		1
Potassium	7440-09-7	-	-	MG/KG	1210	J	1	686	J	1	526		1	716		1
Selenium	7782-49-2	180	-	MG/KG	0.88	U,J,UJ	1	4.3	U,UJ	1	1.0	J	1	4.7	U	1
Silver	7440-22-4	180	-	MG/KG	3.7	J,UJ	1	0.892		1	0.581	U	1	1.48		1
Sodium	7440-23-5	-	-	MG/KG	1100		1	466	J	1	163	U	1	68.0	J	1
Thallium	7440-28-0	-	-	MG/KG	0.88	U	1	15.5	J	1	7.0	U	1	7.0	U	1
Vanadium	7440-62-2	-	-	MG/KG	34.9	J	1	15.9		1	17.0	B	1	17.0		1
Zinc	7440-66-6	10000	d	MG/KG	1690		1	656	B,J	1	108	B,J	1	229	B	1
TOTAL DETECTABLE				**MG/KG**	**184126**			**219384**			**35510.5**			**52717.79**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit
Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

			SAMPLE ID:	1313ED-SED-01A			1313ED-SED-01A-DUP			1313ED-SED-01B			1313ED-SED-02A		
			LAB ORDER:	220-8178-1			220-8178-2			220-8178-3			220-8178-4		
			SAMPLE DATE:	2/24/09 11:30			2/24/09 11:30			2/24/09 11:30			2/24/09 11:55		
PCBs (EPA METHOD 8080)	CAS	RSCO	Comment	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	- -	UG/KG	350	U	20	360	U	20	870	U	50	20000	U	1000
Aroclor1221	11104-28-2	- -	UG/KG	350	U		360	U		870	U		20000	U	
Aroclor1232	11141-16-5	- -	UG/KG	350	U		360	U		870	U		20000	U	
Aroclor1242	53469-21-9	- -	UG/KG	350	U		360	U		870	U		20000	U	
Aroclor1248	12672-29-6	- -	UG/KG	350	U		600	J		870	U		20000	U	
Aroclor1254	11097-69-1	- -	UG/KG	3400	J		4600	J		7400			200000		
Aroclor1260	11096-82-5	- -	UG/KG	2000	J		2200			2800			20000	U	
Aroclor1262	37324-23-5	- -	UG/KG	-			-			-			-		
Aroclor1268	11100-14-4	- -	UG/KG	-			-			-			-		
TOTAL DETECTABLE		**1,000 -**	**UG/KG**	**5400**			**7400**			**10200**			**200000**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit
Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

			SAMPLE ID:	1313ED-SED-02B			1333ED-SED-SHOPA DRAIN			1313ED-SS-01			1313ED-SS-2		
			LAB ORDER:	220-8178-5			RSK0820-05			RSJ0867-05			RSJ0800-04		
			SAMPLE DATE:	2/24/09 11:55			11/16/2009 12:40			10/14/2009 14:50			10/13/2009 13:30		
PCBs (EPA METHOD 8080)	CAS	RSCO	Comment	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	- -	UG/KG	22000	U	###	1800	U	100	20	U	1	19	U	1
Aroclor1221	11104-28-2	- -	UG/KG	22000	U		1800	U	100	20	U	1	19	U	1
Aroclor1232	11141-16-5	- -	UG/KG	22000	U		1800	U	100	20	U	1	19	U	1
Aroclor1242	53469-21-9	- -	UG/KG	22000	U		1800	U	100	20	U	1	19	U	1
Aroclor1248	12672-29-6	- -	UG/KG	22000	U		1800	U	100	20	U	1	19	U	1
Aroclor1254	11097-69-1	- -	UG/KG	130000			14000		100	27		1	19	U	1
Aroclor1260	11096-82-5	- -	UG/KG	22000	U		1800	U	100	12	J	1	19	U	1
Aroclor1262	37324-23-5	- -	UG/KG	-			1800	U	100	20	U	1	26	J	1
Aroclor1268	11100-14-4	- -	UG/KG	-			1800	U	100	20	U	1	19	U	1
TOTAL DETECTABLE		**1,000 -**	**UG/KG**	**130000**			**14000**			**39**			**26**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SED-01A			1313ED-SED-01A-DUP			1313ED-SED-01B			1313ED-SED-02A		
				LAB ORDER:	220-8178-1			220-8178-2			220-8178-3			220-8178-4		
				SAMPLE DATE:	2/24/09 11:30			2/24/09 11:30			2/24/09 11:30			2/24/09 11:55		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	13000	-	UG/KG												
4,4'-DDE	72-55-9	8900	-	UG/KG												
4,4'-DDT	50-29-3	7900	-	UG/KG												
Aldrin	309-00-2	97	-	UG/KG												
alpha-BHC	319-84-6	480	-	UG/KG												
Chlordane(alpha)	5103-71-9	4200	-	UG/KG												
beta-BHC	319-85-7	360	-	UG/KG												
Chlordane	57-74-9	-	-	UG/KG												
delta-BHC	319-86-8	100000	a	UG/KG												
Dieldrin	60-57-1	200	-	UG/KG												
EndosulfanI	959-98-8	24000	j	UG/KG												
EndosulfanII	33213-65-9	24000	j	UG/KG												
Endosulfansulfate	1031-07-8	24000	j	UG/KG												
Endrin	72-20-8	11000	-	UG/KG												
Endrinaldehyde	7421-93-4	-	-	UG/KG												
Endrinketone	53494-70-5	-	-	UG/KG												
Lindane	58-89-9	1300	-	UG/KG												
gamma-Chlordane	5566-34-7	-	-	UG/KG												
Heptochlor	76-44-8	2100	-	UG/KG												
Heptachlorepoxide	1024-57-3	-	-	UG/KG												
Methoxychlor	72-43-5	-	-	UG/KG												
Toxaphene	8001-35-2	-	-	UG/KG												
TOTAL DETECTABLE				**UG/KG**	**0**			**0**			**0**			**0**		

TABLE 3
Surface Soil Data and Floor Drain and Machine Pit

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SED-02B			1333ED-SED-SHOPA DRAIN			1313ED-SS-01			1313ED-SS-2		
				LAB ORDER:	220-8178-5			RSK0820-05			RSJ0867-05			RSJ0800-04		
				SAMPLE DATE:	2/24/09 11:55			11/16/2009 12:40			10/14/2009 14:50			10/13/2009 13:30		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	13000	-	UG/KG				91	U	50	2.0	U,C4	1	19	U	10
4,4'-DDE	72-55-9	8900	-	UG/KG				91	U	50	2.0	U	1	19	U	10
4,4'-DDT	50-29-3	7900	-	UG/KG				520	J	50	2.0	U	1	19	U	10
Aldrin	309-00-2	97	-	UG/KG				91	U	50	2.0	U	1	19	U	10
alpha-BHC	319-84-6	480	-	UG/KG				91	U	50	0.97	J	1	19	U	10
Chlordane(alpha)	5103-71-9	4200	-	UG/KG				91	U	50	2.0	U	1	19	U	10
beta-BHC	319-85-7	360	-	UG/KG				91	U	50	2.0	U, J	1	19	U	10
Chlordane	57-74-9	-	-	UG/KG				910	U	50	20	U	1	190	U	10
delta-BHC	319-86-8	100000	a	UG/KG				91	U	50	1.2	J	1	19	U	10
Dieldrin	60-57-1	200	-	UG/KG				91	U	50	2.0	U	1	19	U	10
EndosulfanI	959-98-8	24000	j	UG/KG				52	J, J*	50	0.56	J	1	19	U	10
EndosulfanII	33213-65-9	24000	j	UG/KG				36	J, J*	50	0.37	J, J*	1	19	U	10
Endosulfansulfate	1031-07-8	24000	j	UG/KG				91	U	50	2.0	U	1	19	U	10
Endrin	72-20-8	11000	-	UG/KG				66	J	50	2.0	U	1	19	U	10
Endrinaldehyde	7421-93-4	-	-	UG/KG				91	U	50	2.0	U,C,UJ	1	19	U	10
Endrinketone	53494-70-5	-	-	UG/KG				91	U	50	2.0	U	1	19	U	10
Lindane	58-89-9	1300	-	UG/KG				91	U	50	2.0	U	1	19	U	10
gamma-Chlordane	5566-34-7	-	-	UG/KG				110	J*	50	2.0	U	1	19	U	10
Heptochlor	76-44-8	2100	-	UG/KG				91	U	50	0.51	J	1	19	U	10
Heptachlorepoxide	1024-57-3	-	-	UG/KG				48	J, J*	50	2.0	U	1	19	U	10
Methoxychlor	72-43-5	-	-	UG/KG				91	U	50	2.0	U	1	19	U	10
Toxaphene	8001-35-2	-	-	UG/KG				910	U	50	20	U	1	190	U	10
TOTAL DETECTABLE				**UG/KG**	**0**			**832**			**3.61**			**0**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-01 (0'-8')			1313ED-SB-02 (16'-20')			1313ED-SB-03 (20'-24')			1313ED-SB-04 (0'-4')		
				LAB ORDER:	RSJ0969-01			RSJ0867-02			RSJ0867-03			RSJ0969-02		
				SAMPLE DATE:	10/15/2009 09:15			10/14/2009 11:15			10/14/2009 13:30			10/15/2009 11:15		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	100000	a	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,1,2,2-Tetrachloroethane	79-34-5	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,1,2-Trichloroethane	79-00-5	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U, UJ	1	5.2	U	1
1,1-Dichloroethane	75-34-3	26000	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,1-Dichloroethene	75-35-4	100000	a	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,2,4-Trichlorobenzene	120-82-1	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,2-Dibromo-3-chloropropane	96-12-8	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U, UJ	1	5.2	U	1
1,2-Dibromoethane	106-93-4	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,2-Dichlorobenzene	95-50-1	100000	a	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,2-Dichloroethane	107-06-2	3100	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,2-Dichloropropane	78-87-5	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,3-Dichlorobenzene	541-73-1	49000	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
1,4-Dichlorobenzene	106-46-7	13000	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
2-Butanone	78-93-3	100000	a	UG/KG	28	U	1	24	U	1	28	U	1	31		1
2-Hexanone	591-78-6	-	-	UG/KG	28	U	1	24	U	1	28	U	1	26	U	1
4-Methyl-2-pentanone	108-10-1	-	-	UG/KG	28	U	1	24	U	1	28	U	1	26	U	1
Acetone	67-64-1	100000	b	UG/KG	12	J	1	24	U	1	28	U	1	190		1
Benzene	71-43-2	4800	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Bromodichloromethane	594-18-3	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Bromoform	75-25-2	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Bromomethane	74-83-9	-	-	UG/KG	5.5	U,L	1	4.8	U, UJ	1	5.5	U, UJ	1	5.2	U,L	1
CarbonDisulfide	75-15-0	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U, UJ	1	5.2	U	1
Carbontetrachloride	56-23-5	2400	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Chlorobenzene	108-90-7	100000	a	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Dibromochloromethane	124-48-1	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Chloroethane	75-00-3	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Chloroform	67-66-3	49000	-	UG/KG	5.5	U	1	0.99	J	1	5.5	U	1	5.2	U	1
Chloromethane	74-87-3	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
cis-1,2-Dichloroethene	156-59-2	100000	a	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
cis-1,3-Dichloropropene	10061-01-5	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Cyclohexane	110-82-7	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U, UJ	1	5.2	U	1
Dichlorodifluoromethane	75-71-8	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Ethylbenzene	100-41-4	41000	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Isopropylbenzene	98-82-8	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
MethylAcetate	79-20-9	-	-	UG/KG	5.5	U	1	4.8	U, UJ	1	5.5	U	1	5.2	U	1
Methyltert-butylether	1634-04-4	100000	a	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Methylcyclohexane	108-87-2	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Methylenechloride	75-09-2	100000	a	UG/KG	7.0	U, B	1	4.2	J	1	5.7	U, B	1	6.8	U, B	1
Styrene	100-42-5	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Tetrachloroethene	127-18-4	19000	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Toluene	108-88-3	100000	a	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
trans-1,2-Dichloroethene	156-60-5	100000	a	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Trichloroethene	79-01-6	21000	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Trichlorofluoromethane	75-69-4	-	-	UG/KG	5.5	U	1	4.8	U	1	5.5	U	1	5.2	U	1
Vinylchloride	75-01-4	900	-	UG/KG	11	U	1	9.5	U	1	11	U	1	10	U	1
Xylene	1330-20-7	100000	a	UG/KG	11	U	1	9.5	U	1	11	U	1	10	U	1
TOTAL DETECTABLE				**UG/KG**	**12**			**5.19**			**0**			**221**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-06 (8'-13')			1313ED-SB-07 (16'-20')			1313ED-SB-08 (12'-20')			1313ED-SB-09 (12'-16')		
				LAB ORDER:	RSJ1025-02			RSJ1025-03			RSJ1079-01			RSJ1025-04		
				SAMPLE DATE:	10/16/2009 10:15			10/16/2009 10:50			10/19/2009 10:00			10/16/2009 12:20		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	100000	a	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,1,2,2-Tetrachloroethane	79-34-5	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,1,2-Trichloroethane	79-00-5	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	-	-	UG/KG	5.3	U, UJ	1	5.1	U, UJ	1	5.4	U, UJ	1	5.0	U, UJ	1
1,1-Dichloroethane	75-34-3	26000	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,1-Dichloroethene	75-35-4	100000	a	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,2,4-Trichlorobenzene	120-82-1	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,2-Dibromo-3-chloropropane	96-12-8	-	-	UG/KG	5.3	U, UJ	1	5.1	U, UJ	1	5.4	U, UJ	1	5.0	U, UJ	1
1,2-Dibromoethane	106-93-4	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,2-Dichlorobenzene	95-50-1	100000	a	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,2-Dichloroethane	107-06-2	3100	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,2-Dichloropropane	78-87-5	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,3-Dichlorobenzene	541-73-1	49000	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
1,4-Dichlorobenzene	106-46-7	13000	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
2-Butanone	78-93-3	100000	a	UG/KG	27	U	1	25	U	1	27	U	1	25	U	1
2-Hexanone	591-78-6	-	-	UG/KG	27	U	1	25	U	1	27	U	1	25	U	1
4-Methyl-2-pentanone	108-10-1	-	-	UG/KG	27	U	1	25	U	1	27	U	1	25	U	1
Acetone	67-64-1	100000	b	UG/KG	27	U	1	25	U	1	27	U	1	25	U	1
Benzene	71-43-2	4800	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Bromodichloromethane	594-18-3	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Bromoform	75-25-2	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Bromomethane	74-83-9	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U,L	1	5.0	U	1
CarbonDisulfide	75-15-0	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Carbontetrachloride	56-23-5	2400	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Chlorobenzene	108-90-7	100000	a	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Dibromochloromethane	124-48-1	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Chloroethane	75-00-3	-	-	UG/KG	5.3	U, UJ	1	5.1	U, UJ	1	5.4	U,L,UJ	1	5.0	U, UJ	1
Chloroform	67-66-3	49000	-	UG/KG	5.3	U	1	1.6	J	1	5.4	U	1	5.0	U	1
Chloromethane	74-87-3	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
cis-1,2-Dichloroethene	156-59-2	100000	a	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
cis-1,3-Dichloropropene	10061-01-5	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Cyclohexane	110-82-7	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Dichlorodifluoromethane	75-71-8	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Ethylbenzene	100-41-4	41000	-	UG/KG	5.3	U	1	5.1	U	1	1.2	J	1	5.0	U	1
Isopropylbenzene	98-82-8	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
MethylAcetate	79-20-9	-	-	UG/KG	5.3	U, UJ	1	5.1	U, UJ	1	5.4	U, UJ	1	5.0	U, UJ	1
Methyltert-butylether	1634-04-4	100000	a	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Methylcyclohexane	108-87-2	-	-	UG/KG	5.3	U	1	5.1	U	1	7.2		1	5.0	U	1
Methylenechloride	75-09-2	100000	a	UG/KG	4.0	J	1	4.6	J	1	5.4	U	1	5.0		1
Styrene	100-42-5	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U,L	1	5.0	U	1
Tetrachloroethene	127-18-4	19000	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Toluene	108-88-3	100000	a	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
trans-1,2-Dichloroethene	156-60-5	100000	a	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Trichloroethene	79-01-6	21000	-	UG/KG	5.3	U	1	5.1	U	1	5.4	U	1	5.0	U	1
Trichlorofluoromethane	75-69-4	-	-	UG/KG	5.3	U, UJ	1	5.1	U, UJ	1	5.4	U	1	5.0	U, UJ	1
Vinylchloride	75-01-4	900	-	UG/KG	11	U	1	10	U	1	11	U	1	10	U	1
Xylene	1330-20-7	100000	a	UG/KG	11	U	1	10	U	1	7.2	J	1	10	U	1
TOTAL DETECTABLE				**UG/KG**	**4**			**6.2**			**15.6**			**5**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-10 (16'-20')			1313ED-SB-11 (4'-16')			1313ED-SB-12 (12'-16')			1313ED-SB-13 (16'-20')		
				LAB ORDER:	RSJ1079-02			RSJ1079-03			RSJ1025-06			RSJ0969-03		
				SAMPLE DATE:	10/19/2009 11:30			10/19/2009 12:45			10/16/2009 16:16			10/15/2009 14:15		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	100000	a	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,1,2,2-Tetrachloroethane	79-34-5	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,1,2-Trichloroethane	79-00-5	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	-	-	UG/KG	4.9	U, UJ	1	5.1	U, UJ	1	5.3	U, UJ	1	5.1	U	1
1,1-Dichloroethane	75-34-3	26000	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,1-Dichloroethene	75-35-4	100000	a	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,2,4-Trichlorobenzene	120-82-1	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,2-Dibromo-3-chloropropane	96-12-8	-	-	UG/KG	4.9	U, UJ	1	5.1	U, UJ	1	5.3	U, UJ	1	5.1	U	1
1,2-Dibromoethane	106-93-4	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,2-Dichlorobenzene	95-50-1	100000	a	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,2-Dichloroethane	107-06-2	3100	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,2-Dichloropropane	78-87-5	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,3-Dichlorobenzene	541-73-1	49000	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
1,4-Dichlorobenzene	106-46-7	13000	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
2-Butanone	78-93-3	100000	a	UG/KG	25	U	1	26	U	1	27	U	1	25	U	1
2-Hexanone	591-78-6	-	-	UG/KG	25	U	1	26	U	1	27	U	1	25	U	1
4-Methyl-2-pentanone	108-10-1	-	-	UG/KG	25	U	1	26	U	1	27	U	1	25	U	1
Acetone	67-64-1	100000	b	UG/KG	25	U	1	26	U	1	27	U	1	25	U	1
Benzene	71-43-2	4800	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Bromodichloromethane	594-18-3	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Bromoform	75-25-2	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Bromomethane	74-83-9	-	-	UG/KG	4.9	U,L	1	5.1	U,L	1	5.3	U	1	5.1	U,L	1
CarbonDisulfide	75-15-0	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Carbontetrachloride	56-23-5	2400	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Chlorobenzene	108-90-7	100000	a	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Dibromochloromethane	124-48-1	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Chloroethane	75-00-3	-	-	UG/KG	4.9	U,L,UJ	1	5.1	U,L,UJ	1	5.3	U, UJ	1	5.1	U	1
Chloroform	67-66-3	49000	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	1.2	J	1
Chloromethane	74-87-3	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
cis-1,2-Dichloroethene	156-59-2	100000	a	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
cis-1,3-Dichloropropene	10061-01-5	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Cyclohexane	110-82-7	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Dichlorodifluoromethane	75-71-8	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Ethylbenzene	100-41-4	41000	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Isopropylbenzene	98-82-8	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
MethylAcetate	79-20-9	-	-	UG/KG	4.9	U, UJ	1	5.1	U, UJ	1	5.3	U, UJ	1	5.1	U	1
Methyltert-butylether	1634-04-4	100000	a	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Methylcyclohexane	108-87-2	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Methylenechloride	75-09-2	100000	a	UG/KG	4.9	U	1	5.1	U	1	5.9		1	6.6	U, B	1
Styrene	100-42-5	-	-	UG/KG	4.9	U,L	1	5.1	U,L	1	5.3	U	1	5.1	U	1
Tetrachloroethene	127-18-4	19000	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Toluene	108-88-3	100000	a	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
trans-1,2-Dichloroethene	156-60-5	100000	a	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Trichloroethene	79-01-6	21000	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U	1	5.1	U	1
Trichlorofluoromethane	75-69-4	-	-	UG/KG	4.9	U	1	5.1	U	1	5.3	U, UJ	1	5.1	U	1
Vinylchloride	75-01-4	900	-	UG/KG	9.9	U	1	10	U	1	11	U	1	10	U	1
Xylene	1330-20-7	100000	a	UG/KG	9.9	U	1	10	U	1	11	U	1	10	U	1
TOTAL DETECTABLE				**UG/KG**	**0**			**0**			**5.9**			**1.2**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	RSCO	Comment		1313ED-SB-14 (12'-16') RESULT	QUAL	DF	1313ED-SB-15 (8'-12') RESULT	QUAL	DF	1313ED-SB-16 (0'-20') RESULT	QUAL	DF	1313ED-SB-17 (16'-20') RESULT	QUAL	DF
LAB ORDER:					RSJ1025-01			RSJ0969-04			RSJ0800-02			RSJ0800-07		
SAMPLE DATE:					10/16/2009 09:15			10/15/2009 15:30			10/13/2009 11:30			10/13/2009 15:40		
1,1,1-Trichloroethane	71-55-6	100000	a	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,1,2,2-Tetrachloroethane	79-34-5	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,1,2-Trichloroethane	79-00-5	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	-	-	UG/KG	5.3	U, UJ	1	6.1	U	1	5.0	U	1	5.5	U	1
1,1-Dichloroethane	75-34-3	26000	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,1-Dichloroethene	75-35-4	100000	a	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,2,4-Trichlorobenzene	120-82-1	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,2-Dibromo-3-chloropropane	96-12-8	-	-	UG/KG	5.3	U, UJ	1	6.1	U	1	5.0	U	1	5.5	U	1
1,2-Dibromoethane	106-93-4	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,2-Dichlorobenzene	95-50-1	100000	a	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,2-Dichloroethane	107-06-2	3100	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,2-Dichloropropane	78-87-5	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,3-Dichlorobenzene	541-73-1	49000	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
1,4-Dichlorobenzene	106-46-7	13000	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
2-Butanone	78-93-3	100000	a	UG/KG	26	U	1	30	U	1	25	U	1	27	U	1
2-Hexanone	591-78-6	-	-	UG/KG	26	U	1	30	U	1	25	U	1	27	U	1
4-Methyl-2-pentanone	108-10-1	-	-	UG/KG	26	U	1	30	U	1	25	U	1	27	U	1
Acetone	67-64-1	100000	b	UG/KG	26	U	1	19	J	1	25	U	1	27	U	1
Benzene	71-43-2	4800	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Bromodichloromethane	594-18-3	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Bromoform	75-25-2	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Bromomethane	74-83-9	-	-	UG/KG	5.3	U	1	6.1	U,L	1	5.0	U	1	5.5	U	1
CarbonDisulfide	75-15-0	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Carbontetrachloride	56-23-5	2400	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Chlorobenzene	108-90-7	100000	a	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Dibromochloromethane	124-48-1	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Chloroethane	75-00-3	-	-	UG/KG	5.3	U, UJ	1	6.1	U	1	5.0	U, UJ	1	5.5	U, UJ	1
Chloroform	67-66-3	49000	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	3.7	J	1
Chloromethane	74-87-3	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
cis-1,2-Dichloroethene	156-59-2	100000	a	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
cis-1,3-Dichloropropene	10061-01-5	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Cyclohexane	110-82-7	-	-	UG/KG	5.3	U	1	6.1	U	1	1.8	J	1	5.5	U	1
Dichlorodifluoromethane	75-71-8	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Ethylbenzene	100-41-4	41000	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Isopropylbenzene	98-82-8	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
MethylAcetate	79-20-9	-	-	UG/KG	5.3	U, UJ	1	6.1	U	1	5.0	U	1	5.5	U	1
Methyltert-butylether	1634-04-4	100000	a	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Methylcyclohexane	108-87-2	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Methylenechloride	75-09-2	100000	a	UG/KG	4.2	J	1	7.4	U, B	1	4.6	J	1	3.5	J	1
Styrene	100-42-5	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Tetrachloroethene	127-18-4	19000	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Toluene	108-88-3	100000	a	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
trans-1,2-Dichloroethene	156-60-5	100000	a	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Trichloroethene	79-01-6	21000	-	UG/KG	5.3	U	1	6.1	U	1	5.0	U	1	5.5	U	1
Trichlorofluoromethane	75-69-4	-	-	UG/KG	5.3	U, UJ	1	6.1	U	1	5.0	U	1	5.5	U	1
Vinylchloride	75-01-4	900	-	UG/KG	11	U	1	12	U	1	9.9	U	1	11	U	1
Xylene	1330-20-7	100000	a	UG/KG	11	U	1	12	U	1	9.9	U	1	11	U	1
TOTAL DETECTABLE				**UG/KG**	**4.2**			**19**			**6.4**			**7.2**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-MW-01 (16'-20')			1313ED-MW-02 (16'-20')			1313ED-MW-3 (16'-20')			1313ED-MW-04 (12'-20')		
				LAB ORDER:	RSJ0867-04			RSJ0867-01			RSJ0800-03			RSJ1025-05		
				SAMPLE DATE:	10/14/2009 15:15			10/14/2009 09:15			10/13/2009 12:45			10/16/2009 13:45		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	100000	a	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,1,2,2-Tetrachloroethane	79-34-5	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,1,2-Trichloroethane	79-00-5	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U, UJ	1
1,1-Dichloroethane	75-34-3	26000	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,1-Dichloroethene	75-35-4	100000	a	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,2,4-Trichlorobenzene	120-82-1	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,2-Dibromo-3-chloropropane	96-12-8	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U, UJ	1
1,2-Dibromoethane	106-93-4	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,2-Dichlorobenzene	95-50-1	100000	a	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,2-Dichloroethane	107-06-2	3100	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,2-Dichloropropane	78-87-5	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,3-Dichlorobenzene	541-73-1	49000	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
1,4-Dichlorobenzene	106-46-7	13000	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
2-Butanone	78-93-3	100000	a	UG/KG	29	U	1	26	U	1	26	U	1	30	U	1
2-Hexanone	591-78-6	-	-	UG/KG	29	U	1	26	U	1	26	U	1	30	U	1
4-Methyl-2-pentanone	108-10-1	-	-	UG/KG	29	U	1	26	U	1	26	U	1	30	U	1
Acetone	67-64-1	100000	b	UG/KG	29	U	1	26	U	1	26	U	1	30	U	1
Benzene	71-43-2	4800	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Bromodichloromethane	594-18-3	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Bromoform	75-25-2	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Bromomethane	74-83-9	-	-	UG/KG	5.8	U, UJ	1	5.1	U, UJ	1	5.2	U	1	6.1	U	1
CarbonDisulfide	75-15-0	-	-	UG/KG	5.8	U, UJ	1	5.1	U, UJ	1	5.2	U	1	6.1	U	1
Carbontetrachloride	56-23-5	2400	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Chlorobenzene	108-90-7	100000	a	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Dibromochloromethane	124-48-1	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Chloroethane	75-00-3	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U, UJ	1	6.1	U, UJ	1
Chloroform	67-66-3	49000	-	UG/KG	5.8	U	1	4.0	J	1	1.4	J	1	1.3	J	1
Chloromethane	74-87-3	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
cis-1,2-Dichloroethene	156-59-2	100000	a	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
cis-1,3-Dichloropropene	10061-01-5	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Cyclohexane	110-82-7	-	-	UG/KG	5.8	U	1	5.1	U	1	1.1	J	1	6.1	U	1
Dichlorodifluoromethane	75-71-8	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Ethylbenzene	100-41-4	41000	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Isopropylbenzene	98-82-8	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
MethylAcetate	79-20-9	-	-	UG/KG	5.8	U, UJ	1	5.1	U, UJ	1	5.2	U	1	6.1	U, UJ	1
Methyltert-butylether	1634-04-4	100000	a	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Methylcyclohexane	108-87-2	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Methylenechloride	75-09-2	100000	a	UG/KG	5.5	J	1	5.5		1	6.0		1	5.4	J	1
Styrene	100-42-5	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Tetrachloroethene	127-18-4	19000	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Toluene	108-88-3	100000	a	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
trans-1,2-Dichloroethene	156-60-5	100000	a	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Trichloroethene	79-01-6	21000	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U	1
Trichlorofluoromethane	75-69-4	-	-	UG/KG	5.8	U	1	5.1	U	1	5.2	U	1	6.1	U, UJ	1
Vinylchloride	75-01-4	900	-	UG/KG	12	U	1	10	U	1	10	U	1	12	U	1
Xylene	1330-20-7	100000	a	UG/KG	12	U	1	10	U	1	10	U	1	12	U	1
TOTAL DETECTABLE				**UG/KG**	**5.5**			**9.5**			**8.5**			**6.7**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-MW-5 (4'-12')			BLIND DUPLICATE			1313ED-BLIND DUP#1		
				LAB ORDER:	RSJ0800-01			RSJ1079-04			RSJ0867-06		
				SAMPLE DATE:	10/13/2009 10:30			10/19/2009 00:00			10/14/2009 00:00		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	RSCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	100000	a	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,1,2,2-Tetrachloroethane	79-34-5	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,1,2-Trichloroethane	79-00-5	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	-	-	UG/KG	5.5	U	1	4.6	U, UJ	1	6.1	U	1
1,1-Dichloroethane	75-34-3	26000	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,1-Dichloroethene	75-35-4	100000	a	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,2,4-Trichlorobenzene	120-82-1	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,2-Dibromo-3-chloropropane	96-12-8	-	-	UG/KG	5.5	U	1	4.6	U, UJ	1	6.1	U	1
1,2-Dibromoethane	106-93-4	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,2-Dichlorobenzene	95-50-1	100000	a	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,2-Dichloroethane	107-06-2	3100	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,2-Dichloropropane	78-87-5	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,3-Dichlorobenzene	541-73-1	49000	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
1,4-Dichlorobenzene	106-46-7	13000	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
2-Butanone	78-93-3	100000	a	UG/KG	28	U	1	23	U	1	31	U	1
2-Hexanone	591-78-6	-	-	UG/KG	28	U	1	23	U	1	31	U	1
4-Methyl-2-pentanone	108-10-1	-	-	UG/KG	28	U	1	23	U	1	31	U	1
Acetone	67-64-1	100000	b	UG/KG	28	U	1	23	U	1	31	U	1
Benzene	71-43-2	4800	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Bromodichloromethane	594-18-3	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Bromoform	75-25-2	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Bromomethane	74-83-9	-	-	UG/KG	5.5	U	1	4.6	U,L	1	6.1	U, UJ	1
CarbonDisulfide	75-15-0	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U, UJ	1
Carbontetrachloride	56-23-5	2400	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Chlorobenzene	108-90-7	100000	a	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Dibromochloromethane	124-48-1	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Chloroethane	75-00-3	-	-	UG/KG	5.5	U, UJ	1	4.6	U,L,UJ	1	6.1	U	1
Chloroform	67-66-3	49000	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Chloromethane	74-87-3	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
cis-1,2-Dichloroethene	156-59-2	100000	a	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
cis-1,3-Dichloropropene	10061-01-5	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Cyclohexane	110-82-7	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Dichlorodifluoromethane	75-71-8	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Ethylbenzene	100-41-4	41000	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Isopropylbenzene	98-82-8	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
MethylAcetate	79-20-9	-	-	UG/KG	5.5	U	1	4.6	U, UJ	1	6.1	U, UJ	1
Methyltert-butylether	1634-04-4	100000	a	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Methylcyclohexane	108-87-2	-	-	UG/KG	5.5	U	1	2.5	J	1	6.1	U	1
Methylenechloride	75-09-2	100000	a	UG/KG	6.5		1	4.6	U	1	3.8	J	1
Styrene	100-42-5	-	-	UG/KG	5.5	U	1	4.6	U,L	1	6.1	U	1
Tetrachloroethene	127-18-4	19000	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Toluene	108-88-3	100000	a	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
trans-1,2-Dichloroethene	156-60-5	100000	a	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Trichloroethene	79-01-6	21000	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Trichlorofluoromethane	75-69-4	-	-	UG/KG	5.5	U	1	4.6	U	1	6.1	U	1
Vinylchloride	75-01-4	900	-	UG/KG	11	U	1	9.3	U	1	12	U	1
Xylene	1330-20-7	100000	a	UG/KG	11	U	1	1.5	J	1	12	U	1
TOTAL DETECTABLE				**UG/KG**	**6.5**			**4**			**3.8**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-01 (0'-8')			1313ED-SB-02 (16'-20')			1313ED-SB-03 (20'-24')			1313ED-SB-04 (0'-4')		
				LAB ORDER:	RSJ0969-01			RSJ0867-02			RSJ0867-03			RSJ0969-02		
				SAMPLE DATE:	10/15/2009 09:15			10/14/2009 11:15			10/14/2009 13:30			10/15/2009 11:15		
SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	360	U	1	350	U	1	380	U	1	3700	U	10
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U,L	10
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
2-Chloronaphthalene	91-58-7	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
2-Chlorophenol	95-57-8	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
2-Methylnaphthalene	91-57-6	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
o-Cresol	95-48-7	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
2-Nitroaniline	88-74-4	-	-	UG/KG	360	U	1	350	U	1	380	U	1	3700	U	10
2-Nitrophenol	88-75-5	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	190	U	1	180	U,L	1	200	U,L	1	1900	U,L	10
3-Nitroaniline	99-09-2	-	-	UG/KG	360	U	1	350	U	1	380	U	1	3700	U	10
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	360	U	1	350	U	1	380	U	1	3700	U	10
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
4-Chloroaniline	106-47-8	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
4-Methylphenol	106-44-5	100000	a	UG/KG	360	U	1	350	U	1	380	U	1	3700	U	10
4-Nitroaniline	100-01-6	-	-	UG/KG	360	U	1	350	U	1	380	U	1	3700	U	10
4-Nitrophenol	100-02-7	-	-	UG/KG	360	U	1	350	U	1	380	U	1	3700	U	10
Acenaphthene	83-32-9	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Acenaphthylene	208-96-8	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Acetophenone	98-86-2	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Anthracene	120-12-7	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Atrazine	1912-24-9	-	-	UG/KG	190	U, UJ	1	180	U	1	200	U	1	1900	U, UJ	10
Benzaldehyde	100-52-7	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	190	U	1	180	U	1	200	U	1	1900	U,L	10
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
1,1-Biphenyl	92-52-4	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Butylbenzylphthalate	85-68-7	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Caprolactam	105-60-2	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Carbazole	86-74-8	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Chrysene	218-01-9	3900	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Dibenzofuran	132-64-9	59000	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Diethylphthalate	84-66-2	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Dimethylphthalate	131-11-3	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Di-n-butylphthalate	84-74-2	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Di-n-octylphthalate	117-84-0	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Fluoranthene	206-44-0	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Fluorene	86-73-7	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Hexachlorobenzene	118-74-1	1200	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Hexachlorobutadiene	87-68-3	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Hexachloroethane	67-72-1	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Isophorone	78-59-1	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Naphthalene	91-20-3	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Nitrobenzene	98-95-3	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	190	U	1	180	U,L	1	200	U,L	1	1900	U,L	10
Pentachlorophenol	87-86-5	6700	-	UG/KG	360	U	1	350	U	1	380	U	1	3700	U	10
Phenanthrene	85-01-8	100000	a	UG/KG	190	U	1	11	J	1	200	U	1	1900	U	10
Phenol	108-95-2	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
Pyrene	129-00-0	100000	a	UG/KG	190	U	1	180	U	1	200	U	1	1900	U	10
TOTAL DETECTABLE				**UG/KG**	**0**			**11**			**0**			**0**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Comm	LAB ID:	SAMPLE ID: 1313ED-SB-06 (8'-13') LAB ORDER: RSJ1025-02 SAMPLE DATE: 10/16/2009 10:15 RESULT	QUAL	DF	1313ED-SB-07 (16'-20') RSJ1025-03 10/16/2009 10:50 RESULT	QUAL	DF	1313ED-SB-08 (12'-20') RSJ1079-01 10/19/2009 10:00 RESULT	QUAL	DF	1313ED-SB-09 (12'-16') RSJ1025-04 10/16/2009 12:20 RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	3500	U	10	3600	U	10	3400	U	10	3500	U	10
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2-Chloronaphthalene	91-58-7	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2-Chlorophenol	95-57-8	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2-Methylnaphthalene	91-57-6	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
o-Cresol	95-48-7	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2-Nitroaniline	88-74-4	-	-	UG/KG	3500	U	10	3600	U	10	3400	U	10	3500	U	10
2-Nitrophenol	88-75-5	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
3-Nitroaniline	99-09-2	-	-	UG/KG	3500	U	10	3600	U	10	3400	U	10	3500	U	10
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	3500	U	10	3600	U	10	3400	U	10	3500	U	10
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
4-Chloroaniline	106-47-8	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
4-Methylphenol	106-44-5	100000	a	UG/KG	3500	U	10	3600	U	10	3400	U	10	3500	U	10
4-Nitroaniline	100-01-6	-	-	UG/KG	3500	U	10	3600	U	10	3400	U	10	3500	U	10
4-Nitrophenol	100-02-7	-	-	UG/KG	3500	U	10	3600	U	10	3400	U	10	3500	U	10
Acenaphthene	83-32-9	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Acenaphthylene	208-96-8	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Acetophenone	98-86-2	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Anthracene	120-12-7	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Atrazine	1912-24-9	-	-	UG/KG	1800	U, UJ	10	1800	U, UJ	10	1800	U, UJ	10	1800	U, UJ	10
Benzaldehyde	100-52-7	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
1,1-Biphenyl	92-52-4	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Butylbenzylphthalate	85-68-7	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Caprolactam	105-60-2	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Carbazole	86-74-8	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Chrysene	218-01-9	3900	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Dibenzofuran	132-64-9	59000	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Diethylphthalate	84-66-2	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Dimethylphthalate	131-11-3	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Di-n-butylphthalate	84-74-2	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Di-n-octylphthalate	117-84-0	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Fluoranthene	206-44-0	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Fluorene	86-73-7	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Hexachlorobenzene	118-74-1	1200	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Hexachlorobutadiene	87-68-3	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Hexachloroethane	67-72-1	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Isophorone	78-59-1	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Naphthalene	91-20-3	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Nitrobenzene	98-95-3	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	1800	U	10	1800	U	10	1800	U,L	10	1800	U	10
Pentachlorophenol	87-86-5	6700	-	UG/KG	3500	U	10	3600	U	10	3400	U	10	3500	U	10
Phenanthrene	85-01-8	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Phenol	108-95-2	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
Pyrene	129-00-0	100000	a	UG/KG	1800	U	10	1800	U	10	1800	U	10	1800	U	10
TOTAL DETECTABLE				**UG/KG**	**0**			**0**			**0**			**0**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-10 (16'-20')			1313ED-SB-11 (4'-16')			1313ED-SB-12 (12'-16')			1313ED-SB-13 (16'-20')		
				LAB ORDER:	RSJ1079-02			RSJ1079-03			RSJ1025-06			RSJ0969-03		
				SAMPLE DATE:	10/19/2009 11:30			10/19/2009 12:45			10/16/2009 16:16			10/15/2009 14:15		
SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Com	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	3600	U	10	3500	U	10	1800	U	5	1800	U	5
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U,L	5
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
2-Chloronaphthalene	91-58-7	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
2-Chlorophenol	95-57-8	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
2-Methylnaphthalene	91-57-6	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
o-Cresol	95-48-7	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
2-Nitroaniline	88-74-4	-	-	UG/KG	3600	U	10	3500	U	10	1800	U	5	1800	U	5
2-Nitrophenol	88-75-5	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U,L	5
3-Nitroaniline	99-09-2	-	-	UG/KG	3600	U	10	3500	U	10	1800	U	5	1800	U	5
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	3600	U	10	3500	U	10	1800	U	5	1800	U	5
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
4-Chloroaniline	106-47-8	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
4-Methylphenol	106-44-5	100000	a	UG/KG	3600	U	10	3500	U	10	1800	U	5	1800	U	5
4-Nitroaniline	100-01-6	-	-	UG/KG	3600	U	10	3500	U	10	1800	U	5	1800	U	5
4-Nitrophenol	100-02-7	-	-	UG/KG	3600	U	10	3500	U	10	1800	U	5	1800	U	5
Acenaphthene	83-32-9	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Acenaphthylene	208-96-8	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Acetophenone	98-86-2	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Anthracene	120-12-7	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Atrazine	1912-24-9	-	-	UG/KG	1900	U, UJ	10	1800	U, UJ	10	910	U, UJ	5	950	U, UJ	5
Benzaldehyde	100-52-7	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U,L	5
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
1,1-Biphenyl	92-52-4	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Butylbenzylphthalate	85-68-7	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Caprolactam	105-60-2	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Carbazole	86-74-8	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Chrysene	218-01-9	3900	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Dibenzofuran	132-64-9	59000	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Diethylphthalate	84-66-2	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Dimethylphthalate	131-11-3	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Di-n-butylphthalate	84-74-2	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Di-n-octylphthalate	117-84-0	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Fluoranthene	206-44-0	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Fluorene	86-73-7	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Hexachlorobenzene	118-74-1	1200	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Hexachlorobutadiene	87-68-3	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Hexachloroethane	67-72-1	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Isophorone	78-59-1	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Naphthalene	91-20-3	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Nitrobenzene	98-95-3	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	1900	U,L	10	1800	U,L	10	910	U	5	950	U,L	5
Pentachlorophenol	87-86-5	6700	-	UG/KG	3600	U	10	3500	U	10	1800	U	5	1800	U	5
Phenanthrene	85-01-8	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Phenol	108-95-2	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
Pyrene	129-00-0	100000	a	UG/KG	1900	U	10	1800	U	10	910	U	5	950	U	5
TOTAL DETECTABLE				**UG/KG**	**0**			**0**			**0**			**0**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-14 (12'-16')			1313ED-SB-15 (8'-12')			1313ED-SB-16 (0'-20')			1313ED-SB-17 (16'-20')		
				LAB ORDER:	RSJ1025-01			RSJ0969-04			RSJ0800-02			RSJ0800-07		
				SAMPLE DATE:	10/16/2009 09:15			10/15/2009 15:30			10/13/2009 11:30			10/13/2009 15:40		
SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Com	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	350	U	1	6900	U	20	3800	U	10	390	U	1
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	180	U	1	3600	U,L	20	1900	U	10	200	U	1
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
2-Chloronaphthalene	91-58-7	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
2-Chlorophenol	95-57-8	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
2-Methylnaphthalene	91-57-6	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
o-Cresol	95-48-7	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
2-Nitroaniline	88-74-4	-	-	UG/KG	350	U	1	6900	U	20	3800	U	10	390	U	1
2-Nitrophenol	88-75-5	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	180	U	1	3600	U,L	20	1900	U	10	200	U	1
3-Nitroaniline	99-09-2	-	-	UG/KG	350	U	1	6900	U	20	3800	U	10	390	U	1
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	350	U	1	6900	U	20	3800	U	10	390	U	1
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
4-Chloroaniline	106-47-8	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
4-Methylphenol	106-44-5	100000	a	UG/KG	350	U	1	6900	U	20	3800	U	10	390	U	1
4-Nitroaniline	100-01-6	-	-	UG/KG	350	U	1	6900	U	20	3800	U	10	390	U	1
4-Nitrophenol	100-02-7	-	-	UG/KG	350	U	1	6900	U	20	3800	U	10	390	U	1
Acenaphthene	83-32-9	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Acenaphthylene	208-96-8	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Acetophenone	98-86-2	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Anthracene	120-12-7	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Atrazine	1912-24-9	-	-	UG/KG	180	U, UJ	1	3600	U, UJ	20	1900	U	10	200	U	1
Benzaldehyde	100-52-7	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	180	U	1	3600	U,L	20	1900	U	10	200	U	1
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
1,1-Biphenyl	92-52-4	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Butylbenzylphthalate	85-68-7	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Caprolactam	105-60-2	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Carbazole	86-74-8	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Chrysene	218-01-9	3900	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Dibenzofuran	132-64-9	59000	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Diethylphthalate	84-66-2	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Dimethylphthalate	131-11-3	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Di-n-butylphthalate	84-74-2	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Di-n-octylphthalate	117-84-0	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Fluoranthene	206-44-0	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Fluorene	86-73-7	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Hexachlorobenzene	118-74-1	1200	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Hexachlorobutadiene	87-68-3	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Hexachloroethane	67-72-1	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Isophorone	78-59-1	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Naphthalene	91-20-3	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Nitrobenzene	98-95-3	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	180	U	1	3600	U,L	20	1900	U,L	10	200	U,L	1
Pentachlorophenol	87-86-5	6700	-	UG/KG	350	U	1	6900	U	20	3800	U	10	390	U	1
Phenanthrene	85-01-8	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Phenol	108-95-2	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
Pyrene	129-00-0	100000	a	UG/KG	180	U	1	3600	U	20	1900	U	10	200	U	1
TOTAL DETECTABLE				**UG/KG**	**0**			**0**			**0**			**0**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-MW-01 (16'-20')			1313ED-MW-02 (16'-20')			1313ED-MW-3 (16'-20')			1313ED-MW-04 (12'-20')		
				LAB ORDER:	RSJ0867-04			RSJ0867-01			RSJ0800-03			RSJ1025-05		
				SAMPLE DATE:	10/14/2009 15:15			10/14/2009 09:15			10/13/2009 12:45			10/16/2009 13:45		
SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Comm	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	350	U	1	350	U	1	370	U	1	3400	U	10
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2-Chloronaphthalene	91-58-7	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2-Chlorophenol	95-57-8	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2-Methylnaphthalene	91-57-6	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
o-Cresol	95-48-7	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2-Nitroaniline	88-74-4	-	-	UG/KG	350	U	1	350	U	1	370	U	1	3400	U	10
2-Nitrophenol	88-75-5	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	180	U,L	1	180	U,L	1	190	U	1	1800	U	10
3-Nitroaniline	99-09-2	-	-	UG/KG	350	U	1	350	U	1	370	U	1	3400	U	10
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	350	U	1	350	U	1	370	U	1	3400	U	10
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
4-Chloroaniline	106-47-8	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
4-Methylphenol	106-44-5	100000	a	UG/KG	350	U	1	350	U	1	370	U	1	3400	U	10
4-Nitroaniline	100-01-6	-	-	UG/KG	350	U	1	350	U	1	370	U	1	3400	U	10
4-Nitrophenol	100-02-7	-	-	UG/KG	350	U	1	350	U	1	370	U	1	3400	U	10
Acenaphthene	83-32-9	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Acenaphthylene	208-96-8	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Acetophenone	98-86-2	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Anthracene	120-12-7	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Atrazine	1912-24-9	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U,UJ	10
Benzaldehyde	100-52-7	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
1,1-Biphenyl	92-52-4	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Butylbenzylphthalate	85-68-7	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Caprolactam	105-60-2	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Carbazole	86-74-8	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Chrysene	218-01-9	3900	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Dibenzofuran	132-64-9	59000	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Diethylphthalate	84-66-2	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Dimethylphthalate	131-11-3	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Di-n-butylphthalate	84-74-2	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Di-n-octylphthalate	117-84-0	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Fluoranthene	206-44-0	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Fluorene	86-73-7	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Hexachlorobenzene	118-74-1	1200	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Hexachlorobutadiene	87-68-3	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Hexachloroethane	67-72-1	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Isophorone	78-59-1	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Naphthalene	91-20-3	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Nitrobenzene	98-95-3	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	180	U,L	1	180	U,L	1	190	U,L	1	1800	U	10
Pentachlorophenol	87-86-5	6700	-	UG/KG	350	U	1	350	U	1	370	U	1	3400	U	10
Phenanthrene	85-01-8	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Phenol	108-95-2	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
Pyrene	129-00-0	100000	a	UG/KG	180	U	1	180	U	1	190	U	1	1800	U	10
TOTAL DETECTABLE				**UG/KG**	**0**			**0**			**0**			**0**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	RSCO	Comi	LAB ID:	1313ED-MW-5 (4'-12') RESULT	QUAL	DF	BLIND DUPLICATE RESULT	QUAL	DF	1313ED-BLIND DUP#1 RESULT	QUAL	DF
				LAB ORDER:	RSJ0800-01			RSJ1079-04			RSJ0867-06		
				SAMPLE DATE:	10/13/2009 10:30			10/19/2009 00:00			10/14/2009 00:00		
2,4,5-Trichlorophenol	95-95-4	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
2,4,6-Trichlorophenol	88-06-2	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
2,4-Dichlorophenol	120-83-2	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
2,4-Dimethylphenol	105-67-9	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
2,4-Dinitrophenol	51-28-5	-	-	UG/KG	3500	U	10	3400	U	10	1900	U	5
2,4-Dinitrotoluene	121-14-2	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
2,6-Dinitrotoluene	606-20-2	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
2-Chloronaphthalene	91-58-7	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
2-Chlorophenol	95-57-8	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
2-Methylnaphthalene	91-57-6	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
o-Cresol	95-48-7	100000	a	UG/KG	1800	U	10	1700	U	10	980	U	5
2-Nitroaniline	88-74-4	-	-	UG/KG	3500	U	10	3400	U	10	1900	U	5
2-Nitrophenol	88-75-5	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
3,3-Dichlorobenzidine	91-94-1	-	-	UG/KG	1800	U	10	1700	U	10	980	U,L	5
3-Nitroaniline	99-09-2	-	-	UG/KG	3500	U	10	3400	U	10	1900	U	5
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/KG	3500	U	10	3400	U	10	1900	U	5
4-Bromophenyl-phenylether	101-55-3	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
4-Chloroaniline	106-47-8	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
4-Methylphenol	106-44-5	100000	a	UG/KG	3500	U	10	3400	U	10	1900	U	5
4-Nitroaniline	100-01-6	-	-	UG/KG	3500	U	10	3400	U	10	1900	U	5
4-Nitrophenol	100-02-7	-	-	UG/KG	3500	U	10	3400	U	10	1900	U	5
Acenaphthene	83-32-9	100000	a	UG/KG	1800	U	10	1700	U	10	980	U	5
Acenaphthylene	208-96-8	100000	a	UG/KG	1800	U	10	1700	U	10	980	U	5
Acetophenone	98-86-2	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Anthracene	120-12-7	100000	a	UG/KG	1800	U	10	1700	U	10	980	U	5
Atrazine	1912-24-9	-	-	UG/KG	1800	U	10	1700	U, UJ	10	980	U	5
Benzaldehyde	100-52-7	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Benzo(a)anthracene	56-55-3	1000	f	UG/KG	1800	U	10	1700	U	10	110	J	5
Benzo(a)pyrene	50-32-8	1000	f	UG/KG	1800	U	10	1700	U	10	75	J	5
Benzo(b)fluoranthene	205-99-2	1000	f	UG/KG	1800	U	10	1700	U	10	120	J	5
Benzo(g,h,i)perylene	191-24-2	100000	a	UG/KG	1800	U	10	1700	U	10	980	U	5
Benzo(k)fluoranthene	207-08-9	3900	-	UG/KG	1800	U	10	1700	U	10	44	J	5
1,1-Biphenyl	92-52-4	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
bis(2-Chloroethoxy)methane	111-91-1	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
bis(2-Chloroethyl)Ether	111-44-4	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
2,2-oxybis(1-Chloropropane)	108-60-1	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
bis(2-Ethylhexyl)phthalate	117-81-7	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Butylbenzylphthalate	85-68-7	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Caprolactam	105-60-2	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Carbazole	86-74-8	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Chrysene	218-01-9	3900	-	UG/KG	1800	U	10	1700	U	10	96	J	5
Dibenzo(a,h)anthracene	53-70-3	330	e	UG/KG	1800	U	10	1700	U	10	980	U	5
Dibenzofuran	132-64-9	59000	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Diethylphthalate	84-66-2	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Dimethylphthalate	131-11-3	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Di-n-butylphthalate	84-74-2	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Di-n-octylphthalate	117-84-0	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Fluoranthene	206-44-0	100000	a	UG/KG	1800	U	10	1700	U	10	180	J	5
Fluorene	86-73-7	100000	a	UG/KG	1800	U	10	1700	U	10	980	U	5
Hexachlorobenzene	118-74-1	1200	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Hexachlorobutadiene	87-68-3	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Hexachlorocyclopentadiene	77-47-4	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Hexachloroethane	67-72-1	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Indeno(1,2,3-cd)pyrene	193-39-5	500	-	UG/KG	1800	U	10	1700	U	10	54	J	5
Isophorone	78-59-1	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
Naphthalene	91-20-3	100000	a	UG/KG	1800	U	10	1700	U	10	980	U	5
Nitrobenzene	98-95-3	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
N-Nitroso-di-n-propylamine	621-64-7	-	-	UG/KG	1800	U	10	1700	U	10	980	U	5
N-Nitrosodiphenylamine(1)	86-30-6	-	-	UG/KG	1800	U,L	10	1700	U,L	10	980	U,L	5
Pentachlorophenol	87-86-5	6700	-	UG/KG	3500	U	10	3400	U	10	1900	U	5
Phenanthrene	85-01-8	100000	a	UG/KG	1800	U	10	1700	U	10	120	J	5
Phenol	108-95-2	100000	a	UG/KG	1800	U	10	1700	U	10	980	U	5
Pyrene	129-00-0	100000	a	UG/KG	1800	U	10	1700	U	10	150	J	5
TOTAL DETECTABLE				**UG/KG**	**0**			**0**			**949**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

			SAMPLE ID:	1313ED-SB-01 (0'-8')			1313ED-SB-02 (16'-20')			1313ED-SB-03 (20'-24')			1313ED-SB-04 (0'-4')		
			LAB ORDER:	RSJ0969-01			RSJ0867-02			RSJ0867-03			RSJ0969-02		
			SAMPLE DATE:	10/15/2009 09:15			10/14/2009 11:15			10/14/2009 13:30			10/15/2009 11:15		
METALS (EPA METHOD 6010B)	CAS	RSCO Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	- -	MG/KG	8930		1	6410	B,J	1	5570	B,J	1	9680		1
Antimony	7440-36-0	- -	MG/KG	17.7	U	1	16.5	U,J,UJ	1	18.3	U,J,UJ	1	16.2	U	1
Arsenic	7440-38-2	16 f	MG/KG	6.2		1	4.3		1	2.9		1	5.0		1
Barium	7440-39-3	400 -	MG/KG	51.2		1	45.1		1	32.4		1	37.8		1
Beryllium	7440-41-7	72 -	MG/KG	0.328		1	0.249	J	1	0.228	J	1	0.459		1
Cadmium	7440-43-9	4.3 -	MG/KG	0.236	U	1	0.157	J	1	0.226	J	1	0.104	J	1
Calcium	7440-70-2	- -	MG/KG	8790		1	37600		1	28700		1	30400		1
Chromium	18540-29-9	110 -	MG/KG	10.8	B	1	8.22		1	7.45		1	9.90	B	1
Cobalt	7440-48-4	- -	MG/KG	6.13		1	5.06		1	7.48		1	5.64		1
Copper	7440-50-8	270 -	MG/KG	39.4		1	30.3	B	1	307	B	1	27.0		1
Iron	7439-89-6	- -	MG/KG	19300		1	18300		1	13400		1	17200		1
Lead	7439-92-1	400 -	MG/KG	7.1		1	4.4		1	2.6		1	6.4		1
Magnesium	7439-95-4	- -	MG/KG	3360		1	3470		1	2990		1	3240		1
Manganese	7439-96-5	2000 f	MG/KG	981	B	1	1210	B	1	782	B	1	493	B	1
TotalMercury	7439-97-6	0.81 j	MG/KG	0.0189	J	1	0.0092	J	1	0.0242	U	1	0.0376		1
Nickel	7440-02-0	310 -	MG/KG	13.5		1	11.9		1	14.5		1	13.4		1
Potassium	7440-09-7	- -	MG/KG	1020		1	957		1	864		1	1380		1
Selenium	7782-49-2	180 -	MG/KG	4.7	U	1	4.4	U	1	4.9	U	1	4.3	U	1
Silver	7440-22-4	180 -	MG/KG	0.591	U	1	0.55	U	1	0.61	U	1	0.168	J	1
Sodium	7440-23-5	- -	MG/KG	76.3	J	1	35.0	J	1	50.2	J	1	225		1
Thallium	7440-28-0	- -	MG/KG	1.6	J	1	6.6	U	1	7.3	U	1	1.0	J	1
Vanadium	7440-62-2	- -	MG/KG	15.3		1	12.5	B	1	9.31	B	1	16.4		1
Zinc	7440-66-6	10000 d	MG/KG	55.9		1	47.0	B,J	1	331	B,J	1	42.6		1
TOTAL DETECTABLE			**MG/KG**	**42664.78**			**68151.2**			**53071.29**			**62783.91**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-06 (8'-13')			1313ED-SB-07 (16'-20')			1313ED-SB-08 (12'-20')			1313ED-SB-09 (12'-16')		
				LAB ORDER:	RSJ1025-02			RSJ1025-03			RSJ1079-01			RSJ1025-04		
				SAMPLE DATE:	10/16/2009 10:15			10/16/2009 10:50			10/19/2009 10:00			10/16/2009 12:20		
METALS (EPA METHOD 6010B)	CAS	RSCO	Com	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	-	-	MG/KG	6910		1	6200		1	6680	B	1	8580		1
Antimony	7440-36-0	-	-	MG/KG	15.6	U	1	16.2	U	1	15.1	U	1	16.9	U	1
Arsenic	7440-38-2	16	f	MG/KG	3.8	B	1	3.1	B	1	4.1		1	4.3	B	1
Barium	7440-39-3	400	-	MG/KG	33.5		1	27.5		1	35.5		1	41.5		1
Beryllium	7440-41-7	72	-	MG/KG	0.267		1	0.252		1	0.280		1	0.324		1
Cadmium	7440-43-9	4.3	-	MG/KG	0.058	J	1	0.216	U	1	0.134	J	1	0.101	J	1
Calcium	7440-70-2	-	-	MG/KG	14000		1	1330		1	69500		5	2140		1
Chromium	18540-29-9	110	-	MG/KG	8.39		1	7.08		1	8.40		1	11.0		1
Cobalt	7440-48-4	-	-	MG/KG	5.83		1	4.56		1	5.33		1	6.56		1
Copper	7440-50-8	270	-	MG/KG	26.9		1	22.3		1	30.1	B	1	31.9		1
Iron	7439-89-6	-	-	MG/KG	16900		1	15100		1	16700		1	20100		1
Lead	7439-92-1	400	-	MG/KG	5.3		1	3.1		1	4.1		1	5.8		1
Magnesium	7439-95-4	-	-	MG/KG	3590	B	1	2620	B	1	4350	B	1	3800	B	1
Manganese	7439-96-5	2000	f	MG/KG	836	B	1	563	B	1	820	B	1	959	B	1
TotalMercury	7439-97-6	0.81	j	MG/KG	0.1	U	1	0.0192	J	1	0.0211	U	1	0.0216	J	1
Nickel	7440-02-0	310	-	MG/KG	13.3		1	10.6		1	11.3		1	14.1		1
Potassium	7440-09-7	-	-	MG/KG	915		1	975		1	846		1	1340		1
Selenium	7782-49-2	180	-	MG/KG	4.2	U	1	4.3	U	1	4.0	U	1	4.5	U	1
Silver	7440-22-4	180	-	MG/KG	0.52	U	1	0.541	U	1	0.502	U	1	0.562	U	1
Sodium	7440-23-5	-	-	MG/KG	40.6	J	1	151	U	1	45.4	J	1	35.1	J	1
Thallium	7440-28-0	-	-	MG/KG	6.2	U	1	6.5	U	1	6.0	U	1	6.7	U	1
Vanadium	7440-62-2	-	-	MG/KG	12.1		1	10.1		1	12.5		1	16.5		1
Zinc	7440-66-6	10000	d	MG/KG	43.2	B	1	39.1	B	1	46.2	B	1	76.0	B	1
TOTAL DETECTABLE				**MG/KG**	**43344.25**			**26915.71**			**99099.34**			**37162.21**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

			SAMPLE ID:	1313ED-SB-10 (16'-20')			1313ED-SB-11 (4'-16')			1313ED-SB-12 (12'-16')			1313ED-SB-13 (16'-20')		
			LAB ORDER:	RSJ1079-02			RSJ1079-03			RSJ1025-06			RSJ0969-03		
			SAMPLE DATE:	10/19/2009 11:30			10/19/2009 12:45			10/16/2009 16:16			10/15/2009 14:15		
METALS (EPA METHOD 6010B)	CAS	RSCO Comm	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	- -	MG/KG	7850	B	1	8350	B	1	8020		1	6410		1
Antimony	7440-36-0	- -	MG/KG	16.7	U	1	15.9	U	1	15.2	U	1	15.6	U	1
Arsenic	7440-38-2	16 f	MG/KG	5.1		1	4.8		1	4.3	B	1	4.0		1
Barium	7440-39-3	400 -	MG/KG	39.7		1	41.0		1	31.0		1	33.4		1
Beryllium	7440-41-7	72 -	MG/KG	0.322		1	0.319		1	0.331		1	0.261		1
Cadmium	7440-43-9	4.3 -	MG/KG	0.127	J	1	0.120	J	1	0.092	J	1	0.207	U	1
Calcium	7440-70-2	- -	MG/KG	15600		1	19900		1	11400		1	1040		1
Chromium	18540-29-9	110 -	MG/KG	9.21		1	10.1		1	9.60		1	7.93	B	1
Cobalt	7440-48-4	- -	MG/KG	5.83		1	6.62		1	5.63		1	5.59		1
Copper	7440-50-8	270 -	MG/KG	27.5	B	1	30.3	B	1	32.7		1	27.2		1
Iron	7439-89-6	- -	MG/KG	18800		1	20100		1	16800		1	16100		1
Lead	7439-92-1	400 -	MG/KG	5.7		1	4.9		1	6.8		1	5.2		1
Magnesium	7439-95-4	- -	MG/KG	3390	B	1	4840	B	1	3170	B	1	2690		1
Manganese	7439-96-5	2000 f	MG/KG	1030	B	1	1070	B	1	765	B	1	743	B	1
TotalMercury	7439-97-6	0.81 j	MG/KG	0.014	J	1	0.0134	J	1	0.0215	J	1	0.0192	J	1
Nickel	7440-02-0	310 -	MG/KG	13.1		1	13.8		1	12.7		1	12.9		1
Potassium	7440-09-7	- -	MG/KG	915		1	945		1	817		1	849		1
Selenium	7782-49-2	180 -	MG/KG	4.5	U	1	4.2	U	1	4.1	U	1	4.1	U	1
Silver	7440-22-4	180 -	MG/KG	0.558	U	1	0.53	U	1	0.508	U	1	0.518	U	1
Sodium	7440-23-5	- -	MG/KG	156	U	1	56.9	J	1	48.1	J	1	33.7	J	1
Thallium	7440-28-0	- -	MG/KG	6.7	U	1	6.4	U	1	6.1	U	1	1.1	J	1
Vanadium	7440-62-2	- -	MG/KG	14.0		1	15.0		1	13.5		1	11.6		1
Zinc	7440-66-6	10000 d	MG/KG	42.6	B	1	51.1	B	1	45.7	B	1	67.0		1
TOTAL DETECTABLE			**MG/KG**	**47748.2**			**55439.97**			**41182.47**			**28041.9**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-14 (12'-16')			1313ED-SB-15 (8'-12')			1313ED-SB-16 (0'-20')			1313ED-SB-17 (16'-20')		
				LAB ORDER:	RSJ1025-01			RSJ0969-04			RSJ0800-02			RSJ0800-07		
				SAMPLE DATE:	10/16/2009 09:15			10/15/2009 15:30			10/13/2009 11:30			10/13/2009 15:40		
METALS (EPA METHOD 6010B)	CAS	RSCO	Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	-	-	MG/KG	6280		1	5710		1	7160	J	1	7540	J	1
Antimony	7440-36-0	-	-	MG/KG	15.8	U	1	15.4	U	1	17.1	U,UJ	1	18.1	U,UJ	1
Arsenic	7440-38-2	16	f	MG/KG	3.7	B	1	3.6		1	7.2	B	1	3.9	B	1
Barium	7440-39-3	400	-	MG/KG	29.6		1	32.4		1	60.0		1	28.0		1
Beryllium	7440-41-7	72	-	MG/KG	0.285		1	0.281		1	0.345	B	1	0.362	B,J	1
Cadmium	7440-43-9	4.3	-	MG/KG	0.065	J	1	0.577		1	0.400		1	0.137	J	1
Calcium	7440-70-2	-	-	MG/KG	1670		1	15800		1	29500		1	7300		1
Chromium	18540-29-9	110	-	MG/KG	7.66		1	8.00	B	1	10.2		1	10.9		1
Cobalt	7440-48-4	-	-	MG/KG	4.91		1	5.66		1	5.58		1	6.41		1
Copper	7440-50-8	270	-	MG/KG	19.6		1	24.6		1	48.6	J	1	22.3	J	1
Iron	7439-89-6	-	-	MG/KG	14900		1	13400		1	21400		1	18200		1
Lead	7439-92-1	400	-	MG/KG	3.6		1	8.4		1	91.0		1	4.9		1
Magnesium	7439-95-4	-	-	MG/KG	2440	B	1	2400		1	16300	B	1	3590	B	1
Manganese	7439-96-5	2000	f	MG/KG	591	B	1	506	B	1	1760	B1, B	1	517	B1, B	1
TotalMercury	7439-97-6	0.81	j	MG/KG	0.0189	J	1	0.0302		1	0.0519		1	0.0116	J	1
Nickel	7440-02-0	310	-	MG/KG	11.4		1	12.9		1	12.3		1	16.2		1
Potassium	7440-09-7	-	-	MG/KG	900		1	832		1	843		1	1090		1
Selenium	7782-49-2	180	-	MG/KG	4.2	U	1	4.1	U	1	4.6	U	1	4.8	U	1
Silver	7440-22-4	180	-	MG/KG	0.525	U	1	0.392	J	1	0.571	U	1	0.102	J	1
Sodium	7440-23-5	-	-	MG/KG	38.2	J	1	47.7	J	1	46.2	J	1	169	U	1
Thallium	7440-28-0	-	-	MG/KG	6.3	U	1	0.9	J	1	0.3	J	1	0.4	J	1
Vanadium	7440-62-2	-	-	MG/KG	10.6		1	9.46		1	15.1		1	13.0		1
Zinc	7440-66-6	10000	d	MG/KG	36.3	B	1	80.8		1	72.5	B	1	41.1	B,J	1
TOTAL DETECTABLE				**MG/KG**	**26946.94**			**38883.7**			**77332.78**			**38384.72**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-MW-01 (16'-20')			1313ED-MW-02 (16'-20')			1313ED-MW-3 (16'-20')			1313ED-MW-04 (12'-20')		
				LAB ORDER:	RSJ0867-04			RSJ0867-01			RSJ0800-03			RSJ1025-05		
				SAMPLE DATE:	10/14/2009 15:15			10/14/2009 09:15			10/13/2009 12:45			10/16/2009 13:45		
METALS (EPA METHOD 6010B)	CAS	RSCO	Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	-	-	MG/KG	3680	B	1	6060	B,J	1	6400	J	1	7620		1
Antimony	7440-36-0	-	-	MG/KG	0.8	J	1	15.1	U,J,UJ	1	17.9	U,UJ	1	16.6	U	1
Arsenic	7440-38-2	16	f	MG/KG	2.7		1	4.0		1	5.1	B	1	3.6	B	1
Barium	7440-39-3	400	-	MG/KG	13.6		1	28.6		1	28.6		1	36.1		1
Beryllium	7440-41-7	72	-	MG/KG	0.159	J	1	0.318	J	1	0.305	B	1	0.32		1
Cadmium	7440-43-9	4.3	-	MG/KG	0.061	J	1	0.139	J	1	0.114	J	1	0.071	J	1
Calcium	7440-70-2	-	-	MG/KG	681		1	35700		1	13900		1	38800		1
Chromium	18540-29-9	110	-	MG/KG	7.15		1	8.24		1	8.72		1	9.21		1
Cobalt	7440-48-4	-	-	MG/KG	2.94		1	5.22		1	5.53		1	5.55		1
Copper	7440-50-8	270	-	MG/KG	12.5	B	1	18.7	B	1	23.1	J	1	25.9		1
Iron	7439-89-6	-	-	MG/KG	7920		1	16000		1	18000		1	17100		1
Lead	7439-92-1	400	-	MG/KG	6.3		1	4.7		1	3.6		1	3.7		1
Magnesium	7439-95-4	-	-	MG/KG	1430		1	3140		1	4170	B	1	4320	B	1
Manganese	7439-96-5	2000	f	MG/KG	266	B	1	474	B	1	704	B1, B	1	746	B	1
TotalMercury	7439-97-6	0.81	j	MG/KG	0.0214	U	1	0.0082	J	1	0.0217	U	1	0.0149	J	1
Nickel	7440-02-0	310	-	MG/KG	6.77		1	13.5		1	12.5		1	12.5		1
Potassium	7440-09-7	-	-	MG/KG	784		1	1130		1	991		1	962		1
Selenium	7782-49-2	180	-	MG/KG	4.2	U	1	4.0	U	1	4.8	U	1	4.4	U	1
Silver	7440-22-4	180	-	MG/KG	0.521	U	1	0.503	U	1	0.598	U	1	0.553	U	1
Sodium	7440-23-5	-	-	MG/KG	146	U	1	59.7	J	1	43.2	J	1	37.1	J	1
Thallium	7440-28-0	-	-	MG/KG	6.3	U	1	6.0	U	1	7.2	U	1	6.6	U	1
Vanadium	7440-62-2	-	-	MG/KG	6.29	B	1	11.5	B	1	11.8		1	12.9		1
Zinc	7440-66-6	10000	d	MG/KG	18.5	B	1	32.6	B,J	1	42.4	B	1	48.7	B	1
TOTAL DETECTABLE				**MG/KG**	**14838.77**			**62691.23**			**44349.97**			**69743.67**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-MW-5 (4'-12')			BLIND DUPLICATE			1313ED-BLIND DUP#1		
				LAB ORDER:	RSJ0800-01			RSJ1079-04			RSJ0867-06		
				SAMPLE DATE:	10/13/2009 10:30			10/19/2009 00:00			10/14/2009 00:00		
METALS (EPA METHOD 6010B)	CAS	RSCO	Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aluminum	7429-90-5	-	-	MG/KG	8140	J	1	6790	B	1	8130	B,J	1
Antimony	7440-36-0	-	-	MG/KG	15.6	U,UJ	1	15.6	U	1	16.9	U,J,UJ	1
Arsenic	7440-38-2	16	f	MG/KG	4.5	B	1	4.5		1	17.8		1
Barium	7440-39-3	400	-	MG/KG	41.3		1	39.0		1	90.0		1
Beryllium	7440-41-7	72	-	MG/KG	0.326	B	1	0.280		1	0.384	J	1
Cadmium	7440-43-9	4.3	-	MG/KG	0.352		1	0.135	J	1	0.916		1
Calcium	7440-70-2	-	-	MG/KG	2460		1	60000		1	1430		1
Chromium	18540-29-9	110	-	MG/KG	8.79		1	8.61		1	8.09		1
Cobalt	7440-48-4	-	-	MG/KG	6.16		1	5.53		1	5.22		1
Copper	7440-50-8	270	-	MG/KG	53.7	J	1	34.4	B	1	109	B	1
Iron	7439-89-6	-	-	MG/KG	17200		1	17600		1	15200		1
Lead	7439-92-1	400	-	MG/KG	13.2		1	4.8		1	41.2		1
Magnesium	7439-95-4	-	-	MG/KG	2830	B	1	4670	B	1	1490		1
Manganese	7439-96-5	2000	f	MG/KG	948	B1, B	1	962	B	1	1990	B	1
TotalMercury	7439-97-6	0.81	j	MG/KG	0.0360		1	0.0104	J	1	0.0754		1
Nickel	7440-02-0	310	-	MG/KG	12.9		1	11.9		1	9.81		1
Potassium	7440-09-7	-	-	MG/KG	672		1	787		1	594		1
Selenium	7782-49-2	180	-	MG/KG	4.2	U	1	4.2	U	1	4.5	U	1
Silver	7440-22-4	180	-	MG/KG	0.116	J	1	0.520	U	1	0.122	J	1
Sodium	7440-23-5	-	-	MG/KG	32.8	J	1	37.2	J	1	158	U	1
Thallium	7440-28-0	-	-	MG/KG	0.3	J	1	6.2	U	1	6.8	U	1
Vanadium	7440-62-2	-	-	MG/KG	12.0		1	12.8		1	15.1	B	1
Zinc	7440-66-6	10000	d	MG/KG	55.9	B	1	51.1	B	1	102	B,J	1
TOTAL DETECTABLE				**MG/KG**	**32492.38**			**91019.27**			**29233.72**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-01 (0'-8')			1313ED-SB-02 (16'-20')			1313ED-SB-03 (20'-24')			1313ED-SB-04 (0'-4')		
				LAB ORDER:	RSJ0969-01			RSJ0867-02			RSJ0867-03			RSJ0969-02		
				SAMPLE DATE:	10/15/2009 09:15			10/14/2009 11:15			10/14/2009 13:30			10/15/2009 11:15		
PCBs (EPA METHOD 8080)	CAS	RSCO	Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	-	-	UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
Aroclor1221	11104-28-2	-	-	UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
Aroclor1232	11141-16-5	-	-	UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
Aroclor1242	53469-21-9	-	-	UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
Aroclor1248	12672-29-6	-	-	UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
Aroclor1254	11097-69-1	-	-	UG/KG	19	U	1	56		1	20	U	1	25000		##
Aroclor1260	11096-82-5	-	-	UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
Aroclor1262	37324-23-5	-	-	UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
Aroclor1268	11100-14-4	-	-	UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
TOTAL DETECTABLE		**1,000**	**-**	**UG/KG**	**0**			**56**			**0**			**25000**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

			SAMPLE ID:	1313ED-SB-06 (8'-13')			1313ED-SB-07 (16'-20')			1313ED-SB-08 (12'-20')			1313ED-SB-09 (12'-16')		
			LAB ORDER:	RSJ1025-02			RSJ1025-03			RSJ1079-01			RSJ1025-04		
			SAMPLE DATE:	10/16/2009 10:15			10/16/2009 10:50			10/19/2009 10:00			10/16/2009 12:20		
PCBs (EPA METHOD 8080)	CAS	RSCO Com	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	- -	UG/KG	170	U	10	18	U	1	17	U	1	17	U	1
Aroclor1221	11104-28-2	- -	UG/KG	170	U	10	18	U	1	17	U	1	17	U	1
Aroclor1232	11141-16-5	- -	UG/KG	170	U	10	18	U	1	17	U	1	17	U	1
Aroclor1242	53469-21-9	- -	UG/KG	170	U	10	18	U	1	17	U	1	17	U	1
Aroclor1248	12672-29-6	- -	UG/KG	170	U	10	18	U	1	17	U	1	17	U	1
Aroclor1254	11097-69-1	- -	UG/KG	1000		10	21		1	14	J	1	110		1
Aroclor1260	11096-82-5	- -	UG/KG	170	U	10	18	U	1	17	U	1	17	U	1
Aroclor1262	37324-23-5	- -	UG/KG	170	U	10	18	U	1	17	U	1	17	U	1
Aroclor1268	11100-14-4	- -	UG/KG	170	U	10	18	U	1	17	U	1	17	U	1
TOTAL DETECTABLE		**1,000 -**	**UG/KG**	**1000**			**21**			**14**			**110**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-10 (16'-20')			1313ED-SB-11 (4'-16')			1313ED-SB-12 (12'-16')			1313ED-SB-13 (16'-20')		
				LAB ORDER:	RSJ1079-02			RSJ1079-03			RSJ1025-06			RSJ0969-03		
				SAMPLE DATE:	10/19/2009 11:30			10/19/2009 12:45			10/16/2009 16:16			10/15/2009 14:15		
PCBs (EPA METHOD 8080)	CAS	RSCO	Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
Aroclor1221	11104-28-2	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
Aroclor1232	11141-16-5	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
Aroclor1242	53469-21-9	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
Aroclor1248	12672-29-6	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
Aroclor1254	11097-69-1	-	-	UG/KG	18	U	1	18	U	1	18	U	1	260		1
Aroclor1260	11096-82-5	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
Aroclor1262	37324-23-5	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
Aroclor1268	11100-14-4	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
TOTAL DETECTABLE		**1,000**	**-**	**UG/KG**	**0**			**0**			**0**			**260**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

			SAMPLE ID:	1313ED-SB-14 (12'-16')			1313ED-SB-15 (8'-12')			1313ED-SB-16 (0'-20')			1313ED-SB-17 (16'-20')		
			LAB ORDER:	RSJ1025-01			RSJ0969-04			RSJ0800-02			RSJ0800-07		
			SAMPLE DATE:	10/16/2009 09:15			10/15/2009 15:30			10/13/2009 11:30			10/13/2009 15:40		
PCBs (EPA METHOD 8080)	CAS	RSCO Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	- -	UG/KG	18	U	1	17	U	1	19	U	1	19	U	1
Aroclor1221	11104-28-2	- -	UG/KG	18	U	1	17	U	1	19	U	1	19	U	1
Aroclor1232	11141-16-5	- -	UG/KG	18	U	1	17	U	1	19	U	1	19	U	1
Aroclor1242	53469-21-9	- -	UG/KG	18	U	1	17	U	1	19	U	1	19	U	1
Aroclor1248	12672-29-6	- -	UG/KG	18	U	1	17	U	1	19	U	1	19	U	1
Aroclor1254	11097-69-1	- -	UG/KG	42		1	17		1	19	U	1	170	J	1
Aroclor1260	11096-82-5	- -	UG/KG	18	U	1	17	U	1	19	U	1	19	U	1
Aroclor1262	37324-23-5	- -	UG/KG	18	U	1	17	U	1	19	U	1	19	U	1
Aroclor1268	11100-14-4	- -	UG/KG	18	U	1	17	U	1	19	U	1	19	U	1
TOTAL DETECTABLE		**1,000 -**	**UG/KG**	**42**			**17**			**0**			**170**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

			SAMPLE ID:	1313ED-MW-01 (16'-20')			1313ED-MW-02 (16'-20')			1313ED-MW-3 (16'-20')			1313ED-MW-04 (12'-20')		
			LAB ORDER:	RSJ0867-04			RSJ0867-01			RSJ0800-03			RSJ1025-05		
			SAMPLE DATE:	10/14/2009 15:15			10/14/2009 09:15			10/13/2009 12:45			10/16/2009 13:45		
PCBs (EPA METHOD 8080)	CAS	RSCO Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	- -	UG/KG	17	U	1	18	U	1	18	U	1	18	U	1
Aroclor1221	11104-28-2	- -	UG/KG	17	U	1	18	U	1	18	U	1	18	U	1
Aroclor1232	11141-16-5	- -	UG/KG	17	U	1	18	U	1	18	U	1	18	U	1
Aroclor1242	53469-21-9	- -	UG/KG	17	U	1	18	U	1	18	U	1	18	U	1
Aroclor1248	12672-29-6	- -	UG/KG	17	U	1	18	U	1	18	U	1	18	U	1
Aroclor1254	11097-69-1	- -	UG/KG	8.9	J	1	18	U	1	310		1	18	U	1
Aroclor1260	11096-82-5	- -	UG/KG	17	U	1	18	U	1	18	U	1	18	U	1
Aroclor1262	37324-23-5	- -	UG/KG	17	U	1	18	U	1	18	U	1	18	U	1
Aroclor1268	11100-14-4	- -	UG/KG	17	U	1	18	U	1	18	U	1	18	U	1
TOTAL DETECTABLE		**1,000 -**	**UG/KG**	**8.9**			**0**			**310**			**0**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

			SAMPLE ID:	1313ED-MW-5 (4'-12')			BLIND DUPLICATE			1313ED-BLIND DUP#1			
			LAB ORDER:	RSJ0800-01			RSJ1079-04			RSJ0867-06			
			SAMPLE DATE:	10/13/2009 10:30			10/19/2009 00:00			10/14/2009 00:00			
PCBs (EPA METHOD 8080)	CAS	RSCO	Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor1016	12674-11-2	- -		UG/KG	18	U	1	17	U	1	19	U	1
Aroclor1221	11104-28-2	- -		UG/KG	18	U	1	17	U	1	19	U	1
Aroclor1232	11141-16-5	- -		UG/KG	18	U	1	17	U	1	19	U	1
Aroclor1242	53469-21-9	- -		UG/KG	18	U	1	17	U	1	19	U	1
Aroclor1248	12672-29-6	- -		UG/KG	18	U	1	17	U	1	19	U	1
Aroclor1254	11097-69-1	- -		UG/KG	120		1	17	J	1	41		1
Aroclor1260	11096-82-5	- -		UG/KG	18	U	1	17	U	1	18	J	1
Aroclor1262	37324-23-5	- -		UG/KG	18	U	1	17	U	1	19	U	1
Aroclor1268	11100-14-4	- -		UG/KG	18	U	1	17	U	1	19	U	1
TOTAL DETECTABLE		**1,000**	**-**	**UG/KG**	**120**			**17**			**59**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

					SAMPLE ID:	1313ED-SB-01 (0'-8')			1313ED-SB-02 (16'-20')			1313ED-SB-03 (20'-24')			1313ED-SB-04 (0'-4')		
					LAB ORDER:	RSJ0969-01			RSJ0867-02			RSJ0867-03			RSJ0969-02		
					SAMPLE DATE:	10/15/2009 09:15			10/14/2009 11:15			10/14/2009 13:30			10/15/2009 11:15		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	RSCO	Comi		LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	13000	-		UG/KG	1.9	U	1	1.8	U,C4	1	2.0	U,C4	1	190	U	##
4,4'-DDE	72-55-9	8900	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
4,4'-DDT	50-29-3	7900	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
Aldrin	309-00-2	97	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
alpha-BHC	319-84-6	480	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
Chlordane(alpha)	5103-71-9	4200	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
beta-BHC	319-85-7	360	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
Chlordane	57-74-9	-	-		UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
delta-BHC	319-86-8	100000	a		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
Dieldrin	60-57-1	200	-		UG/KG	0.62	J	1	1.8	U	1	2.0	U	1	190	U	##
EndosulfanI	959-98-8	24000	j		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
EndosulfanII	33213-65-9	24000	j		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
Endosulfansulfate	1031-07-8	24000	j		UG/KG	1.9	U,C,UJ	1	1.8	U	1	2.0	U	1	190	U,C,UJ	##
Endrin	72-20-8	11000	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
Endrinaldehyde	7421-93-4	-	-		UG/KG	1.9	U	1	1.8	U,C,UJ	1	2.0	U,C,UJ	1	190	U	##
Endrinketone	53494-70-5	-	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
Lindane	58-89-9	1300	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
gamma-Chlordane	5566-34-7	-	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
Heptochlor	76-44-8	2100	-		UG/KG	1.9	U	1	0.39	J	1	0.49	J	1	190	U	##
Heptachlorepoxide	1024-57-3	-	-		UG/KG	1.9	U	1	1.6	J	1	2.0	U	1	190	U	##
Methoxychlor	72-43-5	-	-		UG/KG	1.9	U	1	1.8	U	1	2.0	U	1	190	U	##
Toxaphene	8001-35-2	-	-		UG/KG	19	U	1	18	U	1	20	U	1	1900	U	##
TOTAL DETECTABLE					**UG/KG**	**0.62**			**1.99**			**0.49**			**0**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-06 (8'-13')			1313ED-SB-07 (16'-20')			1313ED-SB-08 (12'-20')			1313ED-SB-09 (12'-16')		
				LAB ORDER:	RSJ1025-02			RSJ1025-03			RSJ1079-01			RSJ1025-04		
				SAMPLE DATE:	10/16/2009 10:15			10/16/2009 10:50			10/19/2009 10:00			10/16/2009 12:20		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	RSCO	Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	13000	-	UG/KG	18	U	10	9.1	U	5	1.7	U,C	1	8.7	U	5
4,4'-DDE	72-55-9	8900	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
4,4'-DDT	50-29-3	7900	-	UG/KG	18	J,C,J,UJ	10	9.1	J,C,J,UJ	5	1.7	U	1	8.7	J,C,J,UJ	5
Aldrin	309-00-2	97	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
alpha-BHC	319-84-6	480	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Chlordane(alpha)	5103-71-9	4200	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
beta-BHC	319-85-7	360	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Chlordane	57-74-9	-	-	UG/KG	180	U	10	91	U	5	17	U	1	87	U	5
delta-BHC	319-86-8	100000	a	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Dieldrin	60-57-1	200	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
EndosulfanI	959-98-8	24000	j	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
EndosulfanII	33213-65-9	24000	j	UG/KG	18	U	10	9.1	U	5	1.7	U	1	4.3	J	5
Endosulfansulfate	1031-07-8	24000	j	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Endrin	72-20-8	11000	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Endrinaldehyde	7421-93-4	-	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Endrinketone	53494-70-5	-	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Lindane	58-89-9	1300	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
gamma-Chlordane	5566-34-7	-	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Heptochlor	76-44-8	2100	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Heptachlorepoxide	1024-57-3	-	-	UG/KG	18	U	10	9.1	U	5	1.7	U	1	8.7	U	5
Methoxychlor	72-43-5	-	-	UG/KG	18	U,C,UJ	10	9.1	U,C,UJ	5	1.7	U	1	8.7	U,C,UJ	5
Toxaphene	8001-35-2	-	-	UG/KG	180	U	10	91	U	5	17	U	1	87	U	5
TOTAL DETECTABLE				**UG/KG**	**0**			**0**			**0**			**4.3**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-10 (16'-20')			1313ED-SB-11 (4'-16')			1313ED-SB-12 (12'-16')			1313ED-SB-13 (16'-20')		
				LAB ORDER:	RSJ1079-02			RSJ1079-03			RSJ1025-06			RSJ0969-03		
				SAMPLE DATE:	10/19/2009 11:30			10/19/2009 12:45			10/16/2009 16:16			10/15/2009 14:15		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	RSCO	Comı	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	13000	-	UG/KG	1.8	U	1	1.8	U,C	1	1.8	U	1	1.8	U	1
4,4'-DDE	72-55-9	8900	-	UG/KG	1.8	U	1	1.8	U	1	6.2		1	1.8	U	1
4,4'-DDT	50-29-3	7900	-	UG/KG	1.8	U	1	1.8	U	1	9.3	J, UJ	1	1.8	U	1
Aldrin	309-00-2	97	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
alpha-BHC	319-84-6	480	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	0.98	J	1
Chlordane(alpha)	5103-71-9	4200	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
beta-BHC	319-85-7	360	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Chlordane	57-74-9	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
delta-BHC	319-86-8	100000	a	UG/KG	1.8	U	1	1.8	U	1	0.77	J	1	1.8	U	1
Dieldrin	60-57-1	200	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
EndosulfanI	959-98-8	24000	j	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
EndosulfanII	33213-65-9	24000	j	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Endosulfansulfate	1031-07-8	24000	j	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U,C,UJ	1
Endrin	72-20-8	11000	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Endrinaldehyde	7421-93-4	-	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Endrinketone	53494-70-5	-	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Lindane	58-89-9	1300	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
gamma-Chlordane	5566-34-7	-	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Heptochlor	76-44-8	2100	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	0.40	J	1
Heptachlorepoxide	1024-57-3	-	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	7.2	J*	1
Methoxychlor	72-43-5	-	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U,C,UJ	1	1.8	U	1
Toxaphene	8001-35-2	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
TOTAL DETECTABLE				**UG/KG**	**0**			**0**			**16.27**			**8.58**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-SB-14 (12'-16')			1313ED-SB-15 (8'-12')			1313ED-SB-16 (0'-20')			1313ED-SB-17 (16'-20')		
				LAB ORDER:	RSJ1025-01			RSJ0969-04			RSJ0800-02			RSJ0800-07		
				SAMPLE DATE:	10/16/2009 09:15			10/15/2009 15:30			10/13/2009 11:30			10/13/2009 15:40		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	RSCO	Com	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	13000	-	UG/KG	1.8	U	1	16	C4, J	20	95	U	50	11	J	1
4,4'-DDE	72-55-9	8900	-	UG/KG	1.8	U	1	35	U	20	95	U	50	6.5	J	1
4,4'-DDT	50-29-3	7900	-	UG/KG	1.8	J,C,J,UJ	1	35	J,C,J,UJ	20	95	U	50	16		1
Aldrin	309-00-2	97	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
alpha-BHC	319-84-6	480	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
Chlordane(alpha)	5103-71-9	4200	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
beta-BHC	319-85-7	360	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
Chlordane	57-74-9	-	-	UG/KG	18	U	1	350	U	20	950	U	50	19	U	1
delta-BHC	319-86-8	100000	a	UG/KG	1.8	U	1	35	U	20	95	U	50	1.0	J	1
Dieldrin	60-57-1	200	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
EndosulfanI	959-98-8	24000	j	UG/KG	1.8	U	1	35	U	20	95	U	50	2.3	J*	1
EndosulfanII	33213-65-9	24000	j	UG/KG	1.8	U	1	35	U	20	95	U	50	1.5	J, J*	1
Endosulfansulfate	1031-07-8	24000	j	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
Endrin	72-20-8	11000	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
Endrinaldehyde	7421-93-4	-	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
Endrinketone	53494-70-5	-	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
Lindane	58-89-9	1300	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
gamma-Chlordane	5566-34-7	-	-	UG/KG	1.8	U	1	35	U	20	40	J	50	3.6	J, J*	1
Heptochlor	76-44-8	2100	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.9	U	1
Heptachlorepoxide	1024-57-3	-	-	UG/KG	1.8	U	1	35	U	20	95	U	50	1.7	J, J*	1
Methoxychlor	72-43-5	-	-	UG/KG	1.8	U,C,UJ	1	81	C4,UJ	20	95	U	50	1.9	U	1
Toxaphene	8001-35-2	-	-	UG/KG	18	U	1	350	U	20	950	U	50	19	U	1
TOTAL DETECTABLE				**UG/KG**	**0**			**97**			**40**			**43.6**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-MW-01 (16'-20')			1313ED-MW-02 (16'-20')			1313ED-MW-3 (16'-20')			1313ED-MW-04 (12'-20')		
				LAB ORDER:	RSJ0867-04			RSJ0867-01			RSJ0800-03			RSJ1025-05		
				SAMPLE DATE:	10/14/2009 15:15			10/14/2009 09:15			10/13/2009 12:45			10/16/2009 13:45		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	RSCO	Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	13000	-	UG/KG	1.8	U,C4	1	1.8	U,C4	1	1.8	U	1	1.8	U	1
4,4'-DDE	72-55-9	8900	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
4,4'-DDT	50-29-3	7900	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	J,C,J,UJ	1
Aldrin	309-00-2	97	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
alpha-BHC	319-84-6	480	-	UG/KG	0.91	J	1	1.8	U	1	1.8	U	1	1.8	U	1
Chlordane(alpha)	5103-71-9	4200	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
beta-BHC	319-85-7	360	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Chlordane	57-74-9	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
delta-BHC	319-86-8	100000	a	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Dieldrin	60-57-1	200	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
EndosulfanI	959-98-8	24000	j	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
EndosulfanII	33213-65-9	24000	j	UG/KG	0.58	J	1	1.8	U	1	1.8	U	1	1.8	U	1
Endosulfansulfate	1031-07-8	24000	j	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Endrin	72-20-8	11000	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Endrinaldehyde	7421-93-4	-	-	UG/KG	1.8	U,C,UJ	1	1.8	U,C,UJ	1	1.8	U	1	1.8	U	1
Endrinketone	53494-70-5	-	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Lindane	58-89-9	1300	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
gamma-Chlordane	5566-34-7	-	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Heptochlor	76-44-8	2100	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U	1
Heptachlorepoxide	1024-57-3	-	-	UG/KG	1.8	U,J	1	1.8	U	1	1.8	U	1	1.8	U	1
Methoxychlor	72-43-5	-	-	UG/KG	1.8	U	1	1.8	U	1	1.8	U	1	1.8	U,C,UJ	1
Toxaphene	8001-35-2	-	-	UG/KG	18	U	1	18	U	1	18	U	1	18	U	1
TOTAL DETECTABLE				**UG/KG**	**1.49**			**0**			**0**			**0**		

TABLE 4
Subsurface Soil

Restricted Soil Cleanup Objectives (SCO) - Restricted Residential

				SAMPLE ID:	1313ED-MW-5 (4'-12')			BLIND DUPLICATE			1313ED-BLIND DUP#1		
				LAB ORDER:	RSJ0800-01			RSJ1079-04			RSJ0867-06		
				SAMPLE DATE:	10/13/2009 10:30			10/19/2009 00:00			10/14/2009 00:00		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	RSCO	Com	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	13000	-	UG/KG	22	J, J*	20	1.7	U,C4	1	1.9	U,C4	1
4,4'-DDE	72-55-9	8900	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
4,4'-DDT	50-29-3	7900	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Aldrin	309-00-2	97	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
alpha-BHC	319-84-6	480	-	UG/KG	36	U	20	1.7	U	1	1.3	J	1
Chlordane(alpha)	5103-71-9	4200	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
beta-BHC	319-85-7	360	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Chlordane	57-74-9	-	-	UG/KG	360	U	20	17	U	1	19	U	1
delta-BHC	319-86-8	100000	a	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Dieldrin	60-57-1	200	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
EndosulfanI	959-98-8	24000	j	UG/KG	36	U	20	1.7	U	1	0.77	J	1
EndosulfanII	33213-65-9	24000	j	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Endosulfansulfate	1031-07-8	24000	j	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Endrin	72-20-8	11000	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Endrinaldehyde	7421-93-4	-	-	UG/KG	36	U	20	1.7	U	1	1.9	U,C,UJ	1
Endrinketone	53494-70-5	-	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Lindane	58-89-9	1300	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
gamma-Chlordane	5566-34-7	-	-	UG/KG	18	J	20	1.7	U	1	1.9	U	1
Heptochlor	76-44-8	2100	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Heptachlorepoxide	1024-57-3	-	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Methoxychlor	72-43-5	-	-	UG/KG	36	U	20	1.7	U	1	1.9	U	1
Toxaphene	8001-35-2	-	-	UG/KG	360	U	20	17	U	1	19	U	1
TOTAL DETECTABLE				**UG/KG**	**40**			**0**			**2.07**		

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

				SAMPLE ID:	1333ED-MW-1			1333ED-MW-2			1333ED-MW-3			1333ED-MW-4		
				LAB ORDER:	RTB1061-01			RTB1061-02			RTB1061-05			RTB1061-06		
				SAMPLE DATE:	2/24/2010 14:30			2/24/2010 13:10			2/24/2010 14:15			2/24/2010 12:25		
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
1,1,1-Trichloroethane	71-55-6	5	a	UG/L	0.26	U	1	0.26	U	1	0.26	U	1	0.26	U	1
1,1,2,2-Tetrachloroethane	79-34-5	5	a	UG/L	0.21	U	1	0.21	U	1	0.21	U	1	0.21	U	1
1,1,2-Trichloroethane	79-00-5	1	-	UG/L	0.23	U	1	0.23	U	1	0.23	U	1	0.23	U	1
1,1,2-Trichlorotrifluoroethane	76-13-1	5	a	UG/L	0.31	U	1	0.31	U	1	0.31	U	1	0.31	U	1
1,1-Dichloroethane	75-34-3	5	a	UG/L	0.38	U	1	0.38	U	1	0.38	U	1	0.38	U	1
1,1-Dichloroethene	75-35-4	5	a	UG/L	0.29	U	1	0.29	U	1	0.29	U	1	0.29	U	1
1,2,4-Trichlorobenzene	120-82-1	5	b	UG/L	0.41	U	1	0.41	U	1	0.41	U	1	0.41	U	1
1,2-Dibromo-3-chloropropane	96-12-8	0.04	-	UG/L	0.39	U, UJ	1	0.39	U	1	0.39	U, UJ	1	0.39	U, UJ	1
1,2-Dibromoethane	106-93-4	5	-	UG/L	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1
1,2-Dichlorobenzene	95-50-1	3	-	UG/L	0.20	U	1	0.20	U	1	0.20	U	1	0.20	U	1
1,2-Dichloroethane	107-06-2	0.6	-	UG/L	0.21	U	1	0.21	U	1	0.21	U	1	0.21	U	1
1,2-Dichloropropane	78-87-5	1	-	UG/L	0.32	U	1	0.32	U	1	0.32	U	1	0.32	U	1
1,3-Dichlorobenzene	541-73-1	3	-	UG/L	0.36	U	1	0.36	U	1	0.36	U	1	0.36	U	1
1,4-Dichlorobenzene	106-46-7	3	-	UG/L	0.39	U	1	0.39	U	1	0.39	U	1	0.39	U	1
2-Butanone	78-93-3	50	-	UG/L	1.3	U	1	1.3	U	1	1.3	U	1	1.3	U	1
2-Hexanone	591-78-6	50	-	UG/L	1.2	U	1	1.2	U	1	1.2	U	1	1.2	U	1
4-Methyl-2-pentanone	108-10-1	-	-	UG/L	0.91	U	1	0.91	U	1	0.91	U	1	0.91	U	1
Acetone	67-64-1	50	-	UG/L	2.9	J	1	3.6	L1, J	1	1.3	U	1	1.3	U	1
Benzene	71-43-2	1	-	UG/L	0.41	U	1	0.41	U	1	0.41	U	1	0.41	U	1
Bromodichloromethane	75-27-4	-	-	UG/L	0.39	U	1	0.39	U	1	0.39	U	1	0.39	U	1
Bromoform	75-25-2	50	-	UG/L	0.26	U, UJ	1	0.26	U, UJ	1	0.26	U, UJ	1	0.26	U, UJ	1
Bromomethane	74-83-9	5	a	UG/L	0.28	U	1	0.28	U	1	0.28	U	1	0.28	U	1
Carbon Disulfide	75-15-0	60	-	UG/L	0.19	U	1	0.19	U	1	0.19	U	1	0.19	U	1
Carbon tetrachloride	56-23-5	5	-	UG/L	0.27	U	1	0.27	U	1	0.27	U	1	0.27	U	1
Chlorobenzene	108-90-7	5	a	UG/L	0.32	U	1	0.32	U	1	0.32	U	1	0.32	U	1
Chlorodibromomethane	124-48-1	50	-	UG/L	0.32	U, UJ	1	0.32	U	1	0.32	U, UJ	1	0.32	U, UJ	1
Chloroethane	75-00-3	5	a	UG/L	0.32	U	1	0.32	U	1	0.32	U	1	0.32	U	1
Chloroform	67-66-3	7	-	UG/L	0.34	U	1	4.3		1	6.4		1	4.8		1
Chloromethane	74-87-3	5	a	UG/L	0.35	U	1	0.35	U	1	0.35	U	1	0.35	U	1
cis-1,2-Dichloroethene	156-59-2	5	a	UG/L	0.38	U	1	0.38	U	1	0.38	U	1	0.38	U	1
cis-1,3-Dichloropropene	10061-01-5	0.4	-	UG/L	0.36	U	1	0.36	U	1	0.36	U	1	0.36	U	1
Cyclohexane	110-82-7	-	-	UG/L	0.53	U	1	0.53	U	1	0.53	U	1	0.53	U	1
Dichlorodifluoromethane	75-71-8	5	a	UG/L	0.29	U	1	0.29	U	1	0.29	U	1	0.29	U	1
Ethylbenzene	100-41-4	5	a	UG/L	0.18	U	1	0.18	U	1	0.18	U	1	0.18	U	1
Isopropylbenzene	98-82-8	5	a	UG/L	0.19	U	1	0.19	U	1	0.19	U	1	0.19	U	1
Methyl Acetate	79-20-9	-	-	UG/L	0.50	U	1	0.50	U	1	0.50	U	1	0.50	U	1
Methyl tert-butyl ether	1634-04-4	10	-	UG/L	0.16	U	1	0.16	U	1	0.16	U	1	0.16	U	1
Methylcyclohexane	108-87-2	-	-	UG/L	0.50	U	1	0.50	U	1	0.50	U	1	0.50	U	1
Methylene chloride	75-09-2	5	a	UG/L	0.44	U	1	0.44	U	1	0.44	U	1	0.44	U	1
Styrene	100-42-5	5	a	UG/L	0.18	U	1	0.18	U	1	0.18	U	1	0.18	U	1
Tetrachloroethene	127-18-4	5	a	UG/L	0.36	U	1	0.36	U	1	0.36	U	1	0.36	U	1
Toluene	108-88-3	5	a	UG/L	0.51	U	1	0.51	U	1	0.51	U	1	0.51	U	1
trans-1,2-Dichloroethene	156-60-5	5	a	UG/L	0.42	U	1	0.42	U	1	0.42	U	1	0.42	U	1
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/L	0.37	U	1	0.37	U	1	0.37	U	1	0.37	U	1
Trichloroethene	79-01-6	5	a	UG/L	0.46	U	1	0.46	U	1	0.46	U	1	0.46	U	1
Trichlorofluoromethane	75-69-4	5	a	UG/L	0.15	U	1	0.15	U	1	0.15	U	1	0.15	U	1
Vinyl chloride	75-01-4	2	-	UG/L	0.24	U	1	0.24	U	1	0.24	U	1	0.24	U	1
Xylene	1330-20-7	5	-	UG/L	0.66	U	1	0.66	U	1	0.66	U	1	0.66	U	1
TOTAL DETECTABLE				**UG/L**	**2.9**			**7.9**			**6.4**			**4.8**		

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

				SAMPLE ID:	1333ED-MW-5			DUPE Y (MW-05)			1333ED-MW-6			
				LAB ORDER:	RTB1061-07			RTB1061-09			RTB1061-08			
				SAMPLE DATE:	2/24/2010 13:40			02/24/2010 00:00			2/24/2010 12:00			
VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8260)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	
1,1,1-Trichloroethane	71-55-6	5	a	UG/L	0.26	U	1	0.26	U	1	0.26	U	1	
1,1,2,2-Tetrachloroethane	79-34-5	5	a	UG/L	0.21	U	1	0.21	U	1	0.21	U	1	
1,1,2-Trichloroethane	79-00-5	1	-	UG/L	0.23	U	1	0.23	U	1	0.23	U	1	
1,1,2-Trichlorotrifluoroethane	76-13-1	5	a	UG/L	0.31	U	1	0.31	U	1	0.31	U	1	
1,1-Dichloroethane	75-34-3	5	a	UG/L	0.38	U	1	0.38	U	1	0.38	U	1	
1,1-Dichloroethene	75-35-4	5	a	UG/L	0.29	U	1	0.29	U	1	0.29	U	1	
1,2,4-Trichlorobenzene	120-82-1	5	b	UG/L	0.41	U	1	0.41	U	1	0.41	U	1	
1,2-Dibromo-3-chloropropane	96-12-8	0.04	-	UG/L	0.39	U, UJ	1	0.39	U, UJ	1	0.39	U, UJ	1	
1,2-Dibromoethane	106-93-4	5	-	UG/L	0.17	U	1	0.17	U	1	0.17	U	1	
1,2-Dichlorobenzene	95-50-1	3	-	UG/L	0.20	U	1	0.20	U	1	0.20	U	1	
1,2-Dichloroethane	107-06-2	0.6	-	UG/L	0.21	U	1	0.21	U	1	0.21	U	1	
1,2-Dichloropropane	78-87-5	1	-	UG/L	0.32	U	1	0.32	U	1	0.32	U	1	
1,3-Dichlorobenzene	541-73-1	3	-	UG/L	0.36	U	1	0.36	U	1	0.36	U	1	
1,4-Dichlorobenzene	106-46-7	3	-	UG/L	0.39	U	1	0.39	U	1	0.39	U	1	
2-Butanone	78-93-3	50	-	UG/L	1.3	U	1	1.3	U	1	1.3	U	1	
2-Hexanone	591-78-6	50	-	UG/L	1.2	U	1	1.2	U	1	1.2	U	1	
4-Methyl-2-pentanone	108-10-1	-	-	UG/L	0.91	U	1	0.91	U	1	0.91	U	1	
Acetone	67-64-1	50	-	UG/L	1.3	U	1	1.3	U	1	1.3	U	1	
Benzene	71-43-2	1	-	UG/L	0.41	U	1	0.41	U	1	0.41	U	1	
Bromodichloromethane	75-27-4	-	-	UG/L	0.39	U	1	0.39	U	1	0.39	U	1	
Bromoform	75-25-2	50	-	UG/L	0.26	U, UJ	1	0.26	U, UJ	1	0.26	U, UJ	1	
Bromomethane	74-83-9	5	a	UG/L	0.28	U	1	0.28	U	1	0.28	U	1	
Carbon Disulfide	75-15-0	60	-	UG/L	0.19	U	1	0.19	U	1	0.19	U	1	
Carbon tetrachloride	56-23-5	5	-	UG/L	0.27	U	1	0.27	U	1	0.27	U	1	
Chlorobenzene	108-90-7	5	a	UG/L	0.32	U	1	0.32	U	1	0.32	U	1	
Chlorodibromomethane	124-48-1	50	-	UG/L	0.32	U, UJ	1	0.32	U, UJ	1	0.32	U, UJ	1	
Chloroethane	75-00-3	5	a	UG/L	0.32	U	1	0.32	U	1	0.32	U	1	
Chloroform	67-66-3	7	-	UG/L	6.7		1	6.9		1	3.7		1	
Chloromethane	74-87-3	5	a	UG/L	0.35	U	1	0.35	U	1	0.35	U	1	
cis-1,2-Dichloroethene	156-59-2	5	a	UG/L	0.38	U	1	0.38	U	1	0.38	U	1	
cis-1,3-Dichloropropene	10061-01-5	0.4	-	UG/L	0.36	U	1	0.36	U	1	0.36	U	1	
Cyclohexane	110-82-7	-	-	UG/L	0.53	U	1	0.53	U	1	0.53	U	1	
Dichlorodifluoromethane	75-71-8	5	a	UG/L	0.29	U	1	0.29	U	1	0.29	U	1	
Ethylbenzene	100-41-4	5	a	UG/L	0.18	U	1	0.18	U	1	0.18	U	1	
Isopropylbenzene	98-82-8	5	a	UG/L	0.19	U	1	0.19	U	1	0.19	U	1	
Methyl Acetate	79-20-9	-	-	UG/L	0.50	U	1	0.50	U	1	0.50	U	1	
Methyl tert-butyl ether	1634-04-4	10	-	UG/L	0.16	U	1	0.16	U	1	0.16	U	1	
Methylcyclohexane	108-87-2	-	-	UG/L	0.50	U	1	0.50	U	1	0.50	U	1	
Methylene chloride	75-09-2	5	a	UG/L	0.44	U	1	0.44	U	1	0.44	U	1	
Styrene	100-42-5	5	a	UG/L	0.18	U	1	0.18	U	1	0.18	U	1	
Tetrachloroethene	127-18-4	5	a	UG/L	0.36	U	1	0.36	U	1	0.36	U	1	
Toluene	108-88-3	5	a	UG/L	0.51	U	1	0.51	U	1	0.51	U	1	
trans-1,2-Dichloroethene	156-60-5	5	a	UG/L	0.42	U	1	0.42	U	1	0.42	U	1	
trans-1,3-Dichloropropene	10061-02-6	-	-	UG/L	0.37	U	1	0.37	U	1	0.37	U	1	
Trichloroethene	79-01-6	5	a	UG/L	0.46	U	1	0.46	U	1	0.46	U	1	
Trichlorofluoromethane	75-69-4	5	a	UG/L	0.15	U	1	0.15	U	1	0.15	U	1	
Vinyl chloride	75-01-4	2	-	UG/L	0.24	U	1	0.24	U	1	0.24	U	1	
Xylene	1330-20-7	5	-	UG/L	0.66	U	1	0.66	U	1	0.66	U	1	
TOTAL DETECTABLE				**UG/L**	**6.7**			**6.9**			**3.7**			

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	GWCO	Comment		SAMPLE ID: 1333ED-MW-1 LAB ORDER: RTB1061-01 SAMPLE DATE: 2/24/2010 14:30 RESULT	QUAL	DF	1333ED-MW-2 RTB1061-02 2/24/2010 13:10 RESULT	QUAL	DF	1333ED-MW-3 RTB1061-05 2/24/2010 14:15 RESULT	QUAL	DF	1333ED-MW-4 RTB1061-06 2/24/2010 12:25 RESULT	QUAL	DF
2,4,5-Trichlorophenol	95-95-4	-	-	UG/L	0.46	U	1	0.46	U	1	0.47	U	1	0.46	U	1
2,4,6-Trichlorophenol	88-06-2	-	-	UG/L	0.59	U	1	0.58	U	1	0.59	U	1	0.58	U	1
2,4-Dichlorophenol	120-83-2	-	-	UG/L	0.49	U	1	0.49	U	1	0.50	U	1	0.49	U	1
2,4-Dimethylphenol	105-67-9	-	-	UG/L	0.48	U	1	0.48	U	1	0.49	U	1	0.48	U	1
2,4-Dinitrophenol	51-28-5	-	-	UG/L	2.1	U	1	2.1	U	1	2.2	U	1	2.1	U	1
2,4-Dinitrotoluene	121-14-2	5	a	UG/L	0.43	U	1	0.43	U	1	0.43	U	1	0.43	U	1
2,6-Dinitrotoluene	606-20-2	5	a	UG/L	0.38	U	1	0.38	U	1	0.39	U	1	0.38	U	1
2-Chloronaphthalene	91-58-7	10	-	UG/L	0.44	U	1	0.44	U	1	0.45	U	1	0.44	U	1
2-Chlorophenol	95-57-8	-	-	UG/L	0.51	U	1	0.50	U	1	0.51	U	1	0.50	U	1
2-Methylnaphthalene	91-57-6	-	-	UG/L	0.58	U	1	0.57	U	1	0.58	U	1	0.57	U	1
2-Methylphenol	95-48-7	-	-	UG/L	0.38	U	1	0.38	U	1	0.39	U	1	0.38	U	1
2-Nitroaniline	88-74-4	5	a	UG/L	0.40	U	1	0.40	U	1	0.41	U	1	0.40	U	1
2-Nitrophenol	88-75-5	-	-	UG/L	0.46	U	1	0.46	U	1	0.47	U	1	0.46	U	1
3,3-Dichlorobenzidine	91-94-1	5	a	UG/L	0.38	U	1	0.38	U	1	0.39	U	1	0.38	U	1
3-Nitroaniline	99-09-2	5	a	UG/L	0.46	U	1	0.46	U	1	0.47	U	1	0.46	U	1
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/L	2.1	U	1	2.1	U	1	2.1	U	1	2.1	U	1
4-Bromophenyl-phenylether	101-55-3	-	-	UG/L	0.43	U	1	0.43	U	1	0.44	U	1	0.43	U	1
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/L	0.43	U	1	0.43	U	1	0.44	U	1	0.43	U	1
4-Chloroaniline	106-47-8	5	a	UG/L	0.57	U	1	2.3	J	1	1.3	J	1	1.2	J	1
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/L	0.34	U	1	0.33	U	1	0.34	U	1	0.33	U	1
4-Methylphenol	106-44-5	-	-	UG/L	0.35	U	1	0.34	U	1	0.35	U	1	0.34	U	1
4-Nitroaniline	100-01-6	5	a	UG/L	0.24	U	1	0.24	U	1	3.2	J	1	0.24	U	1
4-Nitrophenol	100-02-7	-	-	UG/L	1.5	U	1	1.4	U	1	1.5	U	1	1.4	U	1
Acenaphthene	83-32-9	20	-	UG/L	0.39	U	1	0.39	U	1	0.40	U	1	0.39	U	1
Acenaphthylene	208-96-8	20	-	UG/L	0.37	U	1	0.36	U	1	0.37	U	1	0.36	U	1
Acetophenone	98-86-2	-	-	UG/L	0.52	U	1	0.51	U	1	0.52	U	1	0.51	U	1
Anthracene	120-12-7	50	-	UG/L	0.27	U	1	0.27	U	1	0.27	U	1	0.27	U	1
Atrazine	1912-24-9	7.5	-	UG/L	0.44	U	1	0.44	U	1	0.45	U	1	0.44	U	1
Benzaldehyde	100-52-7	-	-	UG/L	0.26	U	1	0.25	U	1	0.26	U	1	0.25	U	1
Benzo(a)anthracene	56-55-3	0.002	-	UG/L	0.35	U	1	0.34	U	1	0.35	U	1	0.34	U	1
Benzo(a)pyrene	50-32-8	ND	-	UG/L	0.45	U	1	0.45	U	1	0.46	U	1	0.45	U	1
Benzo(b)fluoranthene	205-99-2	0.002	-	UG/L	0.33	U	1	0.32	U	1	0.33	U	1	0.32	U	1
Benzo(g,h,i)perylene	191-24-2	-	-	UG/L	0.34	U	1	0.33	U	1	0.34	U	1	0.33	U	1
Benzo(k)fluoranthene	207-08-9	0.002	-	UG/L	0.70	U	1	0.70	U	1	0.71	U	1	0.70	U	1
Biphenyl	92-52-4	5	a	UG/L	0.63	U	1	0.62	U	1	0.63	U	1	0.62	U	1
bis(2-Chloroethoxy)methane	111-91-1	5	a	UG/L	0.34	U	1	0.33	U	1	0.34	U	1	0.33	U	1
bis(2-Chloroethyl)Ether	111-44-4	1	-	UG/L	0.38	U	1	0.38	U	1	0.39	U	1	0.38	U	1
Bis(2-chloroisopropyl)ether	108-60-1	5	a	UG/L	0.50	U	1	0.50	U	1	0.50	U	1	0.50	U	1
bis(2-Ethylhexyl)phthalate	117-81-7	5	-	UG/L	1.7	U	1	1.7	U	1	1.7	U	1	1.7	U	1
Butylbenzylphthalate	85-68-7	50	-	UG/L	0.44	J	1	0.40	U	1	0.41	U	1	0.40	U	1
Caprolactam	105-60-2	-	-	UG/L	15		1	10		1	2.1	U	1	13		1
Carbazole	86-74-8	-	-	UG/L	0.29	U	1	0.29	U	1	0.29	U	1	0.29	U	1
Chrysene	218-01-9	0.002	-	UG/L	0.32	U	1	0.31	U	1	0.32	U	1	0.31	U	1
Dibenzo(a,h)anthracene	53-70-3	-	-	UG/L	0.40	U	1	0.40	U	1	0.41	U	1	0.40	U	1
Dibenzofuran	132-64-9	-	-	UG/L	0.49	U	1	0.49	U	1	0.50	U	1	0.49	U	1
Diethylphthalate	84-66-2	50	-	UG/L	0.21	U	1	0.21	U	1	0.21	U	1	0.21	U	1
Dimethylphthalate	131-11-3	50	-	UG/L	0.35	U	1	0.34	U	1	0.35	U	1	0.34	U	1
Di-n-butylphthalate	84-74-2	50	-	UG/L	0.30	U	1	0.30	U	1	0.30	U	1	0.30	U	1
Di-n-octylphthalate	117-84-0	50	-	UG/L	0.45	U	1	0.45	U	1	0.46	U	1	0.45	U	1
Fluoranthene	206-44-0	50	-	UG/L	0.38	U	1	0.38	U	1	0.39	U	1	0.38	U	1
Fluorene	86-73-7	50	-	UG/L	0.35	U	1	0.34	U	1	0.35	U	1	0.34	U	1
Hexachlorobenzene	118-74-1	0.04	-	UG/L	0.49	U	1	0.49	U	1	0.50	U	1	0.49	U	1
Hexachlorobutadiene	87-68-3	0.5	-	UG/L	0.65	U	1	0.65	U	1	0.66	U	1	0.65	U	1
Hexachlorocyclopentadiene	77-47-4	5	a	UG/L	0.57	U	1	0.56	U	1	0.57	U	1	0.56	U	1
Hexachloroethane	67-72-1	5	a	UG/L	0.57	U	1	0.56	U	1	0.57	U	1	0.56	U	1
Indeno(1,2,3-cd)pyrene	193-39-5	0.002	-	UG/L	0.45	U	1	0.45	U	1	0.46	U	1	0.45	U	1
Isophorone	78-59-1	50	-	UG/L	0.41	U	1	0.41	U	1	0.42	U	1	0.41	U	1
Naphthalene	91-20-3	10	-	UG/L	0.73	U	1	0.72	U	1	0.74	U	1	0.72	U	1
Nitrobenzene	98-95-3	0.4	-	UG/L	0.28	U	1	0.28	U	1	0.28	U	1	0.28	U	1
N-Nitroso-di-n-propylamine	621-64-7	50	-	UG/L	0.52	U	1	0.51	U	1	0.52	U	1	0.51	U	1
N-Nitrosodiphenylamine(1)	86-30-6	50	-	UG/L	0.49	U	1	0.49	U	1	0.50	U	1	0.49	U	1
Pentachlorophenol	87-86-5	-	-	UG/L	2.1	U	1	2.1	U	1	2.1	U	1	2.1	U	1
Phenanthrene	85-01-8	50	-	UG/L	0.42	U	1	0.42	U	1	0.43	U	1	0.42	U	1
Phenol	108-95-2	-	-	UG/L	0.38	U	1	0.37	U	1	0.38	U	1	0.37	U	1
Pyrene	129-00-0	50	-	UG/L	0.33	U	1	0.32	U	1	0.33	U	1	0.32	U	1
TOTAL DETECTABLE				**UG/L**	**15.44**			**12.3**			**4.5**			**14.2**		

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

SEMI-VOLATILE ORGANIC COMPOUNDS (EPA METHOD 8270)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
				SAMPLE ID:	1333ED-MW-5			DUPE Y (MW-05)			1333ED-MW-6		
				LAB ORDER:	RTB1061-07			RTB1061-09			RTB1061-08		
				SAMPLE DATE:	2/24/2010 13:40			02/24/2010 00:00			2/24/2010 12:00		
2,4,5-Trichlorophenol	95-95-4	-	-	UG/L	0.49	U	1	0.47	U	1	0.46	U	1
2,4,6-Trichlorophenol	88-06-2	-	-	UG/L	0.62	U	1	0.60	U	1	0.58	U	1
2,4-Dichlorophenol	120-83-2	-	-	UG/L	0.52	U	1	0.50	U	1	0.49	U	1
2,4-Dimethylphenol	105-67-9	-	-	UG/L	0.51	U	1	0.49	U	1	0.48	U	1
2,4-Dinitrophenol	51-28-5	-	-	UG/L	2.3	U	1	2.2	U	1	2.1	U	1
2,4-Dinitrotoluene	121-14-2	5	a	UG/L	0.46	U	1	0.44	U	1	0.43	U	1
2,6-Dinitrotoluene	606-20-2	5	a	UG/L	0.41	U	1	0.39	U	1	0.38	U	1
2-Chloronaphthalene	91-58-7	10	-	UG/L	0.47	U	1	0.45	U	1	0.44	U	1
2-Chlorophenol	95-57-8	-	-	UG/L	0.54	U	1	0.52	U	1	0.50	U	1
2-Methylnaphthalene	91-57-6	-	-	UG/L	0.61	U	1	0.59	U	1	0.57	U	1
2-Methylphenol	95-48-7	-	-	UG/L	0.41	U	1	0.39	U	1	0.38	U	1
2-Nitroaniline	88-74-4	5	a	UG/L	0.43	U	1	0.41	U	1	0.40	U	1
2-Nitrophenol	88-75-5	-	-	UG/L	0.49	U	1	0.47	U	1	0.46	U	1
3,3-Dichlorobenzidine	91-94-1	5	a	UG/L	0.41	U	1	0.39	U	1	0.38	U	1
3-Nitroaniline	99-09-2	5	a	UG/L	0.49	U	1	0.47	U	1	0.46	U	1
4,6-Dinitro-2-methylphenol	534-52-1	-	-	UG/L	2.2	U	1	2.2	U	1	2.1	U	1
4-Bromophenyl-phenylether	101-55-3	-	-	UG/L	0.46	U	1	0.44	U	1	0.43	U	1
4-Chloro-3-Methylphenol	59-50-7	-	-	UG/L	0.46	U	1	0.44	U	1	0.43	U	1
4-Chloroaniline	106-47-8	5	a	UG/L	1.4	J	1	1.4	J	1	0.56	U	1
4-Chlorophenyl-phenylether	7005-72-3	-	-	UG/L	0.36	U	1	0.34	U	1	0.33	U	1
4-Methylphenol	106-44-5	-	-	UG/L	0.37	U	1	0.35	U	1	0.34	U	1
4-Nitroaniline	100-01-6	5	a	UG/L	0.26	U	1	0.25	U	1	0.24	U	1
4-Nitrophenol	100-02-7	-	-	UG/L	1.6	U	1	1.5	U	1	1.4	U	1
Acenaphthene	83-32-9	20	-	UG/L	0.42	U	1	0.40	U	1	0.39	U	1
Acenaphthylene	208-96-8	20	-	UG/L	0.39	U	1	0.37	U	1	0.36	U	1
Acetophenone	98-86-2	-	-	UG/L	0.55	U	1	0.53	U	1	0.51	U	1
Anthracene	120-12-7	50	-	UG/L	0.29	U	1	0.27	U	1	0.27	U	1
Atrazine	1912-24-9	7.5	-	UG/L	0.47	U	1	0.45	U	1	0.44	U	1
Benzaldehyde	100-52-7	-	-	UG/L	0.27	U	1	0.26	U	1	0.25	U	1
Benzo(a)anthracene	56-55-3	0.002	-	UG/L	0.37	U	1	0.35	U	1	0.34	U	1
Benzo(a)pyrene	50-32-8	ND	-	UG/L	0.48	U	1	0.46	U	1	0.45	U	1
Benzo(b)fluoranthene	205-99-2	0.002	-	UG/L	0.35	U	1	0.33	U	1	0.32	U	1
Benzo(g,h,i)perylene	191-24-2	-	-	UG/L	0.36	U	1	0.34	U	1	0.33	U	1
Benzo(k)fluoranthene	207-08-9	0.002	-	UG/L	0.74	U	1	0.72	U	1	0.70	U	1
Biphenyl	92-52-4	5	a	UG/L	0.67	U	1	0.64	U	1	0.62	U	1
bis(2-Chloroethoxy)methane	111-91-1	5	a	UG/L	0.36	U	1	0.34	U	1	0.33	U	1
bis(2-Chloroethyl)Ether	111-44-4	1	-	UG/L	0.41	U	1	0.39	U	1	0.38	U	1
Bis(2-chloroisopropyl)ether	108-60-1	5	a	UG/L	0.53	U	1	0.51	U	1	0.50	U	1
bis(2-Ethylhexyl)phthalate	117-81-7	5	-	UG/L	1.8	U	1	1.8	U	1	1.8	J	1
Butylbenzylphthalate	85-68-7	50	-	UG/L	0.43	U	1	0.41	U	1	0.40	U	1
Caprolactam	105-60-2	-	-	UG/L	15		1	11		1	15		1
Carbazole	86-74-8	-	-	UG/L	0.31	U	1	0.29	U	1	0.29	U	1
Chrysene	218-01-9	0.002	-	UG/L	0.34	U	1	0.32	U	1	0.31	U	1
Dibenzo(a,h)anthracene	53-70-3	-	-	UG/L	0.43	U	1	0.41	U	1	0.40	U	1
Dibenzofuran	132-64-9	-	-	UG/L	0.52	U	1	0.50	U	1	0.49	U	1
Diethylphthalate	84-66-2	50	-	UG/L	0.22	U	1	0.22	U	1	0.21	U	1
Dimethylphthalate	131-11-3	50	-	UG/L	0.37	U	1	0.35	U	1	0.34	U	1
Di-n-butylphthalate	84-74-2	50	-	UG/L	0.32	U	1	0.36	J	1	0.61	J	1
Di-n-octylphthalate	117-84-0	50	-	UG/L	0.48	U	1	0.46	U	1	0.45	U	1
Fluoranthene	206-44-0	50	-	UG/L	0.41	U	1	0.39	U	1	0.38	U	1
Fluorene	86-73-7	50	-	UG/L	0.37	U	1	0.35	U	1	0.34	U	1
Hexachlorobenzene	118-74-1	0.04	-	UG/L	0.52	U	1	0.50	U	1	0.49	U	1
Hexachlorobutadiene	87-68-3	0.5	-	UG/L	0.69	U	1	0.67	U	1	0.65	U	1
Hexachlorocyclopentadiene	77-47-4	5	a	UG/L	0.60	U	1	0.58	U	1	0.56	U	1
Hexachloroethane	67-72-1	5	a	UG/L	0.60	U	1	0.58	U	1	0.56	U	1
Indeno(1,2,3-cd)pyrene	193-39-5	0.002	-	UG/L	0.48	U	1	0.46	U	1	0.45	U	1
Isophorone	78-59-1	50	-	UG/L	0.44	U	1	0.42	U	1	0.41	U	1
Naphthalene	91-20-3	10	-	UG/L	0.78	U	1	0.75	U	1	0.72	U	1
Nitrobenzene	98-95-3	0.4	-	UG/L	0.30	U	1	0.28	U	1	0.28	U	1
N-Nitroso-di-n-propylamine	621-64-7	50	-	UG/L	0.55	U	1	0.53	U	1	0.51	U	1
N-Nitrosodiphenylamine(1)	86-30-6	50	-	UG/L	0.52	U	1	0.50	U	1	0.49	U	1
Pentachlorophenol	87-86-5	-	-	UG/L	2.2	U	1	2.2	U	1	2.1	U	1
Phenanthrene	85-01-8	50	-	UG/L	0.45	U	1	0.43	U	1	0.42	U	1
Phenol	108-95-2	-	-	UG/L	0.40	U	1	0.38	U	1	0.37	U	1
Pyrene	129-00-0	50	-	UG/L	0.35	U	1	0.33	U	1	0.32	U	1
TOTAL DETECTABLE				**UG/L**	**16.4**			**12.76**			**17.41**		

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

METALS (EPA METHOD 6010B)	CAS	GWCO	Comment		1333ED-MW-1 RESULT	QUAL	DF	1333ED-MW-2 RESULT	QUAL	DF	1333ED-MW-3 RESULT	QUAL	DF	1333ED-MW-4 RESULT	QUAL	DF
				LAB ORDER:	RTB1061-01			RTB1061-02			RTB1061-05			RTB1061-06		
				SAMPLE DATE:	2/24/2010 14:30			2/24/2010 13:10			2/24/2010 14:15			2/24/2010 12:25		
Aluminum	7429-90-5	-	-	MG/L	7.93		1	6.93		1	31.6		1	20.7		1
Antimony	7440-36-0	0.003	-	MG/L	0.0068	U	1	0.0068	U	1	0.0068	U	1	0.0068	U	1
Arsenic	7440-38-2	0.025	k	MG/L	0.0087	J	1	0.0069	J	1	0.0228		1	0.0160		1
Barium	7440-39-3	1	-	MG/L	0.0713		1	0.109		1	0.249		1	0.189		1
Beryllium	7440-41-7	-	-	MG/L	0.0003	J	1	0.0003	J	1	0.0016	J	1	0.0010	J	1
Cadmium	7440-43-9	0.005	-	MG/L	0.0003	U	1	0.0003	U	1	0.0003	U	1	0.0003	U	1
Calcium	7440-70-2	-	-	MG/L	42.5		1	118		1	134		1	150		1
Chromium	18540-29-9	0.05	-	MG/L	0.0081		1	0.0113		1	0.0506		1	0.0318		1
Cobalt	7440-48-4	-	-	MG/L	0.0042		1	0.0036	J	1	0.0260		1	0.0158		1
Copper	7440-50-8	0.2	-	MG/L	0.0137		1	0.0188		1	0.143		1	0.0883		1
Iron	7439-89-6	0.3	-	MG/L	9.62		1	10.8		1	64.2		1	45.1		1
Lead	7439-92-1	0.025	-	MG/L	0.0030	U	1	0.0030	U	1	0.0227		1	0.0157		1
Magnesium	7439-95-4	35	-	MG/L	12.7		1	16.5		1	24.1		1	18.9		1
Manganese	7439-96-5	0.3	-	MG/L	0.415	J	1	0.761	J	1	4.26	J	1	3.44	J	1
Total Mercury	7439-97-6	0.0007	-	MG/L	0.0001	U	1	0.0001	U	1	0.0001	U,S6	1	0.0001	U,S6	1
Nickel	7440-02-0	0.1	-	MG/L	0.0073	J	1	0.0073	J	1	0.0468		1	0.0290		1
Potassium	7440-09-7	-	-	MG/L	4.16		1	4.95		1	11.9		1	9.5		1
Selenium	7782-49-2	0.01	-	MG/L	0.0087	U	1	0.0087	U	1	0.0087	U	1	0.0087	U	1
Silver	7440-22-4	0.05	-	MG/L	0.0012	U	1	0.0012	U	1	0.0012	U	1	0.0012	U	1
Sodium	7440-23-5	20	-	MG/L	12.4		1	204		1	144		1	158		1
Thallium	7440-28-0	0.0005	-	MG/L	0.0102	U	1	0.0102	U	1	0.0102	U	1	0.0102	U	1
Vanadium	7440-62-2	-	-	MG/L	0.0131		1	0.0128		1	0.0571		1	0.0390		1
Zinc	7440-66-6	2	-	MG/L	0.0225		1	0.0319		1	0.239		1	0.117		1
TOTAL DETECTABLE				**MG/L**	**89.8742**			**362.1429**			**414.9186**			**406.1826**		

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

			SAMPLE ID:	**1333ED-MW-5**			**DUPE Y (MW-05)**			**1333ED-MW-6**			
			LAB ORDER:	RTB1061-07			RTB1061-09			RTB1061-08			
			SAMPLE DATE:	2/24/2010 13:40			02/24/2010 00:00			2/24/2010 12:00			
METALS (EPA METHOD 6010B)	CAS	GWCO	Comment	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	
Aluminum	7429-90-5	-	-	MG/L	77.7		1	82.0		1	4.90		1
Antimony	7440-36-0	0.003	-	MG/L	0.0068	U	1	0.0068	U	1	0.0068	U	1
Arsenic	7440-38-2	0.025	k	MG/L	0.0826		1	0.0866		1	0.0056	U	1
Barium	7440-39-3	1	-	MG/L	0.524		1	0.548		1	0.0743		1
Beryllium	7440-41-7	-	-	MG/L	0.0047		1	0.0049		1	0.0002	J	1
Cadmium	7440-43-9	0.005	-	MG/L	0.0012		1	0.0009	J	1	0.0003	U	1
Calcium	7440-70-2	-	-	MG/L	284		1	295		1	120		1
Chromium	18540-29-9	0.05	-	MG/L	0.109		1	0.115		1	0.0066		1
Cobalt	7440-48-4	-	-	MG/L	0.0995		1	0.102		1	0.0026	J	1
Copper	7440-50-8	0.2	-	MG/L	0.462		1	0.479		1	0.0134		1
Iron	7439-89-6	0.3	-	MG/L	190		1	199		1	6.74		1
Lead	7439-92-1	0.025	-	MG/L	0.105		1	0.110		1	0.0030	U	1
Magnesium	7439-95-4	35	-	MG/L	42.9		1	44.4		1	10.9		1
Manganese	7439-96-5	0.3	-	MG/L	19.8	D08,J	5	20.4	D08,J	5	0.408	J	1
Total Mercury	7439-97-6	0.0007	-	MG/L	0.0002	S6	1	0.0002	S6	1	0.0001	U	1
Nickel	7440-02-0	0.1	-	MG/L	0.194		1	0.202		1	0.0049	J	1
Potassium	7440-09-7	-	-	MG/L	20.3		1	21.1		1	4.46		1
Selenium	7782-49-2	0.01	-	MG/L	0.0087	U	1	0.0087	U	1	0.0087	U	1
Silver	7440-22-4	0.05	-	MG/L	0.0012	U	1	0.0012	U	1	0.0012	U	1
Sodium	7440-23-5	20	-	MG/L	147		1	146		1	143		1
Thallium	7440-28-0	0.0005	-	MG/L	0.0102	U	1	0.0102	U	1	0.0102	U	1
Vanadium	7440-62-2	-	-	MG/L	0.158		1	0.165		1	0.0078		1
Zinc	7440-66-6	2	-	MG/L	0.819		1	0.847		1	0.0251		1
TOTAL DETECTABLE				**MG/L**	**784.2592**			**810.5606**			**290.5429**		

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

			SAMPLE ID:	1333ED-MW-1			1333ED-MW-2			1333ED-MW-3			1333ED-MW-4		
			LAB ORDER:	RTB1061-01			RTB1061-02			RTB1061-05			RTB1061-06		
			SAMPLE DATE:	2/24/2010 14:30			2/24/2010 13:10			2/24/2010 14:15			2/24/2010 12:25		
PCBs (EPA METHOD 8080)	CAS	GWCO	Comi LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor 1016	12674-11-2	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1221	11104-28-2	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1232	11141-16-5	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1242	53469-21-9	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1248	12672-29-6	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1254	11097-69-1	- -	UG/L	0.24	U	1	0.24	U	1	0.24	U	1	0.24	U	1
Aroclor 1260	11096-82-5	- -	UG/L	0.24	U	1	0.24	U	1	0.24	U	1	0.24	U	1
Aroclor 1262	37324-23-5	- -	UG/L	0.24	U	1	0.24	U	1	0.24	U	1	0.24	U	1
Aroclor 1268	11100-14-4	- -	UG/L	0.24	U	1	0.24	U	1	0.24	U	1	0.24	U	1
TOTAL DETECTABLE	**1336-36-3**	**0.09 o**	**UG/L**	**0**			**0**			**0**			**0**		

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

			SAMPLE ID:	1333ED-MW-5			DUPE Y (MW-05)			1333ED-MW-6		
			LAB ORDER:	RTB1061-07			RTB1061-09			RTB1061-08		
			SAMPLE DATE:	2/24/2010 13:40			02/24/2010 00:00			2/24/2010 12:00		
PCBs (EPA METHOD 8080)	CAS	GWCO Comi	LAB ID:	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
Aroclor 1016	12674-11-2	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1221	11104-28-2	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1232	11141-16-5	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1242	53469-21-9	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1248	12672-29-6	- -	UG/L	0.17	U	1	0.17	U	1	0.17	U	1
Aroclor 1254	11097-69-1	- -	UG/L	0.24	U	1	0.24	U	1	0.24	U	1
Aroclor 1260	11096-82-5	- -	UG/L	0.24	U	1	0.24	U	1	0.24	U	1
Aroclor 1262	37324-23-5	- -	UG/L	0.24	U	1	0.24	U	1	0.24	U	1
Aroclor 1268	11100-14-4	- -	UG/L	0.24	U	1	0.24	U	1	0.24	U	1
TOTAL DETECTABLE	**1336-36-3**	**0.09 o**	**UG/L**	**0**			**0**			**0**		

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

				SAMPLE ID:	1333ED-MW-1			1333ED-MW-2			1333ED-MW-3			1333ED-MW-4		
				LAB ORDER:	RTB1061-01			RTB1061-02			RTB1061-05			RTB1061-06		
				SAMPLE DATE:	2/24/2010 14:30			2/24/2010 13:10			2/24/2010 14:15			2/24/2010 12:25		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	GWCO	Comment		RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	0.3	-	UG/L	0.016	U	1	0.016	U, UJ	1	0.016	U	1	0.016	U, UJ	1
4,4'-DDE	72-55-9	0.2	-	UG/L	0.011	U	1	0.011	U, UJ	1	0.011	U	1	0.011	U, UJ	1
4,4'-DDT	50-29-3	0.2	-	UG/L	0.010	U	1	0.011	U, UJ	1	0.010	U	1	0.011	U, UJ	1
Aldrin	309-00-2	-	-	UG/L	0.0062	U	1	0.0063	U, UJ	1	0.0062	U	1	0.0063	U, UJ	1
alpha-BHC	319-84-6	0.01	-	UG/L	0.0062	U	1	0.0063	U, UJ	1	0.0062	U	1	0.0063	U, UJ	1
Chlordane (alpha)	5103-71-9	-	-	UG/L	0.014	U	1	0.014	U, UJ	1	0.014	U	1	0.014	U, UJ	1
beta-BHC	319-85-7	0.04	-	UG/L	0.023	U	1	0.024	U, UJ	1	0.023	U	1	0.024	U, UJ	1
Chlordane	57-74-9	0.05	-	UG/L	0.027	U	1	0.028	U, UJ	1	0.027	U	1	0.028	U, UJ	1
delta-BHC	319-86-8	0.04	-	UG/L	0.047	U	1	0.048	U	1	0.0095	U	1	0.048	U	1
Dieldrin	60-57-1	0.004	-	UG/L	0.018	U	1	0.019	U, UJ	1	0.018	U	1	0.019	U, UJ	1
Endosulfan I	959-98-8	-	-	UG/L	0.010	U	1	0.011	U, UJ	1	0.010	U	1	0.011	U, UJ	1
Endosulfan II	33213-65-9	-	-	UG/L	0.011	U	1	0.012	U, UJ	1	0.011	U	1	0.012	U, UJ	1
Endosulfan sulfate	1031-07-8	-	-	UG/L	0.015	U	1	0.015	U, UJ	1	0.015	U	1	0.015	U, UJ	1
Endrin	72-20-8	ND	-	UG/L	0.013	U	1	0.013	U, UJ	1	0.013	U	1	0.013	U, UJ	1
Endrin aldehyde	7421-93-4	5	a	UG/L	0.015	U	1	0.016	U, UJ	1	0.015	U	1	0.016	U, UJ	1
Endrin ketone	53494-70-5	5	a	UG/L	0.011	U	1	0.012	U, UJ	1	0.011	U	1	0.012	U, UJ	1
Lindane	58-89-9	0.05	-	UG/L	0.0057	U	1	0.0058	U, UJ	1	0.0057	U	1	0.0058	U, UJ	1
gamma-Chlordane	5566-34-7	-	-	UG/L	0.01	U	1	0.011	U, UJ	1	0.01	U	1	0.011	U, UJ	1
Heptochlor	76-44-8	0.04	-	UG/L	0.008	U	1	0.0082	U, UJ	1	0.008	U	1	0.0082	U, UJ	1
Heptachlor epoxide	1024-57-3	0.03	-	UG/L	0.0050	U	1	0.0051	U, UJ	1	0.0050	U	1	0.0051	U, UJ	1
Methoxychlor	72-43-5	35	-	UG/L	0.013	U	1	0.014	U, UJ	1	0.013	U	1	0.014	U, UJ	1
Toxaphene	8001-35-2	0.06	-	UG/L	0.11	U	1	0.12	U, UJ	1	0.11	U	1	0.12	U, UJ	1
TOTAL DETECTABLE				**UG/L**	**0**			**0**			**0**			**0**		

TABLE 5
Groundwater Sample Data

Part 703.5 Water Standard

			SAMPLE ID:	1333ED-MW-5			DUPE Y (MW-05)			1333ED-MW-6		
			LAB ORDER:	RTB1061-07			RTB1061-09			RTB1061-08		
			SAMPLE DATE:	2/24/2010 13:40			02/24/2010 00:00			2/24/2010 12:00		
ORGANOCHLORINE PESTICIDES (EPA METHOD 8081A)	CAS	GWCO	Comment	RESULT	QUAL	DF	RESULT	QUAL	DF	RESULT	QUAL	DF
4,4'-DDD	72-54-8	0.3	- UG/L	0.016	U	1	0.016	U	1	0.016	U, UJ	1
4,4'-DDE	72-55-9	0.2	- UG/L	0.011	U	1	0.011	U	1	0.011	U, UJ	1
4,4'-DDT	50-29-3	0.2	- UG/L	0.010	U	1	0.010	U	1	0.010	U, UJ	1
Aldrin	309-00-2	-	- UG/L	0.0062	U	1	0.0063	U	1	0.0062	U, UJ	1
alpha-BHC	319-84-6	0.01	- UG/L	0.0062	U	1	0.0063	U	1	0.0062	U, UJ	1
Chlordane (alpha)	5103-71-9	-	- UG/L	0.014	U	1	0.014	U	1	0.014	U, UJ	1
beta-BHC	319-85-7	0.04	- UG/L	0.023	U	1	0.024	U	1	0.023	U, UJ	1
Chlordane	57-74-9	0.05	- UG/L	0.027	U	1	0.028	U	1	0.027	U, UJ	1
delta-BHC	319-86-8	0.04	- UG/L	0.0095	U	1	0.048	U	1	0.047	U	1
Dieldrin	60-57-1	0.004	- UG/L	0.018	U	1	0.019	U	1	0.018	U, UJ	1
Endosulfan I	959-98-8	-	- UG/L	0.010	U	1	0.010	U	1	0.010	U, UJ	1
Endosulfan II	33213-65-9	-	- UG/L	0.011	U	1	0.011	U	1	0.011	U, UJ	1
Endosulfan sulfate	1031-07-8	-	- UG/L	0.015	U	1	0.015	U	1	0.015	U, UJ	1
Endrin	72-20-8	ND	- UG/L	0.013	U	1	0.013	U	1	0.013	U, UJ	1
Endrin aldehyde	7421-93-4	5	a UG/L	0.015	U	1	0.016	U	1	0.015	U, UJ	1
Endrin ketone	53494-70-5	5	a UG/L	0.011	U	1	0.011	U	1	0.011	U, UJ	1
Lindane	58-89-9	0.05	- UG/L	0.0057	U	1	0.0057	U	1	0.0057	U, UJ	1
gamma-Chlordane	5566-34-7	-	- UG/L	0.01	U	1	0.022	J	1	0.01	U, UJ	1
Heptochlor	76-44-8	0.04	- UG/L	0.008	U	1	0.0081	U	1	0.008	U, UJ	1
Heptachlor epoxide	1024-57-3	0.03	- UG/L	0.0050	U	1	0.0050	U	1	0.0050	U, UJ	1
Methoxychlor	72-43-5	35	- UG/L	0.013	U	1	0.013	U	1	0.013	U, UJ	1
Toxaphene	8001-35-2	0.06	- UG/L	0.11	U	1	0.11	U	1	0.11	U, UJ	1
TOTAL DETECTABLE			**UG/L**	**0**			**0.022**			**0**		

Appendix A

USEPA Correspondence
Regarding Site Investigation Work Plan

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2

DATE:

SUBJECT: Review of the Environmental Restoration Program Site Investigation Work Plan and Sampling and Analysis Plan for the City of Rome, Oneida County, New York

FROM: Patricia A. Sheridan, Environmental Scientist
Hazardous Waste Support Branch

TO: Phil Clappin, Brownfields Project Manager
Program Support Branch

I have reviewed the Site Investigation Work Plan and the Sampling and Analysis Plan for the City of Rome, Oneida County, New York for the Environmental Site Restoration Program which includes five properties at: 508 W. Liberty Street; 1333 E. Dominick Street; 701 Lawrence Street; 1030 E. Dominick Street; and 1201 E. Dominick Street. The purpose of the review is to determine if the documents adhere to the quality assurance (QA) policy and procedures outlined in the USEPA Region 2 Brownfields Project Planning Guidance for use by Region 2 Brownfields grant recipients.

If you have any questions, please contact me at 732-321-6780.

8/6/2008 CONCURRENCES

Name: sheridan		Init: pas	Date: 07/31/08		Filename: bfRomeSIWPandSAP5SitesComments73008.doc			
Symbol	HWSB-SST	HWSB-SST						
Surname	Sheridan	Hudek						
Date								

REGION II FORM 1320-1 (9/85)

Attachment

Comments on the Site Investigation Work Plan and Sampling and Analysis Plan for the City of Rome

Site Investigation Work Plan Comments:

1. Page 1, Section 1.0. This section must include a brief discussion that the funding the City of Rome received for this project also involves grant money from the USEPA Brownfields Program.

Since EPA grant funds are being used for this project, it is recommended that the AU.S. EPA Region 2 Brownfields Project Planning Guidance,@ Volumes 1 and 2, May 2000 Final be utilized as a source for conducting site investigations to ensure specific quality assurance elements are covered throughout the Work Plan and the Sampling and Analysis Plan (SAP). Please include this reference in this section of the Work Plan.

2. Page 2, 3rd Paragraph. The text states that the SAP includes a quality management plan and a data management plan. These documents appear to be missing in the SAP. Please provide.

3. Page 41, Section 4.1. Regarding the project objective discussion for this site, it is recommended that the information also include the following:

- where, when and how will the samples be collected, and the data generated;
- who will use the data;
- what will the data be used for;
- how much data is needed; how will the data be reported;
- how will the data be managed and archived.

Define the regulatory standards for which the resulting data will be compared.

4. Page 41, Section 4.1. Regarding bullet seven, please confirm if the on-site drums will be sampled prior to removal during this site investigation.

5. Page 47, Section 5.1.4. The selection of the laboratory must be made prior to the mobilization and collection of samples associated with this project. Please provide the name of the laboratory in this discussion. Include all appropriate information specific to the laboratory regarding documentation to support laboratory capability; State laboratory certification programs; and performance in analyzing samples utilizing the selected methods.

6. Page 50, Section 5.2.1.2. See Comment #5.

7. Page 58, Section 5.2.3. Please confirm if a separate laboratory will be providing the soil gas analysis. Include all appropriate information specific to the laboratory regarding documentation to support laboratory capability; State laboratory certification programs; and performance in analyzing samples utilizing this method.

8. Page 64. It is recommended that a project time line be provided in order to reflect the actual date the project activities will occur.

Sampling and Analysis Plan Comments:

1. Page 3, Section 2.1. The selection of the laboratory must be made prior to the mobilization and collection of samples associated with this project. Please provide the name of the laboratory in this discussion.

2. Page 4. What is meant by the term Laboratory Confirmational data? Define specifics.

3. Page 4. What is the process used to determine whether laboratory sample data is used for closure or IRM decisions in order to be subject to an independent third-party data validation?

All sample data generated for this project should undergo an independent third-party data validation, including those not listed as examples of data requiring validation such as soil gas results. Clarification is needed as to whether the "petroleum-contaminated soil plume clearance samples" includes surface and sub-surface soils, and sediments.

4. Page 7, Section 3.3. Please provide the extraction and digestion methods to be used prior to SW-846 analyses.

5. Page 8. For EPA Method 6010B, the text is incorrect as metals samples are not extracted but rather digested. Please provide the digestion method to be used for this analysis.

6. Table 1. Footnote #3 references that samples requiring off-site disposal will also be subjected to TCLP analysis. There is no discussion in the SAP regarding this topic. Specific information must be included in the SAP regarding the name laboratory to perform this analysis; the analytical methods to be used; the data validation of the TCLP sample results to determine whether the samples should go for off-site disposal etc.

7. Page 13, Section 4.2. The following Region 2 procedures should be used when performing decontamination of sampling equipment:

A Detergent/tap water wash;
A Tap water rinse;
A 10% nitric acid (ultra pure) rinse (if sampling for metals);
A Deionized/distilled water rinse;
A Acetone or methanol/hexane rinse (pesticide grade or better);
A Deionized/distilled water rinse;
A Air dry

During periods of transportation and non-use, all decontaminated sampling equipment should be wrapped in aluminum foil.

8. Page 17, Section 4.3.3. It is recommended that soil samples for VOC analysis be collected using an En Core™ sampler, or similar tube or plunger type sampler. The sampling device is inserted into undisturbed soil, such as a retrieved split spoon or directly into the exposed soil surface. The 5-gram plug of soil (approximately) is then capped and sent to the laboratory where it will be preserved, extracted and analyzed. Volume requirements under the current CLP method states that three (3) En Core™ vials and one (1) unpreserved 60 ml jar be sent per sample location. The laboratory should be provided with sufficient En Core™ or similar type samples for the purpose of screening, analysis and re-analysis, if necessary, as well as for MS/MSD. It should be noted that the holding time for the En Core™ or similar type samples is 48 hours from time of collection to preservation.

9. Page 19, #5. Please include the following procedure for homogenizing soil samples within this section:

- Remove rocks, twigs leaves and other debris from sampling device, if they are not considered part of the samples;
- Place in a stainless steel bowl and thoroughly mix using a stainless steel spoon;
- Scrape the sample from the sides, corners and bottom of bowl, roll to the middle of the bowl and mix;
- The sample should then be quartered and moved to the fours corners of the bowl;
- Each quartered should be individually mixed, and then rolled to the center of the bowl and then entire sample mixed again.

10. Page 41, Section 5.1. There is no discussion of the use of samples labels. Please include, and provide an example.

11. Page 43. Please provide an example of the custody seal to be used for this project.

12. Page 43. All sample bottle containers should meet all guidelines specified in *Specification and Guidance for Obtaining Contaminant-Free Sample Containers*, EPA 540/R-93/051 and OSWER Directive 9240.0-05A (EPA, 1992b).

13. Page 48, Section 5.4.3. Please provide the name of the third party independent data validator for this project. It is recommended that applicable Standard Operating Procedures (SOPs) pertaining to SW-846 methodology be used for this project. Such documents can be obtained from the USEPA Region 2 quality assurance web site at:

http://www.epa.gov/Region2/qa/documents.htm

Barton & Loguidice, P.C. Engineers • Environmental Scientists • Planners • Landscape Architects
Syracuse • Albany • Rochester

August 20, 2008

Ms. Diane Shoemaker
Director of Community Development
City of Rome
198 N. Washington Street
Rome, New York 13440-5815

Re: Site Investigation Work Plan
EPA Brownfields Assessment Grant Program
City of Rome, New York

File: 245.005

Dear Ms. Shoemaker:

We have reviewed the comments prepared by Ms. Patricia Sheridan of the U.S. Environmental Protection Agency (EPA) regarding the February 2008 Site Investigation Work Plan prepared by Barton & Loguidice, P.C. (B&L) for the five (5) EPA Brownfield sites located in the City of Rome, New York. Listed below in the order they appear are Ms. Sheridan's comments followed by our response and subsequent action, if any.

Site Investigation Work Plan Comments:

1. Page 1, Section 1.0. This section must include a brief discussion that the funding the City of Rome received for this project also involves grant money from the USEPA Brownfields Program.

Since EPA grant funds are being used for this project, it is recommended that the "U.S. EPA Region 2 Brownfields Project Planning Guidance," Volumes 1 and 2, May 2000 Final be utilized as a source for conducting site investigations to ensure specific quality assurance elements are covered throughout the Work Plan and the Sampling and Analysis Plan (SAP). Please include this reference in this section of the Work Plan.

The first sentence in Section 1.0 (Introduction) has been reworded to state the following:

> "The City of Rome was selected by the U.S. Environmental Protection Agency (EPA) to receive a Brownfields assessment grant, and has also been approved by the New York State Department of Environmental Conservation (NYSDEC) to receive funds from the 1996 Clean Water/Clean Air Bond Act, under the provisions of the Environmental Restoration Program (ERP), to conduct Site Investigations and related activities at five properties within the City."

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A sentence has been added to the second paragraph in Section 1.0 that states the following:

> "In addition to the above referenced NYSDEC publications, the USEPA Region 2 Brownfields Project Planning Guidance, Volumes 1 and 2, dated May 2000 (Final), will be utilized to ensure that EPA-specified quality assurance elements are adhered to while performing the Site Investigation."

2. Page 2, 3rd Paragraph. The text states that the SAP includes a quality management plan and a data management plan. These documents appear to be missing in the SAP. Please provide.

The quality management and data management plans that are included in the Sampling and Analysis Plan (SAP) are not presented as stand-alone documents, but instead are incorporated into the text of the SAP. Specifically, the quality management plan specifies the procedures to be followed in the performance of the field investigation, including the sampling and laboratory analyses presented in the Work Plan, and the quality and assurance procedures to be used during the Site Investigation. The intent of the data management plan is to establish document control policies to be adhered to during the Site Investigation, including a description of data documentation materials and procedures, project file requirements, and report formats.

3. Page 41, Section 4.1. Regarding the project objective discussion for this site, it is recommended that the information also include the following:

- *where, when and how will the samples be collected, and the data generated;*
- *who will use the data;*
- *what will the data be used for;*
- *how much data is needed; how will the data be reported;*
- *how will the data be managed and archived.*

Define the regulatory standards for which the resulting data will be compared.

At the request of the New York State Department of Environmental Conservation (NYSDEC) B&L prepared a single, comprehensive Work Plan document that describes the Site Investigations to be performed at five (5) separate properties in the City of Rome. As such, the intent of Section 4.1 (Project Objectives) is to list in general terms the Site Investigation activities to be performed at each subject parcel. However, a detailed description of each site, including identified areas of concern (AOC), is presented in Section 2.0 of the Work Plan, while Section 5.2 of the Work Plan provides a more in-depth discussion of the various Site investigation activities to be performed at each of the subject parcels. Figures 5 through 10 of the Work Plan depict the proposed number and location of the various samples to be collected at each site, while Table 1 of the Work Plan presents a Site Investigation sample matrix that lists the number of samples (per media type) to be collected at each site and the laboratory analyses to be performed.

Upon completion of Site Investigation activities, B&L will review the data to determine the nature and extent of contamination on each site, and to develop a qualitative assessment of ecological risks and human health exposure concerns posed by each site. These results will be used to evaluate the need for subsequent remedial activities and to perform an analysis of alternatives. The SAP included in Appendix A of the Work Plan provides a detailed description of how the data will be reported, including the manner by which the data will be managed and archived, while Section 3.1 (Relevant Guidance and Regulatory Criteria) of the Work Plan presents a listing of the regulatory standards to which the data generated at each site will be compared to.

4. Page 41, Section 4.1. Regarding bullet seven, please confirm if the on-site drums will be sampled prior to removal during this site investigation.

The contents of on-site drums will be sampled and verified prior to their removal from the site. It is anticipated that the services of a licensed hazardous waste removal contractor will be utilized to accomplish this task.

5. Page 47, Section 5.1.4. The selection of the laboratory must be made prior to the mobilization and collection of samples associated with this project. Please provide the name of the laboratory in this discussion. Include all appropriate information specific to the laboratory regarding documentation to support laboratory capability; State laboratory certification programs; and performance in analyzing samples utilizing the selected methods.

Within the next several weeks B&L will be soliciting competitive bid quotes from qualified analytical laboratories to work on this project. The chosen laboratory will be required to provide B&L with appropriate paperwork and documentation to verify that they are NYSDOH ELAP certified to perform the required analyses. B&L will forward this laboratory-specific information to the EPA for review and approval prior to the initiation of sample collection activities.

6. Page 50, Section 5.2.1.2. See Comment #5.

Please refer to the above noted response for Comment No. 5.

7. Page 58, Section 5.2.3. Please confirm if a separate laboratory will be providing the soil gas analysis. Include all appropriate information specific to the laboratory regarding documentation to support laboratory capability; State laboratory certification programs; and performance in analyzing samples utilizing this method.

The laboratory services solicitation issued by B&L will include provisions for the analysis of soil gas samples. In the event that the selected laboratory intends to subcontract with a separate lab for soil gas analytical services, B&L will require the same paperwork and documentation from the subcontract lab as the prime lab. This information will be forwarded to the EPA for review and approval upon our receipt.

8. Page 64. It is recommended that a project time line be provided in order to reflect the actual date the project activities will occur.

It is our understanding that Site Investigation activities may not commence on this project until such time that the EPA has approved the Work Plan. Therefore, once we have received EPA approval our Response to Comment letter (as presented herein) and the Site Investigation Work Plan, we will revise the Project Schedule which is presented as Figure 12 in the Work Plan.

Sampling and Analysis Plan Comments:

1. Page 3, Section 2.1. The selection of the laboratory must be made prior to the mobilization and collection of samples associated with this project. Please provide the name of the laboratory in this discussion.

Please refer to our response to comment No. 5 above under "Site Investigation Work Plan Comments".

2. Page 4. What is meant by the term Laboratory Confirmational data? Define specifics.

As discussed on Page 3 of the SAP, "Laboratory Confirmational Data Quality (ASP/CLP)" is the highest level of data quality that can be requested of an analytical testing laboratory, and is based on the degree of precision, accuracy, and completeness that must be achieved by the laboratory while performing sample analysis. Laboratory Confirmational Data Quality requires the analytical laboratory to be NYSDOH ELAP-certified for ASP/CLP categories, and mandates that the laboratory provide internal quality control documentation that is derived from the ASP/CLP reporting protocols. This internal quality control documentation is also referred to as laboratory conformational data.

3. Page 4. What is the process used to determine whether laboratory sample data is used for closure or IRM decisions in order to be subject to an independent third-party data validation?

All sample data generated for this project should undergo an independent third-party data validation, including those not listed as examples of data requiring validation such as soil gas results. Clarification is needed as to whether the "petroleum-contaminated soil plume clearance samples" includes surface and sub-surface soils, and sediments.

The various media samples that are collected following the completion of an IRM or remedial activity are referred to as confirmatory samples or post remediation samples. The purpose of confirmatory and post remediation samples is to verify that project cleanup requirements have been met. As such, the laboratory data generated from the analysis of confirmatory samples will be subject to independent third-party data validation.

As discussed in Attachment A (Data Validation Scope of Work) of the SAP,

> "The purpose of data validation is to define and document analytical data quality and determine if the data quality is sufficient for the intended use(s) of the data. In accordance with NYSDEC requirements, all project data must be of known and acceptable quality. Data validation is performed to establish the data quality for all data which are to be considered when making project closure or IRM decisions. Laboratories will be required to submit results that are supported by sufficient back-up data and QA/QC results to enable the reviewer to conclusively determine the quality of the data."

Given the above stated NYSDEC requirements, B&L does not feel that it is necessary (or cost effective) for all of the sample data generated during this project to undergo data validation.

4. Page 7, Section 3.3. Please provide the extraction and digestion methods to be used prior to SW-846 analyses.

Please refer to the information presented on attached Table 2 (SW-846 Extraction/Preparation Methods). This table has been added to the SAP.

5. Page 8. For EPA Method 6010B, the text is incorrect as metals samples are not extracted but rather digested. Please provide the digestion method to be used for this analysis.

Ms. Diane Shoemaker
City of Rome
August 20, 2008
Page 6

The digestion method to be used for the metals analysis of sediment and soil samples is Method 3050B. Digestion method 3005A will be used for the dissolved metals analysis of water samples, while digestion method 3010A will be used for the total metals analysis of water samples.

6. Table 1. Footnote #3 references that samples requiring off-site disposal will also be subjected to TCLP analysis. There is no discussion in the SAP regarding this topic. Specific information must be included in the SAP regarding the name laboratory to perform this analysis; the analytical methods to be used; the data validation of the TCLP sample results to determine whether the samples should go for off-site disposal etc.

As previously noted, the analytical laboratory to be utilized on this project has yet to be selected. In the event that the off-site disposal of contaminated soil or groundwater is required as part of the Site Investigation, a representative number of samples will be submitted to the selected laboratory for the analysis of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), Target Analyte List (TAL) metals, PCBs, and pesticides (1333 East Dominick Street site only), using the toxicity characteristic leaching procedure (TCLP) laboratory method. In addition, the submitted samples will also be analyzed for reactivity, ignitability, and corrosivity in accordance with EPA SW-846 Methods. The laboratory data generated from the TCLP analysis of the aforementioned samples will be submitted for independent third-party data validation.

7. Page 13, Section 4.2. The following Region 2 procedures should be used when performing decontamination of sampling equipment:

- *Detergent/tap water wash;*
- *Tap water rinse;*
- *10% nitric acid (ultra pure) rinse (if sampling for metals);*
- *Deionized/distilled water rinse;*
- *Acetone or methanol/hexane rinse (pesticide grade or better);*
- *Deionized/distilled water rinse;*
- *Air dry*

During periods of transportation and non-use, all decontaminated sampling equipment should be wrapped in aluminum foil.

The decontamination procedures presented in Section 4.2.1 (Decontamination of Sampling Equipment) of the SAP have been revised to incorporate the above noted EPA Region 2 decontamination procedures. In addition, the requirement that all sampling equipment be wrapped in aluminum foil following the completion of decontamination procedures has also been added to Section 4.2.1 of the SAP.

8. Page 17, Section 4.3.3. It is recommended that soil samples for VOC analysis be collected using an En Core™ sampler, or similar tube or plunger type sampler. The sampling device is inserted into undisturbed soil, such as a retrieved split spoon or directly into the exposed soil surface. The 5-gram plug of soil (approximately) is then capped and sent to the laboratory where it will be preserved, extracted and analyzed. Volume requirements under the current CLP method states that three (3) En Core™ vials and one (1) unpreserved 60 ml jar be sent per sample location. The laboratory should be provided with sufficient En Core™ or similar type samples for the purpose of screening, analysis and re-analysis, if necessary, as well as for MS/MSD. It should be noted that the holding time for the En Core™ or similar type samples is 48 hours from time of collection to preservation.

Section 4.3.3 (Soil Sampling and Screening) of the SAP has been revised to include the EPA Region 2 provision that soil samples obtained for VOC analysis be collected using an En Core™ sampler in accordance with the above noted procedures.

9. Page 19, #5. Please include the following procedure for homogenizing soil samples within this section:

- *Remove rocks, twigs leaves and other debris from sampling device, if they are not considered part of the samples;*
- *Place in a stainless steel bowl and thoroughly mix using a stainless steel spoon;*
- *Scrape the sample from the sides, corners and bottom of bowl, roll to the middle of the bowl and mix;*
- *The sample should then be quartered and moved to the fours corners of the bowl;*
- *Each quartered should be individually mixed, and then rolled to the center of the bowl and then entire sample mixed again.*

Item No. 5 of Section 4.3.3 (Soil Sampling and Screening) of the SAP has been revised to include the above stated EPA Region 2 procedure for the homogenization of soil samples that will be submitted for the analysis of SVOCs, PCBs, and metals.

10. Page 41, Section 5.1. There is no discussion of the use of samples labels. Please include, and provide an example.

As noted in Item No. 8 of Section 4.3.3 (Soil Sampling and Screening) of the SAP,

> "Sample Jars will be labeled with the following information: project name, project number, location identification, sample depth interval, blow counts, and date. This information will also be recorded in the bound field log book."

Section 3.2 (Sample Designation) of the SAP lists the specific alphanumeric code that will be used to identify each site, and also indicates the designated letter codes that have been assigned to the different media types.

With respect to the labels that will be placed on laboratory sample containers, B&L will request the selected laboratory to provide us with pre-printed labels for our use during the Site Investigation. Therefore, we will provide the EPA with an example label once an analytical laboratory has been selected for the project.

11. Page 43. Please provide an example of the custody seal to be used for this project.

Similar to our above response, B&L will provide the EPA with an example of the custody seal to be utilized once the services of an analytical testing laboratory has been retained for this project.

12. Page 43. All sample bottle containers should meet all guidelines specified in Specification and Guidance for Obtaining Contaminant-Free Sample Containers, EPA 540/R-93/051 and OSWER Directive 9240.0-05A (EPA, 1992b).

B&L will require the selected analytical laboratory to provide us with sample bottle containers that meet the above noted EPA guidelines.

13. Page 48, Section 5.4.3. Please provide the name of the third party independent data validator for this project. It is recommended that applicable Standard Operating Procedures (SOPs) pertaining to SW-846 methodology be used for this project. Such documents can be obtained from the USEPA Region 2 quality assurance web site at:
http://www.epa.gov/Region2/qa/documents.htm

The third party independent data validator to be used on this project is Mr. Michael Fifield of B&L. Mr. Fifield has 20 years of experience as a data validator, and is very familiar with the EPA-issued SOPs pertaining to the SW-846 to be used on this project.

Following your review of our response to comments and indicated revisions to the Site Investigation Work Plan and SAP, please feel free to contact me should you have additional questions or would like to discuss any of our responses in greater detail prior to issuing EPA approval of the noted revisions.

Very truly yours,

BARTON & LOGUIDICE, P.C.

Stephen B. Le Fevre P.G., C.P.G.
Managing Hydrogeologist

SBL/ojf

Enclosure

cc: Frank Tallarino, City of Rome
Chris Mercurio, City of Rome
Scott Nostrand, B&L
Mike Brother, B&L

Table 2 - SW-846 Extraction/Preparation Methods		
Parameter	**Soil/Sediment**	**Water**
Volatiles (8260B)	5021/5032/5035	5030/5032
Semivolatiles (8270D)	3540/3541/3550C cleanup (3600C)	3510/3520 cleanup (3600C)
PCBs (8082A)	3540/3541/3545/3546/3562 cleanup (3665)	3510/3520/3535 cleanup (3665)
Pesticides (8081B)	3540/3541/3545/3546/3562 cleanup (3610/3620/3630/3640/3660)	3510/3520/3535 cleanup (3610/3620/3630/3640/3660)
Herbicides (8151A)	8151A	8151A

Rome's Work Plan – 2nd set of comments

Rome revised and submitted changes to the work plan based on the original comments provided by EPA's Edison office. I submitted those changes to Edison and they had several more comments. Some of these comments are recommended changes whereas others are must changes. I am forwarding the items that Edison indicates are must changes to you so that you can revise the work plan accordingly. I am not requiring Rome to change the work plan based on any further suggestive/recommended changes by Edison. As a result, once you address the following changes the work plan will be approved and you may begin its implementation.

1. B and L states that it will be soliciting competitive bids from qualified labs within the next several weeks. If there is any update to this (RFP has been issued, contract lab has been selected, etc.) please state it in the work plan.
2. The lab will be able to provide for soil gas analysis – is this still the case (will the request be written to include this type of sample?).
3. It is unclear whether all or just confirmatory data will be validated in accordance with the QA/QC validation methods proposed in the work plan.

Please confirm that you have made or will make these changes to the work plan. Once this is done the work plan shall be approved and implementation can begin.

Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects
Syracuse • Albany • Rochester

October 20, 2008

Ms. Diane Shoemaker
Director of Community Development
City of Rome
198 N. Washington Street
Rome, New York 13440-5815

Re: Second Set of EPA Comments
Site Investigation Work Plan
EPA Brownfields Assessment Grant Program
City of Rome, New York

File: 245.005

Dear Ms. Shoemaker:

We have reviewed the second set of comments prepared by Ms. Patricia Sheridan and Mr. Philip Clappin of the U.S. Environmental Protection Agency (EPA) regarding the February 2008 Site Investigation Work Plan prepared by Barton & Loguidice, P.C. (B&L) for the five (5) EPA Brownfield sites located in the City of Rome, New York. Based upon our review of the attached EPA transmittal, we have prepared the following responses to the EPA's comments. In addition, we have enclosed previously requested paperwork and documentation to verify that TestAmerica Laboratories Inc. is an Environmental Laboratory Approval Program (ELAP) certified laboratory by the New York State Department of Health (NYSDOH) to perform the required analyses.

Listed below in the order they appear are the second set of EPA's comments followed by our response and subsequent action, if any.

1. *B and L states that it will be soliciting competitive bids from qualified labs within the next several weeks. If there is any update to this (RFP has been issued, contract lab has been selected, etc.) please state it in the work plan.*

   On August 22, 2008, B&L solicited competitive bid quotes from a total of five (5) qualified analytical laboratories for the laboratory analysis of sediment, soil, groundwater, sludge, aqueous, and soil gas samples to be collected at each of the six (6) City of Rome Brownfield sites. It should be noted that B&L sent request for quotations to only those labs that are currently ELAP-certified by the NYSDOH for all of the ASP/CLP categories included in this project. Upon our review and evaluation of the received bids, B&L has retained the services of TestAmerica Laboratories, Inc. to provide the requested analytical laboratory testing services for the City of Rome Brownfield sites.

   As previously requested by the EPA, we have enclosed appropriate paperwork specific to TestAmerica Laboratories Inc. that verifies that the laboratory is ELAP-certified to perform the required analyses in accordance with the specified methods. In addition, we have attached a copy of the lab's Quality Assurance Manual for the EPA's review and information. And finally, as previously requested by the EPA, we have also enclosed a paper copy of the sample jar labels and custody seals that will be used on this project.

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Telephone: 518-218-1801 • Facsimile: 518-218-1805 • www.BartonandLoguidice.com

2. *The lab will be able to provide for soil gas analysis – is this still the case (will the request be written to include this type of sample?).*

   In addition to the laboratory analyses of soil and groundwater samples, TestAmerica Laboratories Inc. will also be responsible for performing soil gas analyses. As noted on the attached ELAP certificates (refer to the last two sheets), the TestAmerica laboratory facility located in South Burlington, Vermont is ELAP-certified to perform soil gas analyses for this project.

3. *It is unclear whether all or just confirmatory data will be validated in accordance with the QA/QC validation methods proposed in the work plan.*

   In accordance with the previous recommendation made by the EPA, all of the sediment, soil, groundwater, and soil gas samples collected during this project will undergo data validation. As previously noted, the third party independent data validator to be used on this project is Mr. Michael Fifield of B&L. Mr. Fifield has 20 years of experience as a data validator, and is very familiar with the EPA-issued SOPs pertaining to the SW-846 methods to be used on this project.

Following your review of our response to comments and enclosures, please feel free to contact me should you have additional questions or would like to discuss any of our responses in greater detail prior to forwarding this information to the EPA for their review and approval.

Very truly yours,

BARTON & LOGUIDICE, P.C.

Stephen B. Le Fevre P.G., C.P.G.
Managing Hydrogeologist

SBL/jas

Enclosure

cc: Frank Tallarino, City of Rome
Chris Mercurio, City of Rome
Scott Nostrand, B&L

Appendix B

Geophysical Mapping

February 28, 2009

Mr. Steven B. LeFevre, P.G.
Managing Hydrogeologist
Barton & Loguidice, P.C.
2 Corporate Plaza
264 Washington Ave. Ext.
Albany, N.Y. 12203

Via Email: slefevre@bartonandloguidice.com

Re: Final Report
Geophysical Surveys for USTs
GPR, EM-31 and EM-61 Investigations
City of Rome Environmental Restoration Project
Rome, New York

Dear Steven:

In accordance with your authorization, Radar Solutions International (RSI) conducted ground penetrating radar (GPR), EM-31 and EM-61 induction surveys at the above-referenced properties on Tuesday, Thursday and Friday, October 28th, 30th and 31st, 2008, and throughout the following week from Monday, November 3rd, to Friday, November 7th, 2008. GPR and electromagnetic surveys were conducted to help locate possible USTs. RSI's finalized survey results and interpretations are summarized below.

LOCATION AND SURVEY CONTROL

This project involved surveys of six sites within the City of Rome, Oneida County, New York. Three of these sites were located along East Dominick Street, at 1030, 1201-1207, and 1313-1333 East Dominick Street. Another site was located at 508 West Liberty Street. The remaining two sites were the 701 Lawrence Street and Lawrence and Martin Street properties.

508 West Liberty Street

This area of investigation encompassed the open areas along the eastern side of the building and extended from West Park Street in the northeast to West Liberty Street in the southwest. The eastern extent of the area of investigation ends at the property boundary. The majority of the area was covered with fill except for where there was concrete pavement. There was also some grassy areas near the southern (southwestern) site boundary just north (northeast) of the sidewalk and between the sidewalk and the street. The EM-31 survey was conducted during consistently light to moderate rainfall. Due to the accumulation of water at ground surface, the GPR survey was conducted on another day.

A geophysical survey grid was established with maximum dimensions of approximately 80 by 230 feet in size. Grid node 0E and 10S corresponds to the northeast corner of the chain-link fence parallel to the building. The geophysical grid was oriented parallel and perpendicular to the building walls. Because there was reportedly a 10,000 gallon UST abandoned on the property, both GPR and EM-31 survey lines were spaced 5 feet apart parallel to the building. Transverse GPR lines were also obtained perpendicular to the building at a five foot interval.

1030 East Dominick Street

The site located at 1030 East Dominick Street is currently the location of Mike Jr's Auto Repair. The area of investigation encompasses the accessible areas around the perimeter of the building. Outside of the building, the area of investigation in the northern part of the site is an asphalt-paved parking area, with a reinforced concrete sidewalk just around the northwestern corner of the building. The southern part of the site is mostly composed of fill material of varying sizes which is overgrown with grass in some parts. Due to the current use of the site, the site is littered with a large amount of scrap metal, the majority of which were removed prior to mobilization to this site. The area of investigation is bordered in the south by a railroad track. Also along this border to the west of the building there were large piles of fill accompanied by significant amounts of tall brush. Because of the need to coordinate our activities with the active auto repair business, it was necessary to conduct geophysical surveying after another heavy rainfall, which resulted in large puddles of water and mud on the site reducing the effectiveness of GPR.

A geophysical survey grid was established with maximum dimensions of approximately 320 feet by 130 feet in size. Grid node 160E and 40S corresponds to the building's northwest corner closest to East Dominick Street. The geophysical grid was oriented parallel and perpendicular to the building walls. EM-61 survey lines were spaced 2.5 feet apart, near to and parallel to all sides of the building and 5 feet apart, parallel to the street, otherwise. GPR lines obtained parallel and perpendicular to the building, were spaced 2.5 to 5 feet apart.

1201-1207 East Dominick Street

As with the 1030 East Dominick Street site, the area of investigation encompasses all the accessible areas around the perimeter of the building and within the property boundary. South of the building and closer to the street asphalt pavement is present with a concrete pad, while east, west and north of the building the site is mostly grass. A reinforced concrete sidewalk was present along the western and southern walls of the building.

A geophysical survey grid was established parallel and perpendicular to the building and sidewalk along East Dominick Street, and had a maximum dimension of approximately 150 by 220 feet. Grid node 80E and 60N is 4' west of the building's southwest corner. The geophysical grid was oriented parallel and perpendicular to the building walls. EM-61 survey lines were spaced 2.5 feet apart near to and parallel to each side of the building and 5 feet apart parallel to East Dominick Street for the rest of the site. GPR lines, obtained parallel and perpendicular to the building, were spaced 2.5 to 5 feet apart.

1313-1333 East Dominick Street

This was by far the largest of the six sites. The area of investigation encompasses the accessible areas around the perimeter of the building, inclusive of the loading dock areas and the open areas at the rear of the property. Due to the site layout and the orientation of the building relative to the desired survey line orientation, the area of investigation was broken up into 7 individual grids, namely, Grids A through G.

The area covered by Grid A consisted of grass and asphalt pavement and extended from the north edge of East Dominick Street to the building and included all areas south of the building. Geophysical survey Grid A was established with maximum dimensions of approximately 370 by 260 feet in size. Grid node 0E and 0N corresponds to the southwest corner of the chain-link fence closest to East Dominick Street, while Line 0N corresponds to the location of the rod iron fence located immediately north of the sidewalk along the north side of East Dominick Street. Geophysical Grid A was oriented parallel and perpendicular to East Dominick Street and therefore approached the building's southwestern wall at an angle. Therefore, Grids B and C were established parallel to the building's edge to maximize the detection of possible USTs oriented parallel to the building. Within Grid A, there was reportedly a former gasoline station building located approximately 50 feet north of East Dominick and 80 to 100 feet west of the existing building. EM-61 survey lines were spaced 2.5 to 5 feet apart, with the tighter line spacings being located in proximity to the reported gasoline station. EM-61 lines were oriented parallel to East Dominick Street. GPR lines were spaced 2.5 to 5 feet apart, depending upon proximity to potential buried targets, and oriented both perpendicular and parallel to East Dominick Street.

To obtain survey lines parallel and perpendicular to the southwestern wall of the building, two geophysical grids were established parallel to the wall. Grid node 0E and 10N of Grid B corresponds to the building's southwest corner and has the maximum dimensions of approximately 140 by 10 feet in size. About 140 feet southeast of the southwest corner of the building, the building wall jogs towards the northeast and then makes another 90° angle turn in the previous orientation. This is where Grid C begins. The approximate dimensions of Grid C are 110 by 20 feet as a result of the trees along the wall that extend about 10 feet off the wall. For Grids B and C, EM-61 and GPR survey lines were spaced 2.5 feet apart and oriented parallel to the building.

The next two grids, D & E, were oriented parallel and perpendicular to the northwestern wall of the building and separated from each other by a chain-link fence. Within each grid was a former loading dock. Grid node 0W and 0N of Grid D corresponds to the southwest corner of the building. EM-61 and GPR survey lines were spaced 2.5 to 5 feet apart. The EM-61 lines were oriented parallel to the loading dock ramp, perpendicular to the building, while the GPR lines were obtained both parallel and perpendicular to the building. Grid node 0W and 0N of Grid E corresponds to where the chain-link fence separating the two loading dock areas meets the building. The EM-61 lines, spaced 2.5 feet apart, were oriented perpendicular to the northwest facing wall of the building. GPR survey lines were oriented both perpendicular to and parallel to the building, and were spaced 2.5 to 5 feet apart.

Grid F, located along the northeast facing wall of the building, is the closest grid to the northernmost corner of the building. Grid F has dimensions of 240 by 15 feet. Grid node 0N and 0E corresponds with the northwestern corner of the building while grid line 0N is the northeast facing wall of the building. The EM-61 line spacing was 2.5 feet and the lines were oriented parallel to the building. GPR lines were spaced 2.5 feet parallel to the building and 10 feet perpendicular to the building.

Grid G, located in the eastern portion of the site encompasses the enclosed rectangular courtyard with a southeast facing building wall as the northwestern boundary and a northeast facing building wall as the southwestern boundary. A chain-link fence outlines the remaining perimeter. A geophysical survey grid was established with maximum dimensions of approximately 165 by 120 feet in size. Grid node 0E and 0N corresponds to the corner created by the building walls. The geophysical grid was oriented parallel and perpendicular to the building walls. EM-61 survey lines were spaced 2.5 feet apart, while GPR lines, obtained parallel and perpendicular to the building, were spaced 2.5 to 5 feet apart.

Lawrence and Martin Streets

The area of investigation encompasses the accessible areas. Unfortunately, the majority of the site was inaccessible for both the GPR and EM-61 systems due to the site’s not being sufficiently degrubbed of trees, brush, and metal scrap. As a result, the geophysical survey grid could only be established along the north boundary of the site, immediately south of Martin Street, parallel and perpendicular to Martin Street with dimensions 260 by 40 feet. Grid node 0E and 0N is 30 feet north of the chain link fence bordering the north end of the property, aligned with TP-1, which was located at 10S and 0E. EM-61 survey lines were spaced 2.5 feet apart and obtained parallel to the street. It should be noted that lines were only conducted from 0N to 10N and at 40N.

701 Lawrence Street

As with the Lawrence and Martin Street sites, the majority of the site was inaccessible to both the GPR and EM-61 systems. The area of investigation encompasses the accessible areas around the eastern and northern perimeter of the property. Outside of the property, the area of investigation is an asphalt paved driveway east of the property, a grassy area further east of the property and north of Erie Canal, and an asphalt paved sidewalk north of the property.

A geophysical survey grid was established with maximum dimensions of approximately 170 by 230 feet in size. Grid node 0E and 0N corresponds to the building’s northwest corner closest to Lawrence Street. The geophysical grid was oriented parallel and perpendicular to the building. EM-61 and GPR survey lines were spaced 5 feet apart, and oriented parallel to the building.

METHODOLOGY

Three geophysical methods were used to help identify possible USTs. A time-domain model EM-61 electromagnetic induction meter manufactured by Geonics LTD, was used to detect and determine the approximate mass of buried metal. The Geonics EM-31 terrain conductivity meter has a similar use as the EM-61, detecting metal to depths of 20 to 25 feet, and was used to help detect buried metal beneath the reinforced concrete pad at the 508 West Liberty site. GPR was used to characterize buried metal targets, determining their approximate size, shape and orientation, and depth.

EM-61 Time Domain Induction

The EM-61 instrument, developed by Geonics, LLD., was originally designed for detecting unexploded ordinance, including when in proximity to above-ground metal targets. Because of the relatively small response from overhead power lines and nearby metal fences and vehicles, the EM-61 has been adopted by the environmental industry for urban geophysical surveys.

The EM-61 technology measures the strength of the electromagnetic field, measured in millivolts, induced within buried metal objects after the primary electromagnetic pulse has been switched off. In this particular model (Mark II), measurements are obtained at both top and bottom receiver coils at four different time increments, called "time-gates". High induced voltages indicate the presence of above or below ground metal. In the absence of any metal, the differential measurement (i.e. the value at the top coil minus the value at the bottom coil) is zero. Positive, high-amplitude differential readings indicate that metal is likely to be present below grade. The higher the induced voltages, the more massive the metal target, especially when observed in the later time-gates.

EM-61 data are typically collected along lines parallel to the long axis of the site using a line spacing of 2.5 feet for total coverage. At the office, EM-61 data were transferred to a computer and contoured (i.e. data with similar values were shaded similarly to bring out patterns of high and low values). Red and orange-filled contours are indicative of high residual electrical values associated with metal objects. Large spatial distribution and amplitude of observed anomalies indicate large buried metal targets.

EM-31 Terrain Conductivity

The EM-terrain conductivity meter is an induction-type instrument which measures terrain conductivity without electrodes or direct soil contact. The terrain conductivity method operates on the principle that secondary electric and magnetic currents can be induced in metal objects and conductive bodies, such as iron or steel USTs, salt and other conductive plumes, sludge, etc., when an electric field is applied. This instrumentation measures the secondary magnetic field strength relative to the primary magnetic field and converts it directly into a conductivity value, measured in millimhos per meter (mmhos/m), with a resolution of 1 mmho/m.

The EM-31 also records the amount of phase-shift occurring between primary and secondary magnetic fields. The in-phase component measures that portion of the secondary magnetic field that is aligned, or in-phase, with the primary field. Because metal objects are almost perfect conductors, there is often no phase shift between primary and secondary magnetic fields. Hence, metal objects are detectable using the in-phase component (measured in parts per thousand or ppt). Additionally, in the presence of metal, conductivity values are often negative ("polarity reversals") and highly irregular.

The transmitting and receiving coils in the EM31-DL have a fixed separation of 3 meters, and when used in its normal operating mode (vertical dipole mode), the EM-31 achieves a depth of penetration of about 6 meters, or about 20 feet. The instrument response is more affected by near-surface than by deeper material, especially when used in the vertical dipole mode.

Data are typically collected at 1 second intervals along survey lines spaced 5 to 10 feet apart, and are recorded on a portable data-logger. Both components (i.e. the quadrature phase or conductivity, and the in-phase) of the induced EM field are recorded. The EM data were then transferred to desktop computer and contoured (i.e. data with similar values were shaded similarly to bring out patterns of high and low conductivity and in-phase values).

EM terrain conductivity data is adversely influenced by above-ground metal, such as cars, dumpsters, and buildings, and by electrical sources of noise, such as overhead power lines and radio broadcasting stations. These above-ground sources can create noise which may adversely effect an EM survey, and create unreliable conductivity data. For this reason, the EM-61 instrument is superior to the EM-31, except when reinforced concrete is present.

Buried metal may be concealed by highly conductive soils, such as sludge and landfill materials. This effect may be mitigated by using the in-phase component of the induced magnetic field in conjunction with the conductivity for data interpretation.

To obtain accurate conductivity readings, the terrain conductivity meter must first be calibrated in an area free of buried metal and overhead power lines. Because the survey area had significant sources of cultural noise, the EM-31 instrument could not be calibrated on-site, and hence there could be up to a 5% error in absolute conductivity and in-phase values.

Ground Penetrating Radar

The GPR method operates by transmitting low-powered microwave energy into the ground using an ultra-wide band (UWB) transceiver antenna. EM energy from the antenna propagates at frequencies ranging from 10 MHz to 3 GHZ, although antenna frequencies for commercially available antennas typically range from 200 MHz to 1.5 Ghz. The peak power of this antenna is 20 to 100 times less the wattage of a cellular phone, and the energy is directed into the ground (and not at the operator) by means of shielding on the top side of the antenna. The GPR signal is then reflected back to the antenna by materials with contrasting electrical impedance, which is primarily determined by dielectric and conductivity properties of the material, its magnetic permeability, and its physical properties. The greater the contrast in the real dielectric permittivity (RDP) of two materials, the greater the reflection amplitude. Typically, high-amplitude reflections occur at lithologic or mineralogic changes, or where there is a sudden change in water content.

A material's dielectric properties are primarily determined by mineralogy, and water content. A soil with a high iron and/or magnesium content, or one that contains mineralogical clay or other platey minerals, will have a higher RPD value than a quartz-rich sand. Similarly, a soil that has a high porosity and is water saturated will have a higher RDP for the same unsaturated soil.

Reflections observed on GPR records can be non-unique, meaning that a similar reflector can be caused by different objects. Strong reflections are typically produced from metal objects, which has an RDP of 1,000, the water-table, and from clay layers. Objects, such as USTs and utilities, that have a discrete length and width, typically produce hyperbolic reflections on GPR records.

The success of the GPR methodology also depends on the amount of EM signal attenuation experienced at any given site. GPR signal attenuation is caused by four loss mechanisms:

conductive losses, molecular relaxation losses, "clay" (or interfacial polization) losses, and scattering losses (Kutrubes, 1986). By far, the greatest source of loss is caused by conduction losses, such as which occur when road salt or clay is present. Conduction losses are most severe at frequencies of 300 MHz and below. The greater the soil/medium conductivity the more attenuation and loss of resolution there will be. Road salt contributes to conduction signal loss, even in the warm months and after heavy rains, as road salt still resides within the asphalt pores and soils beneath it.

The GPR data for this project were acquired using both the GSSI SIR 2000 and GSSI SIR 3000 digital radar systems and 400 MHz antenna. GPR data were collected continuously along survey lines spaced 2.5 to 5 feet apart. GPR data were processed using GSSI's proprietary radar software processing package, RADAN©. GPR data were normalized and a 3D GPR file produced for each area. This file was visually inspected for reflectors characteristic of USTs, utilities, and other possible targets.

RESULTS

GPR signal penetration was generally fair, penetrating a maximum of 4 to 6 feet below grade, which is typical for this type of site in this area of New York, especially when road salt is a factor. In some areas where the ground was very saturated with rainwater and where other contamination may be a factor, penetration with the GPR was reduced to as little as 1.5 feet. For this reason, a greater reliance was placed on EM-61 data, which is not impacted by wet and salty conditions. The results of our survey are presented on Figures 1 through 20 of this report. All figures are presented at a scale of 1 inch = 30 feet, unless otherwise noted by the scale bar legend. Key results are presented below.

1201-1207 East Dominick Street

- Figures 1 through 3 present interpreted EM-61 and GPR results. Contoured EM-61 differential measurement data (Figure 1) indicate that there is buried metal mostly to the west and south of the existing building. The high-amplitude, linear anomalies trending south southwest from the building are indicative of piping associated with the former pump island (shown as solid grey lines). The high-amplitude, rectangularly shaped anomaly is likely attributed to the reinforced concrete pad beneath the former pump island and apron.

- Southwest and southeast trending linear anomalies located on either side of the former pump island are also attributed to buried utilities. Larger responses were at observed 70E and 45N and at 50E and 32N. The latter target is coincident with an area that has been previously excavated, as indicated by the GPR (Figures 2 and 3). However, no large hyperbolic reflectors were observed coincident with the EM anomaly. It is possible that there is a target deeper than the GPR's investigative depth, which was about 3 to 4 feet in the paved portions of this site. As with the latter target, no large GPR targets were observed coincident with the former anomaly indicated by the EM-61. However, a zone of severe GPR attenuation, which can be indicative of soil and/or groundwater contamination or a concentration of road-salt, was observed coincident and immediately south of this EM-61 target.

- The location of a suspected UST was confirmed by both EM-61 and GPR. Contoured EM-61 results (Figure 1) show piping trending from the west side of the building to the west, toward station 40E and 85N. A large EM anomaly was observed from 26E to about 38E, the approximate end of the UST, as indicated by GPR. Because of the unevenness of the ground surface, the proximity of concrete rubble and trees, it was not possible to get coverage directly over the known UST. However, based on GPR information obtained immediately adjacent and over the east edge of the UST, we believe the UST is approximately 2 feet below grade, and that is has an approximate 1,000 gallon capacity.

- Several other metal targets are indicated by GPR and EM-61. Several large hyperbolic reflectors were observed at 78E, from 30N to 40N, at an approximate 2.5 to 3 foot depth. These target(s) are coincident with the large EM anomaly coincident with the former tank pad. These large hyperbolic reflectors appear to align, and may represent two utilities that trend from the former pump island towards the large EM anomaly located at 70E and 45N and where the zone of attenuation was observed.

- Another group of large GPR reflectors observed at an approximate 4 to 4.5 foot depth suggests a target at the east edge of the pump island pad from 102E to about 112E, and from 20N to 35N. The size of this target may be indicative of another 1,000 gallon UST.

- Three additional targets were observed to the north of the building within the grass area. Two of these targets appear small in size. One target, which was observed at an approximate 3.5 to 4 foot depth and appears to have some metal associated with it, is centered at grid node 95E and 100N. A high-amplitude EM anomaly was observed coincident and immediately south of this target. It is possible that this target is associated with the septic system.

- A second metal target is indicated by the large EM anomaly centered at 145E and 125N. However, no GPR reflectors indicative of a UST were observed coincident with the anomaly. It is likely that this EM anomaly is attributed to a known septic tank the location of which was reportedly nearby based on information from aerial photos and from historical information of the site.

- The third target observed to the south of the building is immediately adjacent to the building. Large GPR reflectors were observed from 1.5 to 2 feet below grade. There also appears to be a vent pipe coincident with the target's location at 127E and 90N. This target could represent a small UST, given its location adjacent to the building and proximity to a vent pipe. However, there does not appear to be an anomaly specifically associated with this target as it is located within the large EM anomaly associated with the building. It is possible that the vent pipe is associated with the nearby AST, located at 100E and 90N, and that this target represents piping associated with the septic tank.

1030 East Dominick Street

- Figures 4 through 6 summarize GPR and EM-61 results at the 1030 East Dominick Street property. Figure 4 indicates an abundance of buried metal on this site. Large EM-61 anomalies are observed off the northwest corner of the existing building which trend from the building from 140E to 185E and 50S to the street, from 130E to 170E, and 0N.

Likewise, a large anomalous area was observed to the southwest of the building, between 100E and 300E. The large horizontal extent of this EM anomaly, as well as the large extent of the anomaly observed along the southwest property boundary, suggests that the area has been extensively filled with buried metal. Sources of the EM anomalies behind the building may include car parts, drums, and demolition debris. The large anomaly observed to the east and north of the building may represent a reinforced concrete pad, associated with the former gasoline station, as well as to buried utilities and possible USTs. Isolated, but large EM anomalies observed centered around 84E, 12S, 11.5E, 18.5S, and 13E, 74S could also be attributed to possible USTs.

- GPR signal penetration was highly variable, ranging from 1.5 to 4 feet throughout the site. Several large GPR reflectors were observed within 60 feet west of the building. One possible UST is located at an approximate 2.5 to 3 foot depth, immediately adjacent to the building from 150E to 160E and from 65S to 60S.

- Another group of large GPR reflectors is located from 120E to 126E and from about 45S to 35S. The area appears to have been previously excavated. Hence, this target could also represent a UST, probably with a capacity of 1,000 gallons or less.

- Likewise, the group of large GPR reflectors located between 120E and 135E, and 65S and 50S, could also feasibly represent two small USTs. Because of the presence of multiple large reflectors and due to the attenuation attributed to wet, clay-rich, and possibly contaminated soil, we can not confirm for certain whether these targets represent USTs; however, they appear to be metallic.

- Areas of GPR signal penetration have been delineated on Figures 5 and 6 in dark yellow dashed rule. These areas may be attributed to an area of increased moisture, increased clay within the soil, or possibly to hydrocarbon contamination. The majority of attenuation areas are not coincident with EM anomalies indicating buried metal. However, the area of attenuation observed between 100E and 120E and from 50S to 30S and immediately west and north of large EM and GPR anomalies, could feasibly be attributed to hydrocarbon attenuation.

1313-1333 East Dominick Street

<u>Grids A, B, and C:</u>

- Figures 6 through 8 summarize EM-61 and GPR results for the large area located west of the large existing building. Contoured differential results (Figure 6) indicate that there are two large areas where buried metal is located: between 78E and 102E, and 60N to 87N, and from 105E to 135E, and 10N to 45N. One of these two locations represents the location of the former gasoline station building; the other location may represent buried reinforced concrete pads and possibly USTs associated with the former station.

- GPR data indicates that the area coincident with the large EM anomalous area located between 78E and 102E and 60N to 87N, has been previously excavated or that the ground has been disturbed. No large GPR reflectors were observed coincident with the large EM target. Several small, shallow targets were observed coincident with the second large EM anomalous area. A handful of large, weak-amplitude GPR reflectors were also observed within the area. Two weak reflectors were observed as deep as 3.5 feet. However, none of these targets appear to group together, and most large targets were observed at depths no greater than 1.5 feet. A GPR anomaly indicative of a buried concrete slab, possibly associated with the former pump island, was observed near 120E and 27N.

- A third, moderately large area where EM anomalies were observed is present between 140E and 165E and from 5N and 30N. The shape of the highest amplitude area suggests two long, narrow targets, possibly buried utilities. However, GPR targets indicative of buried USTs were not observed coincident with the EM anomalies. The deepest target was observed at an approximate 2 foot depth.

Grids D, E, F, G:

- Figures 10 through 12 summarize results from Grids D through G at the 1313-1333 East Dominck site. Figure 10 indicates that other than interference from the building, and from reinforced concrete structures and curbing, there is a limited amount of buried metal. There appears to be four areas in Grids D, E, and G, that could feasibly represent buried metal. One potential target is located near 80W and 10N of Grid D, although the proximity of above-ground sources of interference and the lack of large GPR targets suggest that the anomaly may be attributed to a non-UST source, such as a utility.

- Similarly, EM-61 results indicate that there is possibly buried metal in Grid E at 82W and 60N. However, no GPR targets were observed coincident with it, and again there is a above-ground structure that may elevate differential measurement values.

- Two large GPR reflectors were observed at an approximate 2 foot depth at the southwest corner of the area of investigation, adjacent to the building. The associated EM anomaly is relatively small and can likely be attributed to the adjacent building. Hence, the GPR target may be more likely to be attributed to a large diameter utility crossing the grid at an angle rather than to a small UST.

- In Grid G, a large GPR target was observed at an approximate 2 foot depth between 0E and 25E and from 7N to 18N. The target appears to be oblique to the survey grid, and there is a large EM anomaly coincident with it. This target is likely to represent a UST.

508 West Liberty Street

- Figures 13 through 15 summarize geophysical results at the 508 West Liberty Street property. Contoured EM-31 results indicate that buried metal, shown as a negative conductivity value (dark blue to black filled contours) on Figure 13, is present between 15E and 35E and 50S and 80S. A group of large GPR reflectors are observed coincident within the EM anomaly, from 10E to 35E and 52S to 60S, is attributed to a 10,000 gallon UST known to exist, but whose exact location was unknown (Figure 14). This UST is approximately 2 to 2.5 feet below the reinforced concrete slab and is oriented roughly parallel to grid east-west.

- A second, large negative conductivity anomaly was observed between 45E and 55E, and from 90S to 70S. No large GPR target was observed coincident to this anomaly. However, it is possible that there is another large metal target present south and east of the 10,000 gallon UST.

- Another group of large GPR reflectors were observed at an approximate 3 foot depth, between 62E and 80E and from 80S to 72S, which could represent another, smaller, UST. However, there is not much of an EM anomaly coincident with the group of GPR reflectors.

- A utility is indicated in contoured EM-31, trending parallel to 5E, from 0S to 100S. The EM anomaly appears to enlarge to the south, as one approaches the building. It is possible that the anomaly observed south of 102S is attributed to a UST. However, it is equally possible that the anomaly is attributed to the proximity of the building, especially as there were no large GPR reflectors observed coincident with the large EM anomaly.

- A second utility is indicated trending from 120S and 20E to 21E, 190S. The anomaly continues further to the south, from 190S to the street at 230S. Large GPR targets were observed at an approximate 4 foot depth from 190S to 230S. Given the elongated shape of the target, it is likely that the source of this anomaly is attributed to a buried utility and not to a UST

701 Lawrence Street

- Figures 16 through 18 summarize results from the 701 Lawrence property. Figure 16 shows contoured EM-61 results, and indicates that there is buried metal east of 50E and in proximity to the former building. There are also isolated areas where buried metal is indicated, such as near 90W, 172S, 70W, 181S, and 45W, 165S. GPR signal penetration was again limited, primarily due to wet, saturated conditions. There were no large hyperbolic reflectors observed coincident with these and other EM anomalies that would suggest the presence of USTs, but that is likely due to the limited investigative depth.

- There are indications that the ground has been excavated and/or disturbed in the west portion of the site, and in other isolated areas throughout the site.

Lawrence and Martin Streets

- Figures 19 and 20 present contoured EM-61 data from the third time gate (Figure 19) and differential results (Figure 20). The purpose of conducting EM-61 survey at either edge of the roadway was to determine the location of the buried piping trending from the large ASTs stored on the property to the canal distribution center, located north of Martin Street. Contoured EM-61 data indicates that the pipes trend from 262E, 25S where a 48 inch diameter pipe is visible, to 0N, 238E, to 200E, 40N, to 190E, 47N, where the pipe appears to daylight again.

- A second, smaller pipe may cross the road, trending from 246E, 0N to 246E, 40N. There is no clear indication of additional pipes crossing the road, although, there is a remote possibility that there is another northwest trending pipe located at the western portion of the area of investigation.

SUMMARY

The presence of one UST has been confirmed at the 1201-1207 East Dominick site. The UST is centered around Grid node 30E and 85N and appears to be no larger than a 1,000 gallon capacity UST. There are several other large EM anomalies. A large GPR target, which could represent another UST was observed just east of the former tank island, near 105E and 15N at an approximate 3.5 to 4 foot depth. Likewise, GPR data indicate another large target near 80E and 35N located at an approximate 2.5 foot depth. However, these reflectors may also be attributed to UST related piping, trending from the former pump island to another large EM anomaly located at 70E and 45N. A zone of attenuation was observed coincident with this EM anomaly, which can possibly be attributed to hydrocarbon contamination. Other potential buried metal targets of unknown origin are shown on Figure 3.

There are numerous indications of buried metal on the 1030 East Dominick property. The majority of buried metal located south and far to the west of the existing building are attributed to metal within the fill material, possibly due to car parts, drum fragments, and reinforced concrete demolition debris. To the immediate west of the building, there appear to be numerous large GPR targets coincident with large EM anomalies. Some of these targets may be attributed to small USTs, such as those with a 500 to 1,000 gallon capacity.

Likewise, there are three large anomalous areas located to the west of the existing building within Grid A of the 1313 to 1333 East Dominick property. The anomalous EM areas are likely caused by buried metal from the remnants of the former gasoline station that reportedly existed and was demolished. The rectangular shaped EM anomaly located between 80E and 100E and from 60N to 90N may be attributed to the floor slab of the former building. The larger anomalous area located to the southeast between 105E to 130E and from 15N to 50N may be attributed to remnants of the former pump island and possibly to USTs. GPR signal penetration was limited, so large GPR reflectors indicative of USTs were not observed coincident with the large EM anomalies.

At the 1313-1333 Site, within Grids D through G, there is one probable UST within Grid G near 12E and 14N. There are other large EM anomalies; however, there are no corresponding large GPR reflectors that would suggest additional USTs.

At the 508 West Liberty Site, GPR and EM-31 confirmed the location of the 10,000 gallon UST known to exist on site, but whose location was unknown. A second, smaller UST may be present near 75E and 77S, as evidenced by large GPR reflectors. However, there is no large EM anomaly coincident with the target observed on the GPR data. There also appears to be two utilities trending parallel to 5E and 20E, with large EM anomalies located to the south of these pipes. However, the observed EM anomalies are likely attributed to the building's proximity and to a large diameter, deep utility.

At the 701 Lawrence Street property, the eastern half of the site appears to contain buried metal. Given the lack of GPR signal penetration, no deep GPR targets were identified to confirm that some of these metal targets represent USTs. There are several EM anomalies in the western portion of the stie which indicate isolated buried metal targets. Again, the presence of USTs coincident with these EM anomalies could not be confirmed due to the lack of GPR signal penetration.

The location of one large diameter pipe associated with the distribution system trending from the large ASTs to the canal was located using the EM-61. The pipe trends from 262E, 25S, where it was observed, to 0N, 238E, to 200E, 40N, to 190E, 47N, where the pipe is visible again. A second, smaller diameter pipe is present to the east of the large 48 diameter pipe, trending parallel to 246E.

RECOMMENDATIONS

As the nature of geophysics is subjective, RSI recommends the following test pits as confirmation for our interpretation. Please excavate with caution, as not all utilities may have been detected and delineated on our GPR map.

<u>1201-1206 East Dominick:</u>

1. 34E, 84N: probable UST, 1,000 gallon capacity observed about 1.5 to 2 feet below grade
2. 106E, 27N: possible UST, 1,000 gallon capacity observed about 3.5 to 4 feet below grade
3. 77.5E, 33.5N: possible UST or large diameter utilities observed 2 to 2.5 feet below grade
4. 71E, 46.5N: possible UST, Large EM anomaly coincident with an area of attenuation
5. 48E, 33.5N: tentative UST, large EM anomaly possibly associated with UST or utility
6. 124.5E, 92.5N: possible small UST in proximity to possible vent pipe. Minimal EM anomaly
7. 95E, 99N: buried metal target possible associated with septic system
8. 143.5E, 125.5N: large EM anomaly probably associated with septic tank

<u>1030 East Dominick:</u>

1. 124.5E, 92.5N: possible 500-1,000 gallon UST observed 2.5 to 3 feet below grade
2. 95.E, 99.N: possible 500 to 1,000 gallon UST observed 2.5 to 3 feet below grade.
3. 143.5E, 125.5N: possible 500 to 1,000 gallon UST observed 2.5 to 3 feet below grade
4. 151E, 58S: Possible UST coincident with Large EM anomaly and weak GPR reflectors observed 2.5 to 3 feet below grade.
5. 172E, 32S: Large EM anomaly with no GPR reflectors
6. 113E, 54S: Large EM anomaly with no GPR reflectors
7. 91.5E, 53S: Large EM anomaly with no GPR reflectors
8. 84E, 22S: Large EM anomaly with no GPR reflectors
9. 110, 85E: Large EM anomaly with no GPR reflectors
10. 12E, 28S: Large EM anomaly with no GPR reflectors
11. 13E, 85S: Large EM anomaly with no GPR reflectors

1313 - 1331 East Dominick Grids A-C:

1. Grid A: 89E, 82.5N: Possible UST or Floor Slab: Large EM anomaly coincident with possible excavation.
2. 125E, 41.5N: large EM anomaly associated with possible UST or pump island
3. 112E, 25.5N: large EM anomaly associated with possible UST or pump island
4. 116E, 14N: large EM anomaly associated with possible UST or pump island
5. 146.5E, 17N: large EM anomaly associated with possible UST or pump island
6. 162E, 18.5N: large EM anomaly associated with possible UST or utility
7. 181E, 28N: large EM anomaly associated with possible UST or utility

1313 - 1331 East Dominick Grids D-G:

1. Grid E: 12.5W, 50N, tentative UST, possible utility coincident with large EM anomaly
2. Grid G: 14.5E, 13N: possible UST, 1,000-2,000 gallons observed at approximately 2.0 feet below grade.

508 West Liberty:

1. 23.5E, , 55S: probable 10,000 gallon UST located 2.0 to 2.5 feet below grade
2. 70E, 76S: possible UST, 1,000 gallon capacity located 3.0 to 3.5 feet below grade

701 Lawrence:

1. 42W, 27S: large EM anomaly of uncertain origin
2. 46W, 168S: large EM anomaly of uncertain origin
3. 71W, 184S: large EM anomaly of uncertain origin
4. 90.5W, 175S: large EM anomaly of uncertain origin

***

We appreciate this opportunity to work with Barton and Loguidice again. Please call should you have any inquiries regarding this or future assignments.

Sincerely,
RADAR SOLUTIONS INTERNATIONAL

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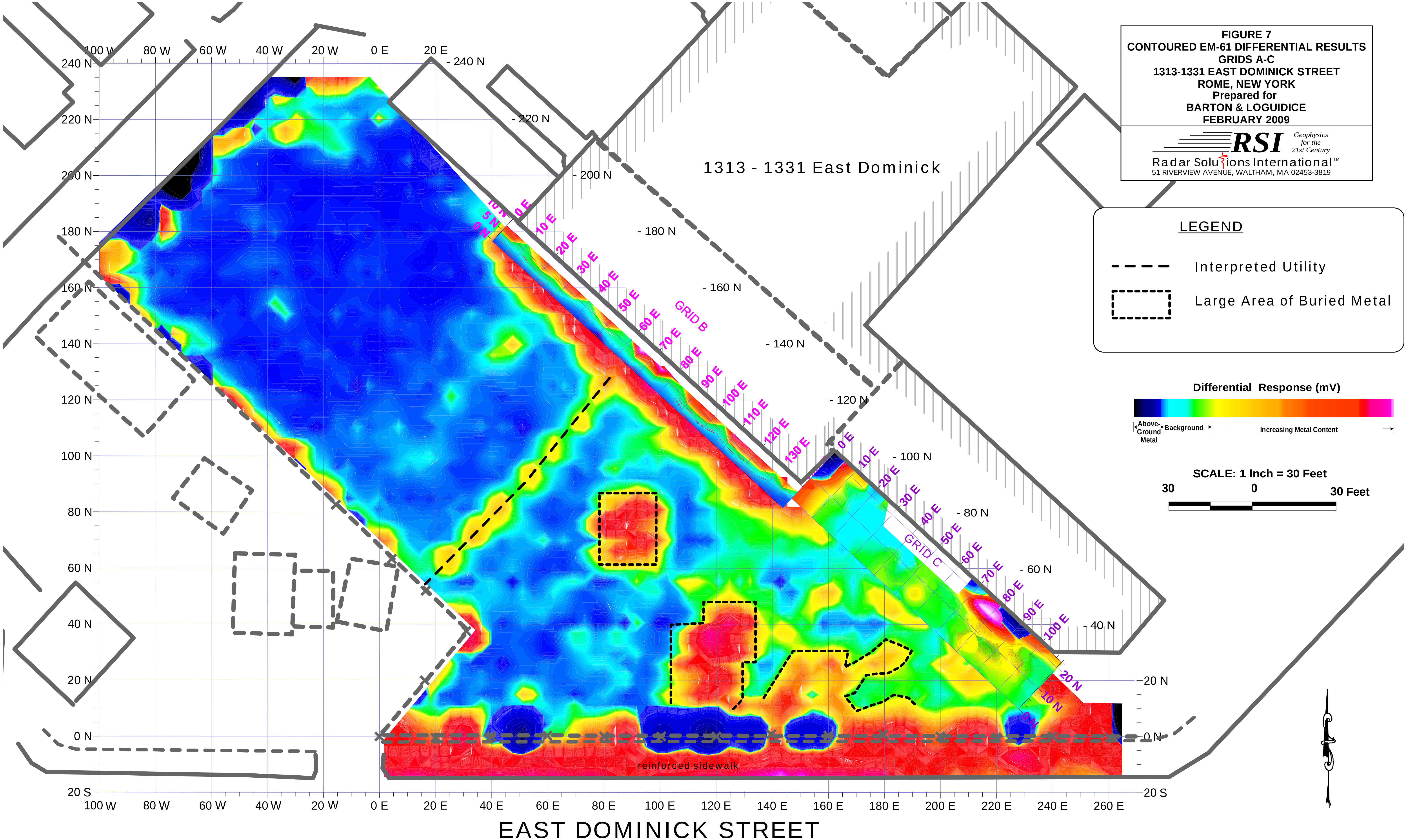
FIGURE 7
CONTOURED EM-61 DIFFERENTIAL RESULTS
GRIDS A-C
1313-1331 EAST DOMINICK STREET
ROME, NEW YORK
Prepared for
BARTON & LOGUIDICE
FEBRUARY 2009
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Geophysics for the 21st Century
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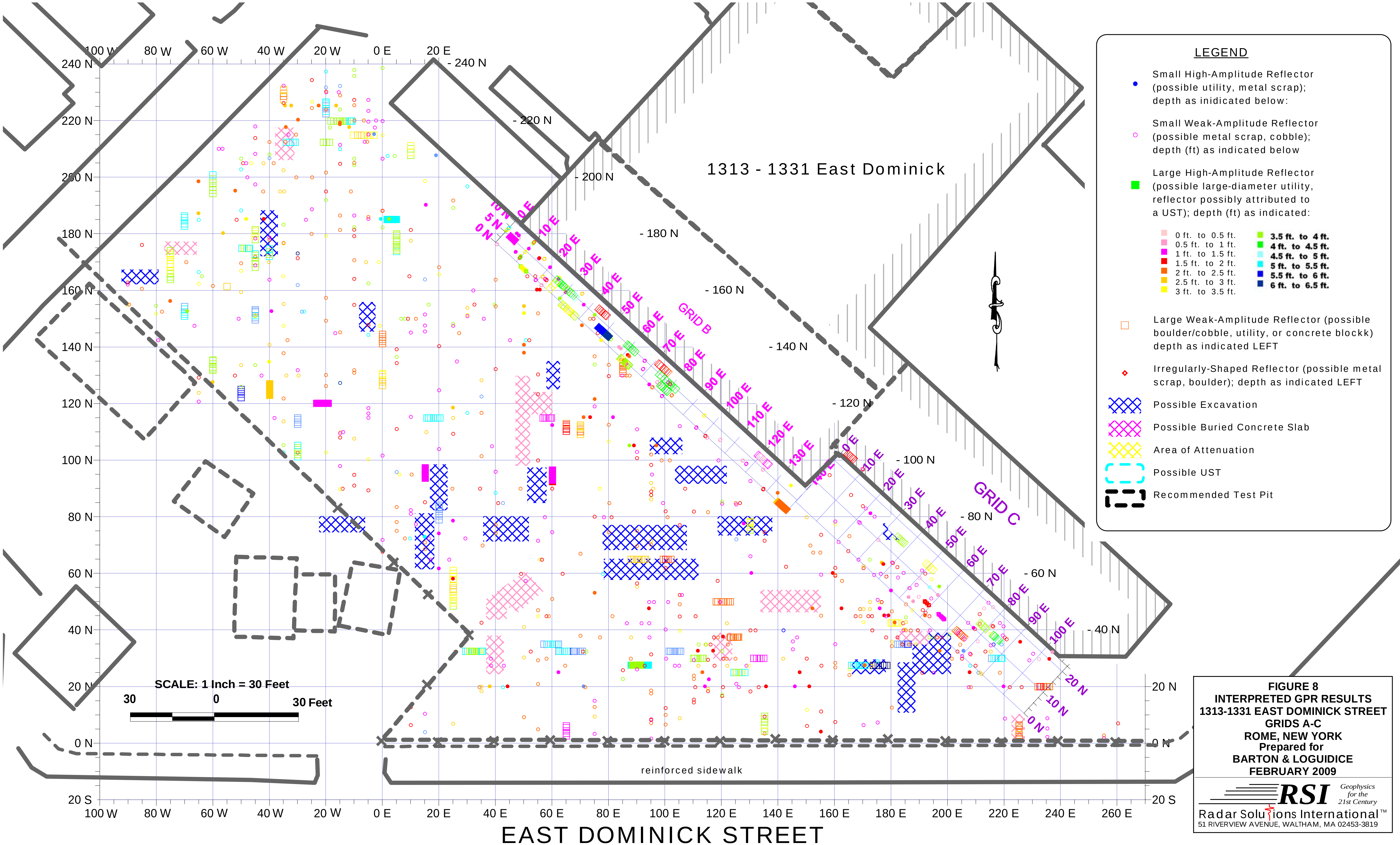
51 RIVERVIEW AVENUE, WALTHAM, MA 02453-3819
LEGEND
Interpreted Utility
Large Area of Buried Metal
Differential Response (mV)
Above Ground Metal
Background
Increasing Metal Content
SCALE: 1 Inch = 30 Feet
30
0
30 Feet
1313 - 1331 East Dominick
GRID B
GRID C
reinforced sidewalk
EAST DOMINICK STREET



1313 - 1331 East Dominick
EAST DOMINICK STREET
reinforced sidewalk
GRID B
GRID C
SCALE: 1 Inch = 30 Feet
30
0
30 Feet
100 W
80 W
60 W
40 W
20 W
0 E
20 E
40 E
60 E
80 E
100 E
120 E
140 E
160 E
180 E
200 E
220 E
240 E
260 E
240 N
220 N
200 N
180 N
160 N
140 N
120 N
100 N
80 N
60 N
40 N
20 N
0 N
20 S
LEGEND
Small High-Amplitude Reflector (possible utility, metal scrap); depth as inidicated below:
Small Weak-Amplitude Reflector (possible metal scrap, cobble); depth (ft) as indicated below
Large High-Amplitude Reflector (possible large-diameter utility, reflector possibly attributed to a UST); depth (ft) as indicated:
0 ft. to 0.5 ft.
0.5 ft. to 1 ft.
1 ft. to 1.5 ft.
1.5 ft. to 2 ft.
2 ft. to 2.5 ft.
2.5 ft. to 3 ft.
3 ft. to 3.5 ft.
3.5 ft. to 4 ft.
4 ft. to 4.5 ft.
4.5 ft. to 5 ft.
5 ft. to 5.5 ft.
5.5 ft. to 6 ft.
6 ft. to 6.5 ft.
Large Weak-Amplitude Reflector (possible boulder/cobble, utility, or concrete blockk) depth as indicated LEFT
Irregularly-Shaped Reflector (possible metal scrap, boulder); depth as indicated LEFT
Possible Excavation
Possible Buried Concrete Slab
Area of Attenuation
Possible UST
Recommended Test Pit
FIGURE 8
INTERPRETED GPR RESULTS
1313-1331 EAST DOMINICK STREET
GRIDS A-C
ROME, NEW YORK
Prepared for
BARTON & LOGUIDICE
FEBRUARY 2009
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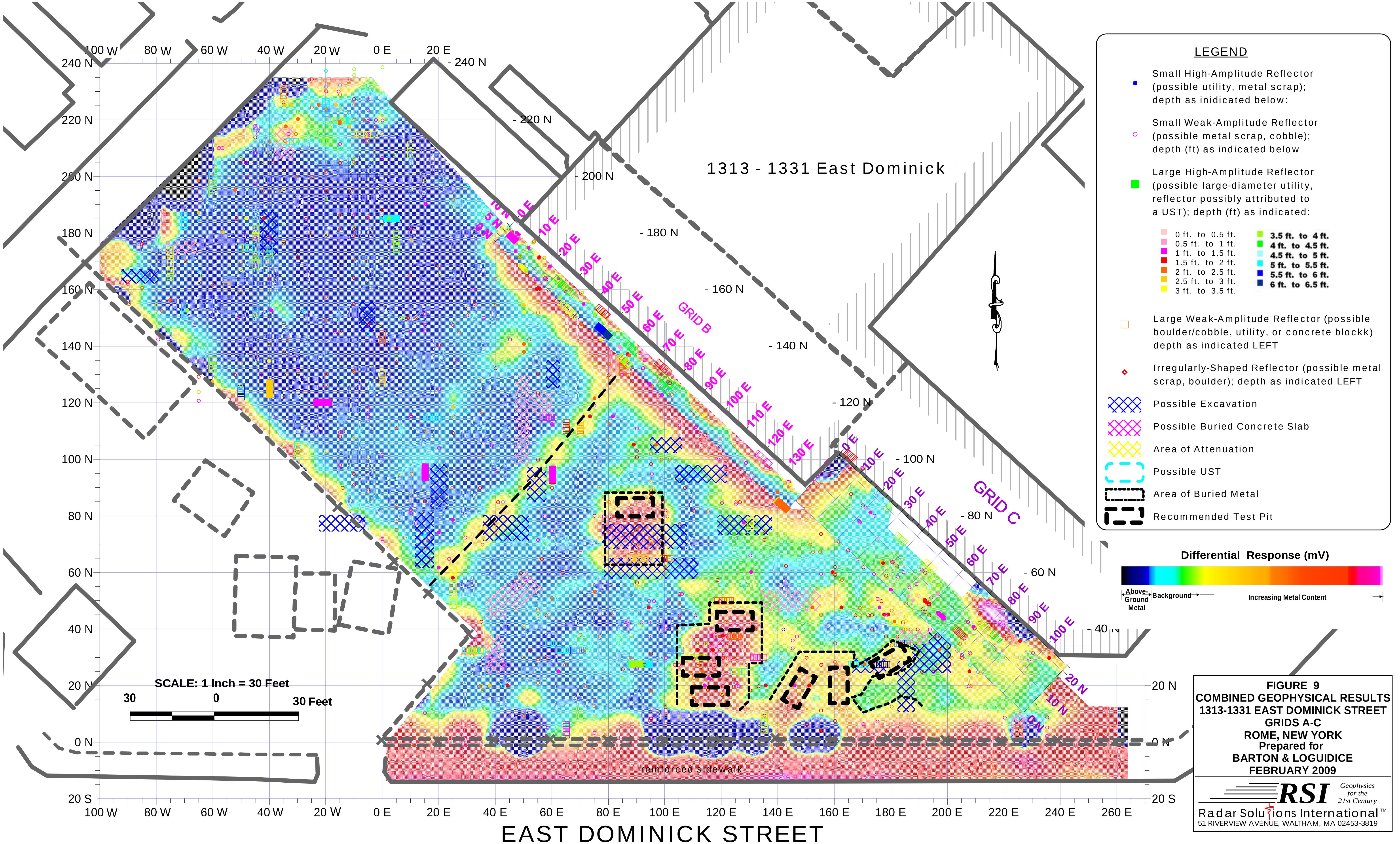

LEGEND
Small High-Amplitude Reflector (possible utility, metal scrap); depth as inidicated below:
Small Weak-Amplitude Reflector (possible metal scrap, cobble); depth (ft) as indicated below
Large High-Amplitude Reflector (possible large-diameter utility, reflector possibly attributed to a UST); depth (ft) as indicated:
0 ft. to 0.5 ft.
0.5 ft. to 1 ft.
1 ft. to 1.5 ft.
1.5 ft. to 2 ft.
2 ft. to 2.5 ft.
2.5 ft. to 3 ft.
3 ft. to 3.5 ft.
3.5 ft. to 4 ft.
4 ft. to 4.5 ft.
4.5 ft. to 5 ft.
5 ft. to 5.5 ft.
5.5 ft. to 6 ft.
6 ft. to 6.5 ft.
Large Weak-Amplitude Reflector (possible boulder/cobble, utility, or concrete blockk) depth as indicated LEFT
Irregularly-Shaped Reflector (possible metal scrap, boulder); depth as indicated LEFT
Possible Excavation
Possible Buried Concrete Slab
Area of Attenuation
Possible UST
Area of Buried Metal
Recommended Test Pit
Differential Response (mV)
Above-Ground Metal
Background
Increasing Metal Content
1313 - 1331 East Dominick
GRID B
GRID C
reinforced sidewalk
EAST DOMINICK STREET
SCALE: 1 Inch = 30 Feet
30
0
30 Feet
100 W
80 W
60 W
40 W
20 W
0 E
20 E
40 E
60 E
80 E
100 E
120 E
140 E
160 E
180 E
200 E
220 E
240 E
260 E
240 N
220 N
200 N
180 N
160 N
140 N
120 N
100 N
80 N
60 N
40 N
20 N
0 N
20 S
FIGURE 9
COMBINED GEOPHYSICAL RESULTS
1313-1331 EAST DOMINICK STREET
GRIDS A-C
ROME, NEW YORK
Prepared for
BARTON & LOGUIDICE
FEBRUARY 2009
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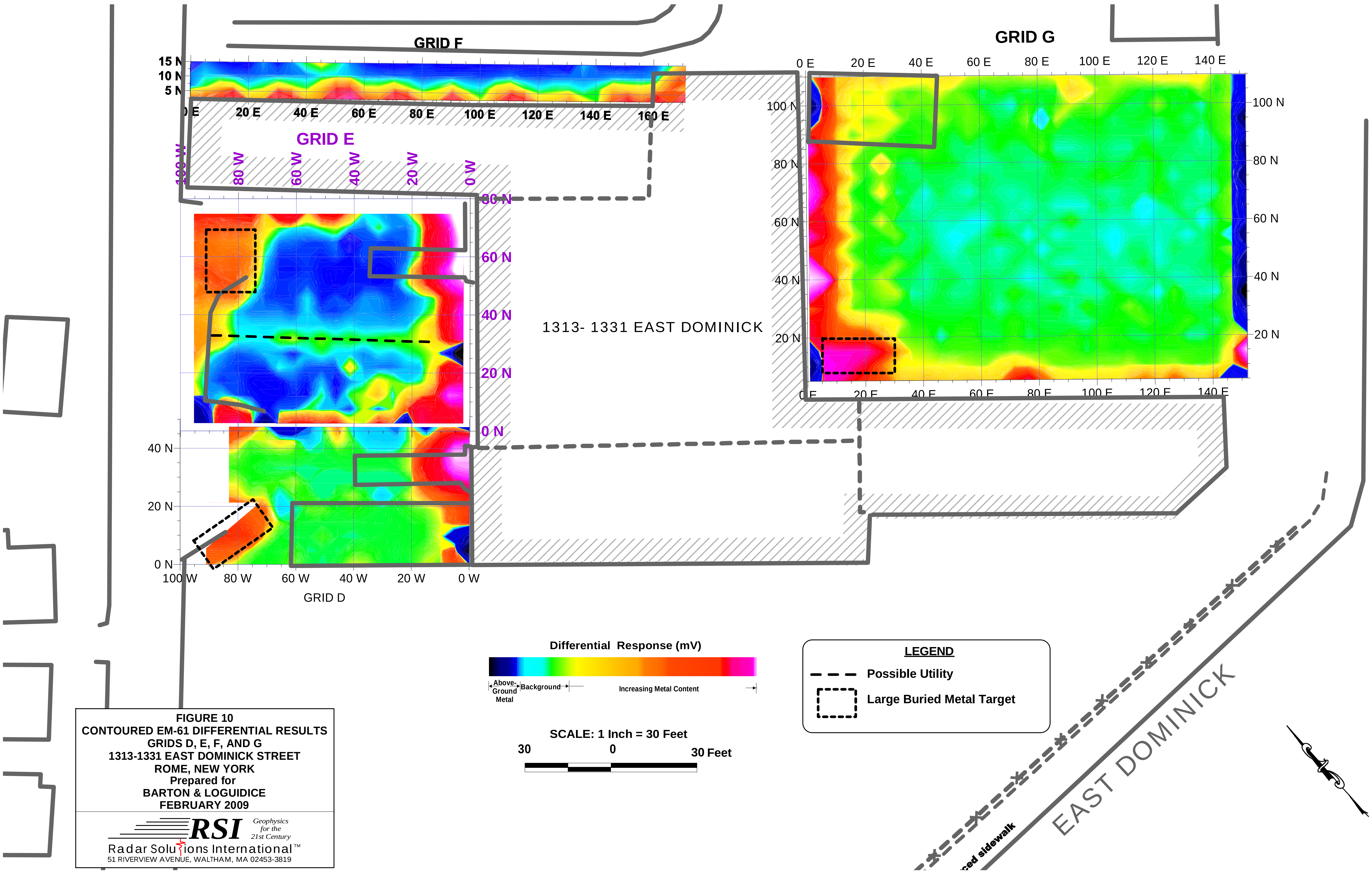

FIGURE 10
CONTOURED EM-61 DIFFERENTIAL RESULTS
GRIDS D, E, F, AND G
1313-1331 EAST DOMINICK STREET
ROME, NEW YORK
Prepared for
BARTON & LOGUIDICE
FEBRUARY 2009

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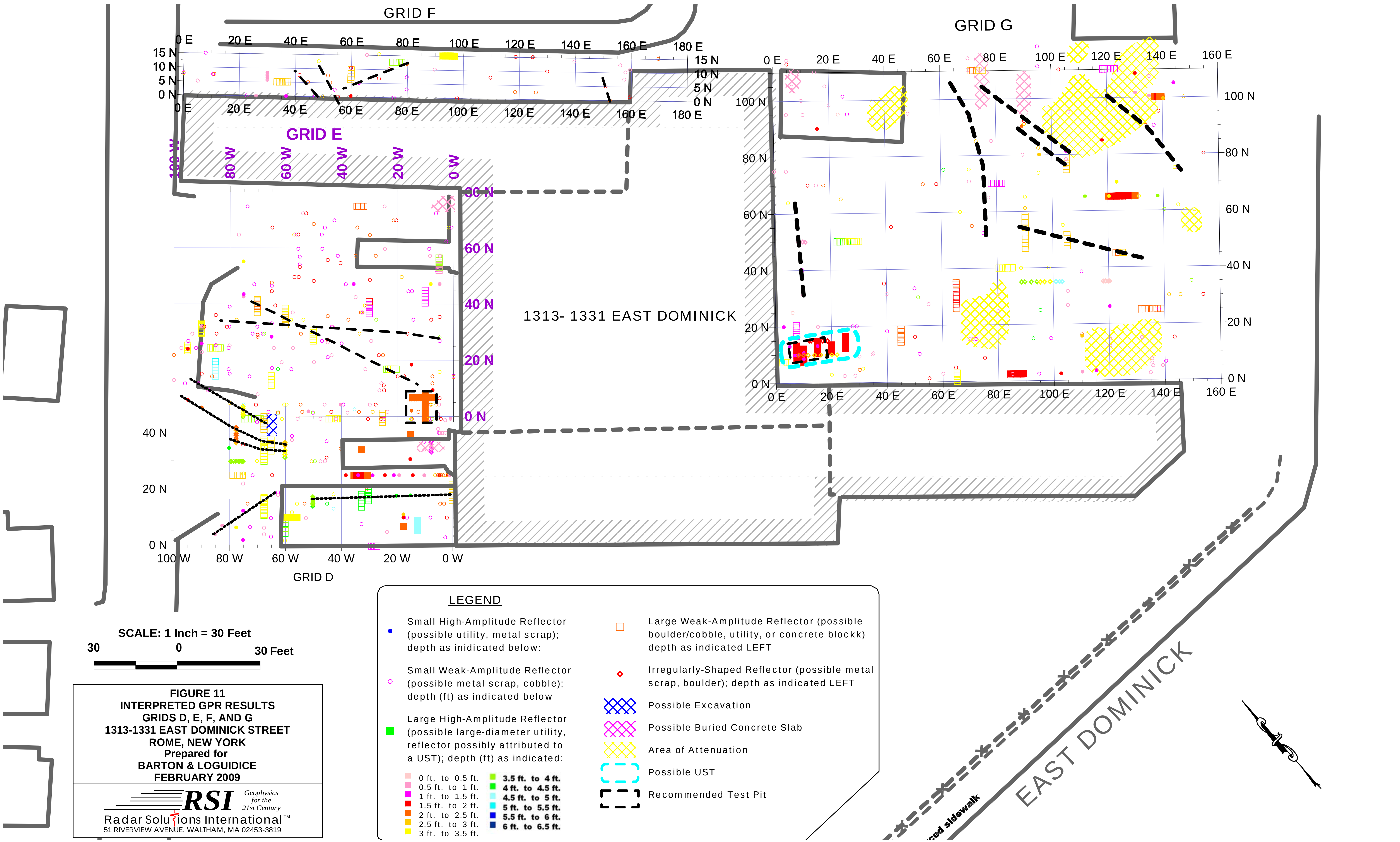

FIGURE 11
INTERPRETED GPR RESULTS
GRIDS D, E, F, AND G
1313-1331 EAST DOMINICK STREET
ROME, NEW YORK
Prepared for
BARTON & LOGUIDICE
FEBRUARY 2009

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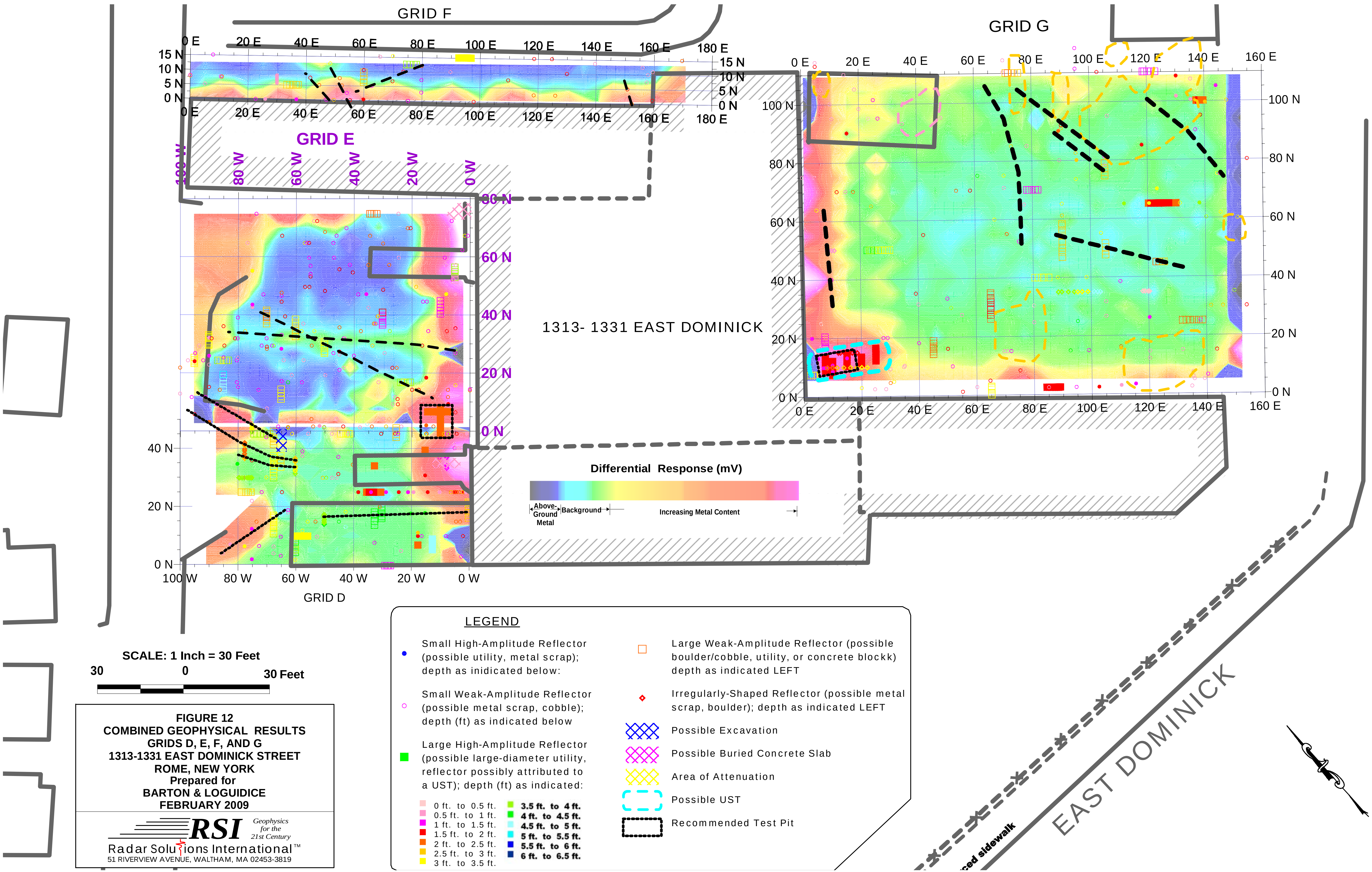

FIGURE 12
COMBINED GEOPHYSICAL RESULTS
GRIDS D, E, F, AND G
1313-1331 EAST DOMINICK STREET
ROME, NEW YORK
Prepared for
BARTON & LOGUIDICE
FEBRUARY 2009

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Appendix C

CAMP Data Summary Sheets

Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

CITY OF ROME ERP - B&L #245.005
1313-1333 EAST DOMINICK STREET SITE
CAMP DATA: TEST PIT ACTIVITIES - DOWNWIND (pDR-1000 logged readings)

DATE	TIME	Avg mg/m³	NOTES
5/12/2012	14:00	0.023	S/N 04933
	14:15	0.018	
5/13/2009	8:15	0.025	S/N 04933 , Downwind CAMP on fence near Holland Ave and East Dominick St
	8:30	0.023	
	8:45	0.025	
	9:00	0.023	
	9:15	0.017	
	9:30	0.016	
	9:45	0.02	
	10:00	0.016	
	10:15	0.012	
	10:30	0.011	
	10:45	0.015	
	11:00	0.012	
	11:15	0.014	
	11:30	0.013	Lunch
	11:45	0.015	Lunch
	12:00	0.024	Lunch
	12:15	0.018	
	12:30	0.015	
	12:45	0.015	
	13:00	0.017	
	13:15	0.015	
	13:30	0.011	
	13:45	0.014	
	14:00	0.016	
	14:15	0.019	
	14:30	0.023	
	14:45	0.026	
	15:00	0.066	Move both CAMP stations to new locations in courtyard - downwind on fence
	15:15	0.01	
	15:30	0.01	

Notes:
Instrument time was set incorrectly and therefore the time information presented above has been adjusted.
Instrument calibrated 5/12/09 at ~7:40 am
Instrument calibrated 5/13/09 at ~7:45 am
Initial downwind CAMP station on fence near Holland Ave and East Dominick St (DOWNWIND CAMP #1)
Moved downwind CAMP station at 14:55 to fence perpendicular to Gansevoort Ave (DOWNWIND CAMP #2)

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CITY OF ROME ERP - B&L #245.005
1313-1333 EAST DOMINICK STREET SITE
CAMP DATA: TEST PIT ACTIVITIES - UPWIND (pDR-1000 logged readings)

DATE	TIME	Avg mg/m³	NOTES
5/12/2012	14:00		No data available
	14:15		No data available
5/13/2009	8:15	0.052	S/N 04955, upwind CAMP on concrete steps
	8:30	0.024	
	8:45	0.027	
	9:00	0.027	
	9:15	0.022	
	9:30	0.02	
	9:45	0.021	
	10:00	0.023	
	10:15	0.014	
	10:30	0.015	
	10:45	0.015	
	11:00	0.015	
	11:15	0.023	
	11:30	0.019	Lunch
	11:45	0.016	Lunch
	12:00	0.017	Lunch
	12:15	0.015	
	12:30	0.024	
	12:45	0.018	
	13:00	0.016	
	13:15	0.016	
	13:30	0.017	
	13:45	0.027	Upwind CAMP station moved to new location by double garage loading back off of Nock St
	14:00	0.019	
	14:15	0.036	
	14:30	0.018	
	14:45	0.022	
	15:00	0.02	Move both CAMP stations to new locations in courtyard - upwind on brick wall, downwind on fence (photos)
	15:15	0.025	
	15:30	0.023	

Notes:
Instrument time was set incorrectly and therefore the time information presented above has been adjusted.
Instrument calibrated 5/12/09 at ~7:40 am
Instrument calibrated 5/13/09 at ~7:45 am
Initial upwind CAMP station located on concrete steps on SW facing side of building near East Dominick St (UPWIND CAMP #1)
Moved upwind CAMP station at 13:40 to double garage loading bays off Nock St (UPWIND CAMP #2)
Moved upwind CAMP station at 14:55 to NE facing side of brick building in courtyard area (UPWIND CAMP #3)

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CITY OF ROME ERP - B&L #245.005
1313-1333 EAST DOMINICK STREET SITE
CAMP DATA: TEST PIT ACTIVITIES - DOWNWIND (MiniRae Log)

Instrument: MiniRAE 2000 (PGM7600)   Serial Number: 011576

Line#	Date Time	Avg(ppm) STEL	Avg(ppm) TWA	Avg(ppm) AVG	Max(ppm) STEL	Max(ppm) TWA	Max(ppm) AVG	Notes
1	5/12/2009 13:45			No data available				
2	5/12/2009 14:00			No data available				
3	5/12/2009 14:15			No data available				
4	5/12/2009 14:30			No data available				
1	5/13/2009 8:15	0.4	0	0.4	1.9	0.1	1.9	
2	5/13/2009 8:30	0.9	0	0.7	2.4	0.1	2.1	
3	5/13/2009 8:45	1.2	0.1	0.8	2.7	0.2	2.3	
4	5/13/2009 9:00	1.4	0.1	1	3.6	0.3	2.7	
5	5/13/2009 9:15	1.5	0.2	1.1	3.6	0.4	2.8	
6	5/13/2009 9:30	1.9	0.2	1.2	4	0.6	3	
7	5/13/2009 9:45	2	0.3	1.3	3.8	0.7	3.1	
8	5/13/2009 10:00	1.8	0.3	1.4	4	0.8	3.3	
9	5/13/2009 10:15	1.7	0.4	1.4	3.5	0.9	3.3	
10	5/13/2009 10:30	1.8	0.5	1.5	3.9	1	3.3	
11	5/13/2009 10:45	2.2	0.5	1.5	4.2	1.2	3.4	
12	5/13/2009 11:00	2.4	0.6	1.6	4.1	1.3	3.5	
13	5/13/2009 11:15	2.4	0.7	1.7	3.9	1.4	3.5	
14	5/13/2009 11:30	2.4	0.8	1.7	3.8	1.5	3.5	Lunch
15	5/13/2009 11:45	2.4	0.8	1.8	3.9	1.7	3.6	Lunch
16	5/13/2009 12:00	2.2	0.9	1.8	3.7	1.8	3.6	Lunch
17	5/13/2009 12:15	2.2	1	1.8	3.7	1.9	3.6	
18	5/13/2009 12:30	2.1	1	1.8	3.8	2	3.6	
19	5/13/2009 12:45	2.1	1.1	1.8	3.8	2.1	3.6	
20	5/13/2009 13:00	2	1.2	1.9	3.8	2.3	3.6	
21	5/13/2009 13:15	2.1	1.2	1.9	3.7	2.4	3.6	
22	5/13/2009 13:30	2.1	1.3	1.9	3.3	2.5	3.6	
23	5/13/2009 13:45	2.1	1.4	1.9	3.3	2.6	3.6	
24	5/13/2009 14:00	2.2	1.4					
25	5/13/2009 14:15	2.2	1.5	1.9	3.5	2.8	3.6	
26	5/13/2009 14:30	2.6	1.6	1.9	4.1	2.9	3.6	
27	5/13/2009 14:45	3	1.7	2	4.5	3.1	3.6	
28	5/13/2009 15:00	2.6	1.7	2	4.1	3.2	3.6	Moved meter
29	5/13/2009 15:15	2.1	1.8	2	3.6	3.3	3.6	

Notes:
Instrument time and date were set incorrectly and therefore the time/date information presented above has been adjusted.
PID gas and fresh air calibrated at ~7:40 am (5/12/09)
PID fresh air calibrated at ~7:45 am (5/13/09)
Initial downwind CAMP station located on fence near Holland Ave and East Dominick St (DOWNWIND CAMP #1)
Moved downwind CAMP station at 14:55 to fence perpendicular to Gansevoort Ave (DOWNWIND CAMP #2)

CITY OF ROME ERP - B&L #245.005
1313-1333 EAST DOMINICK STREET SITE
CAMP DATA: TEST PIT ACTIVITIES - UPWIND (MiniRae manual readings)

DATE	TIME	PID (ppm)	NOTES
5/12/2009	13:45	0.2	Site: 1333 E. Dominick St (test pits) - PID gas and fresh air calibrated at ~7:40 am (5/12/09)
	14:00	0.2	
	14:15	0.2	
	14:30	0.2	CAMP disassembled
5/13/2009	8:15	0	Site: 1333 E. Dominick St (test pits) - PID fresh air calibrated at ~7:45 am (5/13/09)
	8:30	0	Upwind CAMP station on concrete steps on SW facing side of building
	8:45	0	
	9:00	0.1	
	9:15	0.1	
	9:30	0.2	
	9:45	0.3	Background
	10:00	0.3	
	10:15	0.3	
	10:30	NR	
	10:45	0.2	
	11:00	0.2	
	11:15	0.2	
	11:30	NR	Lunch
	11:45	NR	Lunch
	12:00	NR	Lunch
	12:15	0	
	12:30	0	
	12:45	0	
	13:00	0	
	13:15	0.2	
	13:30	0.2	
	13:40	NR	Upwind CAMP station moved to new location by double garage loading back off of Nock St
	13:45	0.3	
	14:00	NR	
	14:15	0.1	
	14:30	0.2	
	14:45	NR	
	14:55	NR	Move both CAMP stations to new locations in courtyard - upwind on brick wall
	15:00	0.2	
	15:15	2.8	
	15:30	1.3	
	15:40	1.1	CAMP disassembled

Notes:
Instrument time and date were set incorrectly and therefore the time/date information presented above has been adjusted.
PID gas and fresh air calibrated at ~7:40 am (5/12/09)
PID fresh air calibrated at ~7:45 am (5/13/09)
Initial upwind CAMP station located on concrete steps on SW facing side of building near East Dominick St (UPWIND CAMP #1)
Moved upwind CAMP station at 13:40 to double garage loading bays off Nock St (UPWIND CAMP #2)
Moved upwind CAMP station at 14:55 to NE facing side of brick building in courtyard area (UPWIND CAMP #3)

Appendix D

Test Pit Logs

Barton & Loguidice, P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

1201 EAST DOMINICK STREET

TEST PIT LOG

TP-05

SHEET 8 OF 8

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/12/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
1 2 3 4 5 6 7 8 9 10	NO ELEVATED PID READINGS	Brown SAND AND GRAVEL, some Cobble (FILL)	Electrical conduit and copper piping (1" dia.) apparently runs from street to building toward pump island, water observed in pipe. No visual/olfactory evidence of contamination.	001-007

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	7 ft	6 ft x 6 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-05

COMMENTS:

file no.: img_003.jpg

Barton & Loguidice, P.C.

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1201 EAST DOMINICK STREET

TEST PIT LOG

TP-06

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/12/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–6	Max 0.3 (back-ground)	Brown fine to medium SAND AND GRAVEL, loose, trace coarse Gravel and fine Cobble.	Approx. 2 ft square piece of scrap metal encountered at ~1 ft bgs. No visual/olfactory evidence of contamination observed.	048-050

Depth scale (ft): 1 2 3 4 5 6 7 8 9 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	6 ft	5 ft x 8 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-06

COMMENTS:

file no.'s: img_048.jpg, img__049.jpg

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1201 EAST DOMINICK STREET
TEST PIT LOG

TP-07

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/12/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
1 2 3 4 5	max 0.2	Brown fine to medium SAND AND GRAVEL, little to trace coarse Gravel and fine to medium Cobble, loose.	Following vent pipe attached to side of building. Vent pipe turns and runs horizontally, parallel to the building, then turns into building wall. Vertical section of vent pipe damaged during excavation and removed. Heavy oil observed in piping. Horizontal section still in tact and was rotated upright and covered (left above ground). No visual/olfactory evidence of contamination observed in test pit.	040-047
6 7 8 9 10				

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
6-7 ft	7.5 ft	10 ft x 10 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-07

COMMENTS:

file no.: img_043.jpg

Image shows loose vertical section of vent pipe and, where broken near building, the remaining section, still attached which was covered and rotated prior to backfilling so that pipe is exposed.

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1201 EAST DOMINICK STREET
TEST PIT LOG

TP-08
SHEET 8 OF 8

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/12/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–7.5	2.2 (at ~2 ft); 0.0 (at ~7 ft)	Brown SAND and GRAVEL, some Cobble, trace Silt Buried Reinforced CONCRETE (FILL)	Backfilled Concrete debris and occasional Metal scraps, slight-moderate gas odor @ ~ 4 ft, low PID values in soil (2.2 ppm), no visual evidence of contamination on soil. Becomes wet @ ~6-7 ft, no odor or visual evidence of contamination, no PID hits. Hole sloughing below 7.5 ft but appears to be more buried fill at depth. Backfilled Concrete into bottom of hole followed by soil.	030-039

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
6-7 ft	7.5 ft	10 ft x 10 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-08

COMMENTS:

file no.: img_036.jpg

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1313-1333 EAST DOMINICK STREET

TEST PIT LOG

TP-1

SHEET 1 OF 9

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/13/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
1 2 3 4 5	0.2	Brown SAND AND GRAVEL, some fine to medium Cobble, loose, bony	No obvious fill material observed from 0-4 ft, so extend pit ~10 ft east toward 4 - 5 in dia. standpipe, trace pipe to ~1 ft bgs at which point it enters bldg wall. A 2 - 3 in dia. pipe oriented northwest-southeast horizontally found, followed ~20 ft northwest to where it appears to enter buried concrete block vault covered by ~1/4 in thick sheet metal (approx. 6 x 6 ft) and ~2 - 2.5 ft bgs, cover not removed - contents not identified and depth of structure is unknown - a second line (3 in dia.?) from southeast corner of vault may be associated with vent/fill pipes near single garage bay door.	106-119
6 7 8 9 10				

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	1.5 ft	2.5 ft x 7 ft (estimated)	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-1

COMMENTS:

file no's.: img_116.jpg, img_112.jpg

Image on left shows edges of metal cover on top of concrete block vault.

Image on right shows 4 - 5 in standpipe and buried 2 - 3 in line leading to vault.

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1313-1333 EAST DOMINICK STREET
TEST PIT LOG

TP-2
SHEET 2 OF 9

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/13/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–1	0.5	Brown SAND AND GRAVEL, some Brick/Concrete Debris	Slight fuel/gas odor, top of tank uncovered at ~15 in bgs, oriented east-west, lengthwise parallel to bldg brick wall, buried fill or vent pipe approx. 3 ft from garage door (assumed tank end), other end confirmed near 8 in cover in asphalt, grey staining, strong odor/PID hits around this cover, tank ~25 ft long, est width ~ 6 ft.	120-127
1–2	250			

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	Max. 2 ft		tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-2

COMMENTS:

file no.: img_127.jpg

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1313-1333 EAST DOMINICK STREET

TEST PIT LOG

TP-3

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/13/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
1	0.2	6 in ASPHALT Brown SAND & GRAVEL, little fm Cobble, loose	Petroleum odor noted beneath asphalt, low PID hits, refusal on uneven concrete debris at ~1.5 ft, attempted to extend pit east but hard concrete debris continues.	104-105
2				
3				
4				
5				
6				
7				
8				
9				
10				

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	1.5 ft	2.5 ft x 7 ft (estimated)	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-3

COMMENTS:

file no.: img_104.jpg

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1313-1333 EAST DOMINICK STREET

TEST PIT LOG

TP-4

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/13/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–5	NO ELEVATED PID READINGS	Dark Brown Silty GRAVEL AND COBBLE, some Concrete and Debris (FILL). Light Brown GRAVEL AND COBBLE, some coarse to medium Sand, moist, loose, bony.	Concrete fragments, debris such as glass bottles. No odor or visual evidence of contamination observed, no elevated PID readings.	100-103

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	5 ft	2.5 ft x 9 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-4

COMMENTS:

file no.: img_101.jpg

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1313-1333 EAST DOMINICK STREET

TEST PIT LOG

TP-6

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/13/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–6	NO ELEVATED PID READINGS	Light Brown SAND AND GRAVEL, some medium to fine Cobble, loose, bony, slightly moist.	Two pipes (1 x 2 in, 1 x 1.5 in) encountered within 1 ft of surface, oriented northwest-southeast, 2 in pipe terminates in test pit, no odor in pipe. Small metal scraps encountered. No evidence of contamination. Test pit caving due to loose material.	080-087

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	6 ft	2 ft x 6 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-6

COMMENTS:

file no.: img_082.jpg

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1313-1333 EAST DOMINICK STREET
TEST PIT LOG

TP-7

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/13/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–6	1.3 (max obs)	Miscellaneous FILL Light Brown fine to medium SAND AND GRAVEL, some fine to medium Cobble, loose.	Old wheel encountered at 6-12 in bgs, occasional miscellaneous scrap metal, license plate (NY '32), pipe scraps that don't appear to be in tact, miscellaneous fill from 0-2 ft bgs. No visual/olfactory evidence of contamination. Appears to be clean material @ depth.	088-098

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	6 ft	6 ft x 6 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-7

COMMENTS:

file no.: img_092.jpg

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1313-1333 EAST DOMINICK STREET
TEST PIT LOG

TP-8

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/13/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–2	NO ELEVATED PID READINGS	Brown COBBLE, SAND AND GRAVEL (rounded), some Brick and Concrete fragments, loose.	1.5 in dia. Pipe or scrap encountered immediately below surface. No visual/olfactory evidence of contamination, no PID hits.	075-079
2–6		Light Brown SAND AND GRAVEL grades to coarse GRAVEL and fine to medium COBBLE (rounded), some (-) coarse to medium Sand, trace Silt, loose.		

Depth scale: 1 2 3 4 5 6 7 8 9 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	6 ft	2 ft x 8 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-8

COMMENTS:

file no.: img_078.jpg

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1313-1333 EAST DOMINICK STREET

TEST PIT LOG

TP-9

SHEET 8 OF 9

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/13/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–4	NO ELEVATED PID READINGS	Brown SAND and fine to medium GRAVEL, loose (BACKFILL)	Vertical 1.5-2 in dia. pipe encountered @ ~6 in, horizontal 2 in dia. Line at ~15 in bgs, oriented north-south, followed this line to about 8 ft from fence on south side of property, then pipe turns 90 degrees and runs west. Several additional lines encountered, all appear to be loose/not connected. No evidence of contamination observed, no elevated PID readings, no odor on/in pipes.	062-074

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	Max 4 ft. (estimated)		tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-9

COMMENTS:

file no.'s: img_068.jpg, img_070.jpg

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1313-1333 EAST DOMINICK STREET

TEST PIT LOG

TP-10

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/12/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–6.5	No data recorded	Grass and Asphalt. Brown SAND AND GRAVEL with Brick, Cement Block, Concrete Debris, Metal Scraps.	Grass and asphalt grades to mixed fill and debris, wire mesh, cinder block, brick, concrete, metal scraps. No odor or visual evidence of contamination observed. Lots of fill debris still at 6 ft. Slightly moist at 6.5 ft.	056-061

Depth scale (ft): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	6.5 ft		tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-10

COMMENTS:

file no.: img_056.jpg

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1030 EAST DOMINICK STREET

TEST PIT LOG

TP-01

SHHEET 1 OF 8

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/14/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
1–6.5	0.0	ASPHALT AND SUBBASE (FILL) Light B rown fine to medium SAND and coarse to fine GRAVEL, s ome fine to medium COBBLE, loose, occasional lense of fine Sand	~1 ft Asphalt and subbase material grades to SAND AND GRAVEL Minor visible staining at ~2.5 ft bgs, no odor, no PID detections.	128-131

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	6.5 ft	4 ft x 6 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-01

COMMENTS:

file no.: img_131.jpg

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1030 EAST DOMINICK STREET

TEST PIT LOG

TP-02

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/14/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–8	<1.0	ASPHALT AND SUBBASE (FILL) Light B rown fine to medium SAND and coarse to fine GRAVEL, s ome fine to medium COBBLE, loose, occasional lense of fine Sand	Two 1.5 in dia. Lines uncovered at ~2 ft bgs and one ~2 in dia. line, appear to run toward island (heading north, then east), the 1.5 in dia. lines appear loose (not connected). Some concrete debris encountered, rebar, loose pipes, and plastic buried at depths, appears to be backfilled with miscalleneous debris. Encounter a 3 in dia. pipe that extends deeper, diagonally, and feels in tact, followed to depth of 8 ft bgs but could not follow do to site constraints (fence and fence posts), no visual evidence of contamination or major odors, no significant PID detections.	132-136

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	8 ft	4 ft x 8 ft (estimate)	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-02

COMMENTS:

file no's.: img_134.jpg, img_136.jpg

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1030 EAST DOMINICK STREET

TEST PIT LOG

TP-03

SHEET 3 OF 8

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/14/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–6	0.4 (back-ground)	ASPHALT AND SUBBASE (FILL) Light Brown fine to medium SAND and coarse to fine GRAVEL, some fine to medium COBBLE, loose, occasional lense of fine Sand	Large (~3 ft x 4 ft) reinforced concrete debris, scrap metal, buried asphalt, mixed with Sand, Gravel, Cobble, loose. Encountered concrete wall oriented north-south, approximately 10 ft off of west wall of existing building, encountered at ~2 ft bgs, some stained sand observed but no major odors or PID detections, did not follow further east due to unknown location of water utilities to bldg, additional pipe scraps observed in fill. ~3 in dia. galvanized pipe, not in tact, encountered ~ 5 ft bgs.	137-145

Depth scale: 1 2 3 4 5 6 7 8 9 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	6 ft	10 ft x 10 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-03

COMMENTS:

file no's.: img_140.jpg, img_142.jpg

Image on left shows soil appearance.
Image on right shows concrete block wall structure.

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1030 EAST DOMINICK STREET
TEST PIT LOG

TP-04

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/14/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–5	<1.0	Brown SAND AND GRAVEL, some Cobble, Brick, little Asphalt and Concrete.	Located in between concrete slabs at east end of former pump island. At ~6 in bgs, one 2 in dia. pipe and elbow exposed. In addition, two 1 in dia. pipes and one 2 in dia. pipes oriented north-south, no major odor or visible evidence of contamination observed.	146-157
7	0.1	Brown SAND AND GRAVEL, loose, moist to wet.	Moist to wet, no odor or visible evidence of contamination observed.	

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
8 ft	8 ft	4.5 ft x 6 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-04

COMMENTS:

file no's.: img_150.jpg, img_154.jpg

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1030 EAST DOMINICK STREET

TEST PIT LOG

TP-05

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/14/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–3	0.4	Brown/Dark Brown SAND AND GRAVEL, some Cobble, scrap metal, brick, loose (FILL)	Fill material with slight stain, no odor.	
3–6.5	0.2 (bg)	Light Brown SAND AND GRAVEL, some Cobble, trace Silt, loose, bony, wet.	Material becomes wet, no odor or visual staining.	

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
6.5 ft	6.5 ft	3 ft x 5 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-05

COMMENTS:

No photos available.

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1030 EAST DOMINICK STREET

TEST PIT LOG

TP-06

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/14/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–4	0.3 (0–8 ft)	Brown Silty SAND AND GRAVEL, little fine to medium Cobble. CONCRETE debris	Located behind fence. Large pieces of buried reinforced concrete encountered, rebar, some pieces too large to remove with backhoe (est. 16 cubic feet). No odor or staining observed. Material is moist to wet.	159-166
4–8		Brown fine to medium SAND AND GRAVEL, little Cobble, trace Silt, loose, moist to wet.	Some coal or asphalt encountered at ~5.5 ft bgs.	
8–10			Note: Current tenant says that this used to be location of railroad	

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
<8 ft	8 ft	6 ft x 8 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-06

COMMENTS:

file no's.: img_160.jpg, img_164.jpg

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1030 EAST DOMINICK STREET

TEST PIT LOG

TP-07

SHEET 7 OF 8

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/14/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
0–5	Max 1.3 (0–6 ft)	Dark Brown SAND AND GRAVEL, occasional Concrete, Wood/Timber debris, buried tires and wheels.	Buried debris including concrete, timber, wheels, tires, etc.	167-171
5–6		Brown Sandy GRAVEL fill	Very bony digging, soil is moist.	
6–10				

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
~6 ft	6 ft	4 ft x 8 ft	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-07

COMMENTS:

file no's.: img_169.jpg, img_170.jpg

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1030 EAST DOMINICK STREET
TEST PIT LOG

TP-08
SHEET 8 OF 8

PROJECT:	Preliminary Test Pit Investigation	PROJECT No.:	245.005
CLIENT:	City of Rome	DATE:	5/14/2009
CONTRACTOR:	City of Rome Water Department	EQUIPMENT:	Rubber-tired backhoe
OPERATOR:	Andy	INSPECTOR:	J. Haugh

DEPTH FT	PID PPM	SOIL CLASSIFICATION	NOTES/OBSERVATIONS	PHOTO FILE NO.
1 2 3 4 5 6 7 8 9 10	NO ELEVATED PID READINGS	Brown Sandy FILL	Sand fill material. Concrete block wall observed (see TP-03). Sanitary sewer line encountered and damaged, test pit abandoned and sanitary sewer line repaired.	172-176

GW DEPTH	TOTAL DEPTH	FINAL DIMENSIONS	NORTHING	EASTING	ELEVATION
	3.5 ft	4.5 ft x 5 ft (estimate)	tbd	tbd	tbd

PHOTO OF TEST PIT NO.: TP-08

COMMENTS:

file no.: img_175.jpg

Appendix E

Soil Boring/Well Construction Completion Logs and Well Development Logs

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-01**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated). Wells installed with 4 1/4" H.S.A.'s.
Project Manager:	Steve LeFevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/14/2009, 10/22/2009	**Borehole Diam:** 2"	**Total Depth:** 28'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126500.128 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	1169999.576 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	0.010"

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	Dark Brown to Black Silty fine to medium SAND and fine to medium GRAVEL (sub angular to sub round), moist, soft, grades at 3' to Blackish-Tan fine to medium Sand, some fine to medium Gravel (angular to sub round), soft, moist to wet, no odor or visual staining.	S-1	0-4	2.0	0.1		SAND AND GRAVEL	*2.0' Stick-up with Protective Casing* *Portland concrete surface seal*
1						0			*Top of cement-bentonite grout 1.5'*
2							2.2		
3						0.1			
						0			
4	MC	Brown to Tan Silty fine to medium SAND and medium to coarse GRAVEL, firm, moist to wet, trace cobble frags at the bottom of the sample (fill)	S-2	4-8	1.0				
5									
6						0.0	4.2		
7									
8	MC	Cobble frags with Brown medium to fine SAND, loose, moist	S-3	8-12	1.2				
9									
10						0.0	4.0		
11									
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC	Same as above, but wet to moist	S-4	12-16	1.2				*Top of choker sandpack 12'*
									Top of bentonite chip seal 12'.5
13									
14						0.0	3.1		
15									
									Top of choker sandpack 16.5'
16	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same as above with Brown fine to medium SAND, faintly stratified, soft to loose, moist to wet with trace fine Gravel, sub round	S-5	16-20	2.0				*Top of filter sandpack 16'*
						0.1			
17									
						0			
18									*Top of screen 18'*
						0.3			
19									
						0			
20		Same as above, saturated, grades to Brown, very fine, SAND and SILT, then to bands of Brown to Black very fine SAND and SILT firm, and saturated	S-6	20-24	2.5			SAND AND GRAVEL	
						0.1			
21									
						0	2.0		
22									
						0			*0.010-inch slot 2" dia. PVC screen*
23		Last 1" of sample transitions to Grey very fine SAND and Silt, firm, saturated, cohesive, nonplastic with no odor or visual staining.							
						0	3.1		
24		Brown, fine to coarse GRAVEL (rounded to sub round), fine to coarse SAND, saturated, loose, no odor or visual staining	S-7	24-28	1.9				
25									
26						0.0	3.2		
27									
28		End of Soil Boring							*Bottom of screen 28'*

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-02**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated). Wells installed with 4 1/4" H.S.A.'s.
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/14/2009, 10/21/2009	**Borehole Diam:** 2"	**Total Depth:** 28.0'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126489.861 (Approx)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	1169840.438 (Approx)	**TOC Elevation:**	TBD	**Slot Size:**	0.010"

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / Well Construction
0	MC	Brown to Black Silty fine to medium SAND and fine to coarse GRAVEL, firm to loose, moist to wet, no odor or staining (FILL)	S-1	0-4	2.0	0.3	3.0	SAND AND GRAVEL	4" flush-mount protective casing; Portland concrete surface seal; Top of cement-bentonite grout ~2.0'
4	MC	Same as above: Coarse GRAVEL, wet to moist, no odor or visual evidence of contamination. (FILL)	S-2	4-8	0.5	2.1	3.1		
8	MC	Brown Silty medium to fine SAND and fine to coarse GRAVEL, moist, soft to loose, no odor or visual staining	S-3	8-12	0.5	1.5	1.6		Top of choker sandpack 10.4'; Top of bentonite chip seal 10.9'
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12–16	MC	Above grades to Brown medium SAND, trace fine to medium Gravel, firm to loose, no odor or visual staining moist to wet	S-4	12-16	2.5	0.0	4.2	SAND AND GRAVEL	*Top of choker sandpack 13.9'* *Top of filter sandpack 14.6'*
16–20	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same as above, sample is firm but loose when handled, becomes saturated at ~19' and firm with faint stratification, gravel is rounded to sub-rounded	S-5	16-20	2.1	0.0	1.4		*Top of screen 17.5'*
20–24		Brown medium to fine SAND, some fine to medium Gravel (rounded to subround), occasional intervals of fine to medium Gravel, some coarse to fine Sand, trace Silt, no odor or visual staining, saturated	S-6	20-24	2.2	0.0 - 0.1	3.2		*0.010-inch slot* *2" dia. PVC screen*
24–28		Brown fine to coarse GRAVEL (rounded to sub-round) and fine to coarse SAND, saturated, loose, no odor or visual staining	S-7	24-28	1.9	0.0	3.2		*Bottom of screen 27.5'*
28		End of Soil Boring							

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-03**

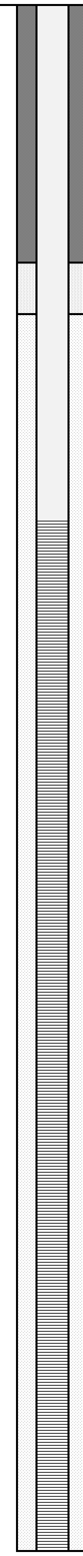
Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated). Wells installed with 4 1/4" H.S.A.'s.
Project Manager:	Steve Le Fevre	**Hammer Type, Weight/Drop:**	N/A
Logged By:	Josh Haugh	**Borehole Diam:**	2" **Total Depth:** 28.0'
Dates Drilled	10/13/2009, 10/21/2009		

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126634.169 (Approx)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	1169742.332 (Approx)	**TOC Elevation:**	TBD	**Slot Size:**	0.010"

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	3-4" Topsoil, Grades to dark Brown to Brownish Tan coarse to fine GRAVEL and Silty SAND, no odor/visual evidence of contamination (FILL)	S-1	0-4	3.5			SAND AND GRAVEL	*Riser above the Grounded Surface* *Portland concrete surface seal*
1									
2						0.4			
3									*Top of cement-bentonite grout ~3.5'*
4	MC	Same as above, Brown fine to coarse GRAVEL AND SAND, loose, slightly moist	S-2	4-8	0.5				
5									
6						0.5	1.8		
7									
8	MC	Brown coarse to fine SAND , some medium Gravel, loose, moist, no odor or visual staining	S-3A	8-12	0.8	0.7 (BG 0.7)	1.7		
	2nd attempt MC	Brown coarse to medium SAND, little fine Gravel, loose to soft, faint stratification (?), some coarse Gravel at ~11.6 ft, no visual staining or odor	S-3B	8-12	3.0	0.7 (BG 0.7)	2.6		
9									
10									
11									*Top of choker sandpack 11.2'* *Top of bentonite chip seal 11.7'*
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12–16	MC	Brown coarse to medium SAND and fine to coarse GRAVEL, slightly moist to dry, loose, no odor or visual staining (FILL)	S-4	12-16	3.0	0.7 (BG 0.7)	2.6	SAND AND GRAVEL	*Top of choker sandpack 14.6'* *Top of filter sandpack 15.2'*
16–20	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same as above, moist fill, no odor or visual staining, saturated at ~19.8'	S-5	16-20	1.5	0.7	2.8		*Top of screen 17.1'*
20–24		Brown coarse to medium SAND and fine to medium, rounded GRAVEL, loose, saturated, no odor or visual staining	S-6	20-24	2.2	1.0	2.9		*0.010-inch slot* *2" dia. PVC screen*
24–28		Same as above, saturated, no odor	S-7	24-28	2.0	1.7	2.4		*Bottom of screen 27.1'*
28		End of Soil Boring							



SUBSURFACE INVESTIGATION LOG

Boring No. **MW-04**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated). Wells installed with 4 1/4" H.S.A.'s.
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/16/2009, 10/20/2009	**Borehole Diam:** 2"	**Total Depth:** 28.0'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126716.304 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	1169835.305 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	0.010"

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	Asphalt grades to Black to Brown fine to medium SAND, little fine to medium Gravel (sub-rounded to angular), trace Silt, moist, soft, no odor or visual staining	S-1	0-4	1.8	0.3		SAND AND GRAVEL FILL	*4" flush-mount protective casing* *Portland concrete surface seal*
1						0.3			*Top of cement-bentonite grout 1.5'*
2						0.2	5.8		
3						0.2			*Top of cement-bentonite grout ~3.5'*
4	MC	Brown coarse to fine SAND and GRAVEL (rounded to sub-angular), moist	S-2	4-8	0.2				
5									
6						0.2	6.2		
7									
8	MC	Same as above moist, wet aroung the coarse Gravel and Cobble frags, soft to loose, no odor or visual staining	S-3	8-12	1.1	0.1			
9						0			
10						0.1	5.7		
11						0			*Top of choker sandpack 11.4'*
12									

Depth (ft)	Sample Type		Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC	<COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same as above with an increase of medium to coarse GRAVEL, some coarse to medium SAND, cobble frags, loose, moist to dry	S-4	12-16	2.3	0.2		SAND AND GRAVEL	*Top of bentonite chip seal 12'*
13							0.4			
14							0.3	6.0		
15							0.1			*Top of choker sandpack 15.2'*
16	MC		Brown coarse to fine SAND and coarse to fine GRAVEL, loose, moist to wet	S-5	16-20	0.8				*Top of filter sandpack 15.9'*
17							0.8			
18								6.9		*Top of screen 18'*
19							0.2			
20			Same as above with Brown coarse to fine SAND and medium to fine GRAVEL (round), loose, saturated, no odor or visual staining	S-6	20-24	1.9	0.7			
21							0.7			
22							0.8	3.4		
23							0.6			*0.010-inch slot 2" dia. PVC screen*
24			Same as above with Brown medium to fine SAND and medium to fine GRAVEL	S-7	24-28	2.6				
25										
26							3.4	3.4		
27										
28			**End of Soil Boring**							*Bottom of screen 28'*

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-05**

Project No. 245.005

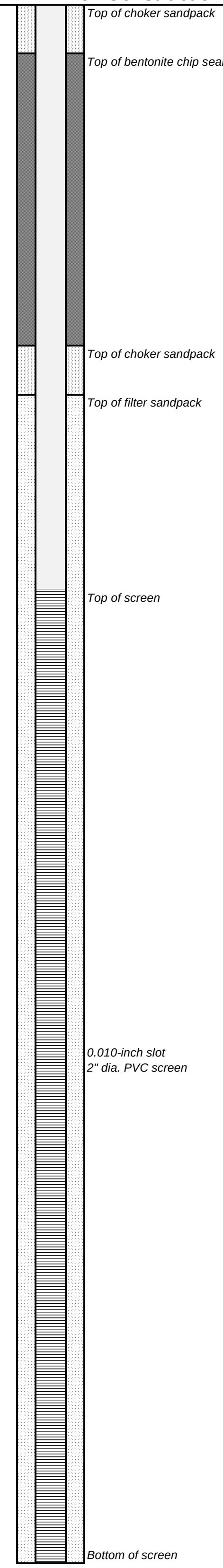
PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated). Wells installed with 4 1/4" H.S.A.'s.
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/13/2009, 10/22/2009	**Borehole Diam:** 2"	**Total Depth:** 28.0'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1169875.802 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	1126387.762 (Approx)	**TOC Elevation:**	TBD	**Slot Size:**	0.010"

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	**FILL MATERIAL:** Brown Silty SAND, some GRAVEL, soft, becomes moist to wet at ~ 3 ft. No odor/visual evidence of contamination. (FILL)	S-1	0-4	2.5	0.0		SAND AND GRAVEL FILL	*4" flush-mount protective casing* *Portland concrete surface seal*
1						0.0			
2						0.0	0.7		*Top of cement-bentonite grout*
3						0.0			
4	MC (^ ANALYTICAL SAMPLE COLLECTED v, 4-12 ft)	Brown Silty SAND AND GRAVEL, wet, no odor/visual evidence of contamination. (FILL)	S-2	4-8	1.5	0.0			
5						0.0			
6						0.0			
7						0.0			
8	MC	Same as above, soft, wet	S-3	8-12	0.6	0.3 (BG)			
9						0.3			
10						0.3			
11						0.3			
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology
12	MC	**FILL MATERIAL:** Brown fine to medium GRAVEL and Silty SAND, wet, saturated, soft, no odor or visual evidence of contamination. (FILL)	S-4	12-16	0.3	0.8 (0.2 BG)	1.5	**SAND AND GRAVEL FILL**
13								
14								
15								
16	MC	**BROWN SAND:** Above grades to Brown medium fine SAND, wet, loose	S-5	16-20	0.4	16.3 PID error (1.3 BG)	1.3	**BROWN SAND**
17								
18								
19								
20		**END OF SOIL BORING**						
21								
22								
23								
24								
25								
26								
27								
28								

Notes /
Well Construction



SUBSURFACE INVESTIGATION LOG

Boring No. **SB-01A**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/14/2009	**Borehole Diam:** 2"	**Total Depth:** 9.0'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126545.189 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1170040.643 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	**SAND AND GRAVEL:** 4-6" of concrete slab Brownish-Grey SAND and GRAVEL, little Silt, slightly moist, slight odor (possibly gas), loose, no visual contamination (FILL)	S-1	0-4	1.0	7.0		SAND AND GRAVEL	
1						7.5			
2						4.0			
3						1.2			
4	MC	Brown fine to coarse SAND AND GRAVEL, little Silt, loose to soft, moist, slight odor in top 4" of sample, no visual contamination	S-2	4-8	1.5	1.4 (BG 1.3)			
5									
6						1.3			
7						1.0			
8	MC	Same as above, mixed fill, moist, firm to loose, slight odor, no staining	S-3	8-12	1.2	0.6-0.8	0.0		Refusal at ~9.0'
9		END OF SOIL BORING							
10									
11									
12									

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-01B**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/14 - 10/15/2009	**Borehole Diam:**	2" **Total Depth:** 11.9

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126545.189 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1170040.643 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC OVERDRIVEN <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same material as SB-01A, slight moist to dry, firm to loose, slight musty odor, no visual staining	S-1	0-8	1.5			SAND AND GRAVEL	
1						1.2 (BG 0.9)			
2									
3						0.9			
4							0.0		
5						0.8			
6									
7						1.0			
8	MC	Same as above, moist, firm, lime stone rock frag in shoe head, no odor or visual staining	S-3	8-12	2.0	1.0			
9						0.9			
10							0.0		
						0.8			
11						1			
12		END OF SOIL BORING							Refusal at ~11.9'

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-02**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre	**Hammer Type, Weight/Drop:**	N/A
Logged By:	Josh Haugh	**Borehole Diam:**	2" **Total Depth:** 24.0'
Dates Drilled	10/14/2009		

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126505.262 (Approx)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169921.433 (Approx)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0–4	MC	**SAND AND GRAVEL:** Asphalt and GRAVEL grades to Brownish Tan fine to medium SAND, some fine to medium angluar to rounded Gravel, trace Silt, firm, moist, no odor or visual staining	S-1	0-4	1.8	0.0	2.3-3.1	SAND AND GRAVEL	
4–8	MC	SAND AND GRAVEL, wet at ~7.5', no odor or visual staining (FILL)	S-2	4-8	1.0	0.0	3.1		
8–12	MC	Brown fine to medium GRAVEL and Silty fine to medium SAND, moist, loose with no odor or visual staining	S-3	8-12	0.5	1.3	2.7		

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12–16	MC	**SAND AND GRAVEL:** Brown SILT and fine to medium SAND and GRAVEL (angular to sub angular), firm, moist to wet, no odor or visual staining	S-4	12-16	1.3	0.0	2.1	SAND AND GRAVEL	
16–20	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same as above but grades @ ~18'-19' to coarse to fine GRAVEL (sub anglular), some coarse to medium Sand, loose, saturated at 19.8', no odor or visual staining	S-5	16-20	2.0	0.0	3.4	SAND AND GRAVEL	
20–24	MC	Brown medium to fine SAND and fine to medium GRAVEL (rounded to sub-rounded), saturated, soft to loose, no odor or visual staining	S-6	20-24	1.2	0.0	0.4	SAND AND GRAVEL	

End of Soil Boring

Depth scale: 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28

B&L	**SUBSURFACE INVESTIGATION LOG**	Boring No. **SB-03** Project No. 245.005

PROJECT INFORMATION		**DRILLING INFORMATION**	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre	**Hammer Type, Weight/Drop:**	N/A
Logged By:	Josh Haugh	**Borehole Diam:**	2" **Total Depth:** 24.0'
Dates Drilled	10/14/2009		

LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	NAD83	**Easting:**	1126496.135 (approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169912.877 (approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	**SAND AND GRAVEL:** 3-4" of Asphalt, grades to Brown to Tan, Silty fine to medium SAND, some fine to medium GRAVEL, soft, moist to wet, no odor or visual staining (FILL)	S-1	0-4	1.1			SAND AND GRAVEL	
1									
2						0.0	3.4		
3									
4	MC	Brown to Tan medium to fine Gravel, some to little coarse to fine Sand, moist to wet, soft to loose, no odor or visual staining (FILL)	S-2	4-8	1.0				
5									
6						0.0 - 0.1	0.2		
7									
8	MC	Same as above with increase of coarse Gravel and Cobble fragments	S-3	8-12	1.0				Harry notes increase of cobble during advancement from 8 - 12 ft
9									
10						0.9	2.3		
11									
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12–16	MC	**SAND AND GRAVEL:** Same as above with variable amounts of SAND and SILT, moist, loose, no odor or visual staining, (FILL)	S-4	12-16	2.5	0.0	3.7	SAND AND GRAVEL	
16–20	MC	Same as above, slightly moist to dry	S-5	16-20	0.5	1.0	3.7		
20–24	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	8" of loose, coarse to medium GRAVEL, grades to Brown medium Sand, little fine to medium Gravel, saturated, no odor or visual staining	S-6	20-24	2.5	0.0	3.0		

End of Soil Boring

Depth (ft): 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-04**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre	**Hammer Type, Weight/Drop:**	N/A
Logged By:	Josh Haugh	**Borehole Diam:**	2" **Total Depth:** 24.0'
Dates Drilled	10/15/2009		

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126593.101 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169889.491 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0–4	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	**SAND AND GRAVEL FILL:** 6" concrete slab, Grey to Brown fine SAND, little fine Gravel (rounded to subround), moist, loose, no visual staining, slight odor	S-1	0-4	1.2	0.0		SAND AND GRAVEL FILL	
4–8	MC	No Recovery, two attempts	S-2A S-2B	4-8	NR NR				
8–12	MC	Brown coarse to medium GRAVEL and Silty fine to medium SAND, grades to medium fine SAND and fine to medium GRAVEL, loose, moist, no visual staining or odor	S-3	8-12	1.8	0.0	0.0		

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC	**SAND AND GRAVEL:** Brown medium to fine SAND, little fine medium GRAVEL (rounded), faint stratification, occasional Silty intevals, loose, moist to wet, no odor or visual staining	S-4	12-16	1.6	0.0	0.0	SAND AND GRAVEL	
13									
14									
15									
16	MC	Brown Silty fine to medium SAND, some medium to coarse Gravel and cobble frags, moist, loose, no odor or visual staining	S-5	16-20	0.6	0.0			
17									
18									
19									
20	MC	Brown fine SAND, little fine Gravel (sub-rounded to sub-angular), saturated, loose, no odor or visual staining	S-6	20-24	0.5	0.0	0.0		
21									
22									
23									
24		**End of Soil Boring**							
25									
26									
27									
28									

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-06**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated). .
Project Manager:	Steve Le Fevre	**Hammer Type, Weight/Drop:**	N/A
Logged By:	Josh Haugh	**Borehole Diam:**	2" **Total Depth:** 13.0'
Dates Drilled	10/16/2009		

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126627.324 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169872.38 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0–4 (1, 2, 3)	MC	**SAND AND GRAVEL:** ASPHALT and subbase Sand and Gravel grades to Brown Silty fine to medium SAND, some fine to medium Gravel, moist grades to wet, soft, no odor, minor staining.	S-1	0-4	1.5	0.0	2.4	SAND AND GRAVEL FILL	
4–8 (5, 6, 7)	MC	As above, occasional interval of medium Sand, some fine to medium Gravel (rounded), loose wet, no odor or staining, (FILL)	S-2	4-8	1.4	0.0	2.3		
8–12 (9, 10, 11, 12)	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same as above with intervals of medium to fine SAND, little fine to medium Gravel (round), trace Brown Silty Sand and Gravel (subrounded) loose to firm, moist to wet, no odor or staining	S-3	8-12	1.7	0.0			

Depth (ft)	Sample Type		Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC	<ANALYTICAL SAMPLE>	Sample as above but dry to moist, last 1.0" is wet with Gravel frags, no odor or visual staining, refusal at 13'	S-4	12-16	0.9	0.5 0.0 0.0	1.3	BROWN SAND AND GRAVEL	
13			**Refusal at 13'**							
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-07**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/16/2009	**Borehole Diam:** 2"	**Total Depth:** 20.0'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126633.598 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169859.832 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Barton & Loguidice, P.C. City of Rome Environmental Restoration Project BORING NO: SB-07

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0–4	MC	**SAND AND GRAVEL FILL:** Brown to Black medium to fine SAND and medium to fine GRAVEL with little Silt, loose to firm, slight petroleum odor/asphalt odor @ the surface, otherwise no odor or visual staining	S-1	0-4	2.5	0.0	1.2	SAND AND GRAVEL FILL	
4–8	MC	Brown fine to medium SAND, some medium to fine Gravel, firm, moist, no odor or visual staining	S-2	4-8	1.4	0.0	4.4		
8–12	MC	Same as above but loose, moist to dry with no odor or visual staining	S-3	8-12	1.0	0.0	5.5		

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC	**SAND AND GRAVEL:** Brown medium to fine SAND with little fine to medium Gravel (rounded to sub-round), loose, wet, no odor or visual staining	S-4	12-16	0.8			SAND AND GRAVEL	
13						10.3			
14							3.8		
15						1.0			
16	MC MC	Same as above with Brown fine SAND, little fine to medium Gravel, trace Silt, saturated, soft to loose, no odor or visual staining	S-5A S-5B	16-20 16-20	0.2 1.4				Overdrive sample interval
17	<COMPOSITE ANALYTICAL SAMPLE COLLECTED>								
18						0.3	5.0		
19									
20		END OF SOIL BORING							
21									
22									
23									
24									
25									
26									
27									
28									

SUBSURFACE INVESTIGATION LOG

Boring No. MW-6 (SB-08)

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/19/2009, 10/20/2009	**Borehole Diam:**	2" **Total Depth:** 28.0'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126684.362 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169902.61 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
	MC	**SAND AND GRAVEL FILL:** Asphalt, Gravel, Sand, Black to Brown petroleum odor, grades to coarse to medium GRAVEL and fine to medium Brown SAND, slight odor, no visual staining, loose, moist, trace Silt	S-1	0-4	0.8	12.4		SAND AND GRAVEL FILL	*4" flush-mount protective casing* *Portland concrete surface seal*
1									
2						2.2	29.9		*Top of cement-bentonite grout 1.5'*
3						0.7			*Top of cement-bentonite grout ~3.5'*
4	MC	Brown medium to fine Silty SAND and medium to fine GRAVEL (angular to sub-round), moist to wet, soft, slight to no odor or visual staining, (Fill)	S-2	4-8	1.9	1.8			
5						1.8			
6						0.5	6.7		
7						0.2			
8	MC	Same as above, but wet, loose, no odor or visual staining	S-3	8-12	1.4	0.5			
9									
10						0.4	5.0		
11						0.2			
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / Well Construction
12	MC	**SAND AND GRAVEL FILL:** Same as above but moist to wet, soft to loose, Brown coarse to fine SAND and coarse to fine GRAVEL, trace Silt, no odor or visual staining	S-4B	12-16	0.8	2.9		SAND AND GRAVEL FILL	Top of bentonite chip seal 12'.5
13						1.3			
14						2.5	15.6		
15						0.9			Top of choker sandpack 15.2'
16	MC	Same as above with Brown GRAVEL and SAND fill, loose, to soft, saturated @ ~19', slight odor, no visable staining	S-5	16-20	2.0	2.6			Top of filter sandpack 15.8'
17	<COMPOSITE ANALYTICAL SAMPLE COLLECTED>					18			
18						1.8	16.2		Top of screen 18'
19						1			
20	MC	**GRAVEL AND SAND:** Brown fine to coarse GRAVEL, some fine to medium Sand, saturated, loose (fluvial deposition) no odor or visual staining	S-5	16-20	1.3			GRAVEL AND SAND	
21									
22						0.4	2.8		
23									0.010-inch slot 2" dia. PVC screen
24	MC	Same as above, but loose and saturated	S-5	16-20	1.0				
25									
26							1.7		
27									
28		**END OF SOIL BORING**							Bottom of screen 28'

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-09**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/16/2009	**Borehole Diam:** 2"	**Total Depth:** 22.0'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	(JOSH)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	JOSH)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	**SAND AND GRAVEL FILL:** Asphalt and Gravel grades to Brown fine to coarse SAND, some fine to medium GRAVEL (angular to sub-round), soft to loose, moist to dry, no odor or visual staining except some localized petroluem odor near the asphalt surface (Fill)	S-1	0-4	2.5	2.6		SAND AND GRAVEL FILL	
1						0.6			
2						0	8.4		
3						0			
4	MC	Same as above, loose, dry, slight petroleum odor no visual staining and no PID readings despite petroleum odor	S-2	4-8	1.3				
5									
6						0.0	6.2		
7									
8	MC	Same as above, last 3" of sample are Brown coarse to medium SAND, some coarse to medium Gravel (round), loose, wet, no odor or visual staining	S-3	8-12	1.5				
9									
10						0.2-0.6	6.7		
11									
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	**SAND AND GRAVEL FILL:** Brown fine SAND and fine to medium GRAVEL, soft to loose, pyide flakes, wet @ 16', slight petroleum odor but no visual staining	S-4	12-16	1.7	0.2		SAND AND GRAVEL FILL	
13									
14						0.2	4.3		
15						0			
16	MC MC	Brown Silty fine to medium SAND and fine to medium GRAVEL (rounded to sub-round), saturated, loose (re-drove S-5 because of poor recovery down to 22')	S-5A S-5B	16-20 16-22	0.3 1.0	0.4			Overdrove and extended sample interval due to low sample recovery
17									
18									
19						1.0	4.2		
20									
21									
22		**End of Boring**							
23									
24									
25									
26									
27									
28									

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-10**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/19/2009	**Borehole Diam:**	2" **Total Depth:** 20.0'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126718.585 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169882.647 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
	MC	**SAND AND GRAVEL FILL:** Dark Brown Topsoil, Asphalt frags, Brown Silty fine to medium SAND and medium, coarse, (-) fine GRAVEL (sub-round), dry to moist, soft, no odor or visual staining	S-1	0-4	2.0	0.6		SAND AND GRAVEL FILL	
1						0.2			
2							2.8		
						0.7			
3						7.5			
4	MC	Same as above but dry, soft to loose, no odor or visual staining	S-2	4-8	0.6				
5						0.6			
6							2.7		
7						0.8			
8	MC	Same as above, Brown coarse to medium SAND and medium to fine GRAVEL (sub-rounded to angular), soft, moist, no odor or visual staining	S-3	8-12	1.8				
9						0.8			
10						1.5	2.6		
11						2.5			
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC	**SAND AND GRAVEL FILL:** Same as above but moist to wet, soft, no odor or visual staining (Fill)	S-4	12-16	1.0			SAND AND GRAVEL FILL	
13						0.5			
14							3.0		
15						0.5			
16	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same as above, moist to wet, soft to firm, no odor or visual staining (Fill)	S-5	16-20	1.3				
17						0.4			
18						0.6	3.1		
19						0.7			
20	MC	**NATIVE SAND AND GRAVEL:** Brown coarse to fine SAND and fine to coarse GRAVEL, firm, saturated, no odor or visual staining, weathered clasts	S-6	20-24	3.0	0.4		SAND AND GRAVEL	
21						0.4			
22						0.4	2.7		
23						0.5			
24		END OF SOIL BORING							
25									
26									
27									
28									

B&L	**SUBSURFACE INVESTIGATION LOG**	Boring No. **SB-11** Project No. 245.005

PROJECT INFORMATION		**DRILLING INFORMATION**	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/19/2009	**Borehole Diam:** 2"	**Total Depth:** 22.0'

LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	NAD83	**Easting:**	1126748.245 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169854.698 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	**SAND AND GRAVEL FILL:** Asphalt, Black and Brown GRAVEL and SAND, grades to fine to medium Sand and fine to coarse GRAVEL (sub-rounded to angular), slightly moist, soft to loose, no odor or visual staining	S-1	0-4	1.9	1.5		SAND AND GRAVEL FILL	
1									
2						2.8	5.5		
3						1.3			
4	MC	Same as above but moist, loose, no odor or visual staining	S-2	4-8	1.2	0.4			
5									
6						0.4	6.4		
7						0.4			
8	MC	Same as above with medium to fine GRAVEL and Brown coarse to fine SAND, loose, crystalline rock fragments in the head of the shoe	S-3	8-12	0.5				
9	<COMPOSITE ANALYTICAL SAMPLE COLLECTED>								
10						1.3	5.5		
11									
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	**SAND AND GRAVEL FILL:** Crystalline rock frags, as above	S-4	12-16	1.8			S&G FILL	Difficult advancement from 12'-13'
13		**NATIVE SAND AND GRAVEL:** Brown coarse to medium SAND and fine to coarse GRAVEL (rounded), fluvial?, loose, dry to slightly moist, no odor or visual staining						SAND AND GRAVEL	
14						0.4	4.1		
15									
16	MC MC	As above, coarse to fine GRAVEL and Brown coarse to fine SAND, loose, Saturated, no odor or visual staining	S-5A S-5B	16-20 16-22	0.1 1.5				Low recovery, sample interval overdriven and to 22'
17									
18									
19									
20									
21									
22		END OF SOIL BORING							
23									
24									
25									
26									
27									
28									

	SUBSURFACE INVESTIGATION LOG	Boring No. SB-12 Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre	**Hammer Type, Weight/Drop:**	N/A
Logged By:	Josh Haugh	**Borehole Diam:**	2" **Total Depth:** 20.0'
Dates Drilled	10/16/2009		

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126746.534 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169799.941 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
	MC	**SAND AND GRAVEL FILL:** Brown fine to medium SAND, some fine to medium Gravel, trace Silt, soft to loose, slight moisture, no odor or visual staining	S-1	0-4	1.3	0.5		SAND AND GRAVEL FILL	
1						0.5			
2							3.0		
						1.0			
3						0.5			
4	MC	Same as above with except soft with little GRAVEL (sub-angular), loose, moist, wet around coarse Gravel, no odor or visual staining	S-2	4-8	1.3	0.2			
5						0.3			
6							3.4		
						0.3			
7						0.3			
8	MC	Same as above but grades to Brown medium to fine SAND and fine medium GRAVEL, loose, moist to wet, no odor or visual staining, possible stratification	S-3	8-12	1.1	0.3			
9						0.3			
10							3.5		
						0.3			
11						0.5			
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC MC	**SAND AND GRAVEL:** Brown fine to medium SAND and coarse to fine GRAVEL (sub-rounded to sub-angular), cobble frags, wet to moist, firm to loose no odor or visual staining	S-4A S-4B	12-16 12-16	2.2	0.2		BROWN SAND AND GRAVEL	Low recovery, sample interval overdriven.
13									
14						0.2	3.5		
15						0.3			
16	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Brown fine to coarse GRAVEL, some fine to coarse SAND, loose, saturated.	S-5	16-20	1.3				
17									
18						0.6	1.9		
19									
20		**END OF SOIL BORING**							
21									
22									
23									
24									
25									
26									
27									
28									

	SUBSURFACE INVESTIGATION LOG	Boring No. **SB-13** Project No. 245.005

PROJECT INFORMATION		**DRILLING INFORMATION**	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre	**Hammer Type, Weight/Drop:**	N/A
Logged By:	Josh Haugh	**Borehole Diam:**	2" **Total Depth:** 20.0'
Dates Drilled	10/15/2009		

LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	NAD83	**Easting:**	1126662.688 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169806.786 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	**SAND AND GRAVEL FILL:** Brown fine to medium SAND, some fine to coarse, Gravel (angular to subround), loose to soft, moist, no odor or visual staining, (fill)	S-1	0-4	1.6	0.0	0.0	SAND AND GRAVEL FILL	
1									
2									
3									
4	MC	Same as above but moist and firm to loose, no odor or visual staining	S-2	4-8	1.8	0.0	0.0		
5									
6									
7									
8	MC	Same as above but has Brown SAND and GRAVEL, little silt, firm to loose, moist, cobble frags present, no odor or visual staining	S-3	8-12	1.3	0.0	0.0		
9									
10									
11									
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC	**SAND AND GRAVEL FILL:** Same as above but the last 6" of the sample has Brown coarse to fine SAND and fine to medium GRAVEL, loose, possibly saturated, no odor or visual staining.	S-4	12-16	1.4	0.0	0.0	SAND AND GRAVEL FILL	
13									
14									
15		**NATIVE SAND AND GRAVEL:** Brown coarse to fine SAND and fine to medium Gravel							
16	MC	Same as above with Brown fine to medium SAND, some Gravel (round), wet becomes saturated @ 19', faint stratification, no odor or visual staining	S-5	16-20	2.3	0.0	0.0	SAND AND GRAVEL	
17									
18									
19									
20		END OF SOIL BORING							
21									
22									
23									
24									
25									
26									
27									
28									

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-14A**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/15/2009	**Borehole Diam:** 2"	**Total Depth:** 1.8'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126597.094 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169856.98 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
	MC	**SAND AND GRAVEL FILL:** Refusal on cobble @ 1.8', sample recovery GRAVEL and SAND (coarse to fine), loose, slight moist, no odor or visual staining	S-1	0-4	0.7			**SAND AND GRAVEL FILL**	
1						0.0			
2									Refusal at ~1.8 ft
		END OF SOIL BORING							
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

	# SUBSURFACE INVESTIGATION LOG	Boring No. **SB-14B** Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/15/2009	**Borehole Diam:**	2" **Total Depth:** 2.2

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126597.094 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169856.98 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
1	MC	Refusal @ 2.2', sample recovery GRAVEL and SAND (coarse to fine), loose, slight moist, no odor or visual staining	S-1	0-4	0.2	0.0		SAND AND GRAVEL FILL	
2		END OF SOIL BORING							Refusal at 2.2'
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-14C**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated). .
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/16/2009	**Borehole Diam:** 2"	**Total Depth:** 15.5'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126597.094 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169856.98 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
	MC	**SAND AND GRAVEL FILL:** Brown fine SAND and coarse to medium GRAVEL, loose, dry, no odor or visual staining (fill)	S-1	0-4	1.8			SAND AND GRAVEL FILL	
1									
2						0.0			
3									
4	MC	Same as above but becomes slightly moist, firm no odor or visual staining	S-2	4-8	2.1				
5									
6						0.0	4.1		
7									
8	MC	Same as above, firm to loose, moist last 3" of sample, grades to Brown coarse Sand, little fine Gravel, loose, moist, no odor or visual staining	S-3	8-12	1.0				
9						0.1			
10							4.6		
11						0.1			
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	**SAND AND GRAVEL:** Brown fine to medium SAND and medium to fine GRAVEL (sub-rounded to sub-angular) firm to loose, moist with occasional intervals of Brown medium to fine Sand, trace fine medium Gravel, loose, moist to wet, no odor or visual staining, refusal at 15.5'	S-4	12-16	2.6	0.1	1.3	SAND AND GRAVEL	Refusal at 15.5'
13									
14									
15									
		END OF SOIL BORING							
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-15A**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" a
Project Manager:	Steve Le Fevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/15/2009	**Borehole Diam:** 2"	**Total Depth:** 11.7'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126580.552 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169841.009 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0–4	MC	**SAND AND GRAVEL FILL:** 5" Concrete Slab, subase gravel and grades to Brown fine to medium SAND, some fine to medium Gravel, trace Silt, loose, dry, no visual staining and a slight musty odor near the surface	S-1	0-4	1.6	0.0		SAND AND GRAVEL FILL	
4–8	MC	Same as above but with mixed fill, some cobble, coarse Gravel frags, loose, dry to moist, no visual staining, but a slight musty odor	S-2	4-8	1.7	0.0			
8–12	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same as above, dry to slight moist, rounded, cobble frag in head of the shoe, refusal @ 11.7' no odor or visual staining	S-3	8-12	1.3	0.0			
12		END OF SOIL BORING							Refusal at ~11.7'

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-15B**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).
Project Manager:	Steve LeFevre	**Hammer Type, Weight/Drop:**	N/A
Logged By:	Josh Haugh	**Borehole Diam:**	2" **Total Depth:** 3.5'
Dates Drilled	10/15/2009		

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126580.552 (Approx.)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169841.009 (Approx.)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0–3.5	MC	**SAND AND GRAVEL:** 5" Concrete Slab, subase gravel and grades to Brown fine to medium SAND, some fine to medium Gravel, trace Silt, loose, dry, no visual staining or odor	S-1	0-4	1.6	0.0		SAND AND GRAVEL FILL	Refusal at 3.5'

END OF SOIL BORING

Depth scale: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-16**

Project No. 245.005

PROJECT INFORMATION				**DRILLING INFORMATION**			
Project:	City of Rome Environmental Restoration Project			**Drilling Co:**	Lyon Drilling		
Client:	City of Rome			**Driller:**	Harry Lyon		
Site Location:	1313-1333 East Dominick Street			**Rig Type:**	CME-45, Trailer-mounted		
Job No:	245.005			**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated).		
Project Manager:	Steve LeFevre			**Hammer Type, Weight/Drop:**	N/A		
Logged By:	Josh Haugh						
Dates Drilled	10/13/2009			**Borehole Diam:**	2"	**Total Depth:**	20.0'
LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	NAD83	**Easting:**	1126427.689 (Approx)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169927.707 (Approx)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
0	MC	**SAND AND GRAVEL MATERIAL:** Brown to Black Asphalt and subsurface with Silty SAND and GRAVEL, soft and moist. No odor/visual evidence of contamination. (FILL)	S-1	0-4	0.6	0.1 (BG)	1.5	SAND AND GRAVEL FILL	
4	MC	Brown, fine GRAVEL and some Silty Sand, loose, wet, no odor/visual evidence of contamination. (FILL)	S-2	4-8	0.9	0.2 (BG)	1.4		
8	MC	Brown to Tan, Silty, fine SAND, some medium Gravel, firm to dense, wet to saturated, no odor or visual staining	S-3	8-12	0.6	0.2 (BG)	1.5		

<COMPOSITE ANALYTICAL SAMPLE COLLECTED (0-20')>

Depth (ft)	Sample Type		Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC	<COMPOSITE ANALYTICAL SAMPLE COLLECTED (0-20')>	**SAND AND GRAVEL FILL:** Dark Brown Silty, fine SAND and fine GRAVEL, wet, loose, no odor or visual staining	S-4	12-16	0.4	0.4 BG 0.2	2.1	SAND AND GRAVEL FILL	
16	MC		Same as above, wet to saturated with no odor or visual staining	S-5	16-20	0.3	0.7	1.7		
20			**END OF SOIL BORING**							

Depth scale: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28

SUBSURFACE INVESTIGATION LOG

Boring No. **SB-17**

Project No. 245.005

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	City of Rome Environmental Restoration Project	**Drilling Co:**	Lyon Drilling
Client:	City of Rome	**Driller:**	Harry Lyon
Site Location:	1313-1333 East Dominick Street	**Rig Type:**	CME-45, Trailer-mounted
Job No:	245.005	**Drilling Method(s):**	Continuous soil sampling, direct push methods (4' macro-core) or 2"-3" dia. split-spoons (where indicated). .
Project Manager:	Steve LeFevre		
Logged By:	Josh Haugh	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	10/13/2009	**Borehole Diam:**	2" **Total Depth:** 20.0'

LOCATION INFORMATION (NYSP)				WELL INFORMATION			
Horiz. Datum:	NAD83	**Easting:**	1126518.951 (Approx)	**Grounded Elevation**	TBD	**Screen Type/Diam:**	
Vert. Datum:	N/A	**Northing:**	1169798.880 (Approx)	**TOC Elevation:**	TBD	**Slot Size:**	

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
	MC	**SAND AND GRAVEL FILL:** Brownish Tan to Dark Brown Silty fine SAND and fine GRAVEL, firm, moist, no odor or visual staining (Asphalt at the surface)	S-1	0-4	1.6			SAND AND GRAVEL FILL	
1									
2						0.4 BG 0.2	1.2		
3									
4	MC	Coarse medium GRAVEL and Brown Silty fine medium SAND, no odor or visual staining (FILL)	S-2	4-8	1.1				
5									
6						0.6-0.7	1.5		
7									
8	MC MC	Brown medium to fine, SAND, and fine to medium GRAVEL, to Coarse Gravel fragmented in the shoe, moist, no odor or visual staining	S-3A S-3B	8-12 8-12	0.1 0.5				Overdrive second sample due to low recovery.
9						0.6			
10							1.7		
11						0.7			
12									

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bgs)	Recovery (ft)	PID (ppm)	Headspace	Lithology	Notes / *Well Construction*
12	MC	**SAND AND GRAVEL FILL:** Brown medium SAND, trace fine Gravel (angular to rounded), loose, moist, no odor or visual staining	S-4	12-16	2.0			SAND AND GRAVEL FILL	Gravel fragments in shoe head
13						0.4			
14						0.4	1.3		
15						0.5			
16	MC <COMPOSITE ANALYTICAL SAMPLE COLLECTED>	Same as above.	S-5	16-20	2.5				
17									
18						0.2	1.6		
19		Grades at 18.8' to Brown Silty SAND and GRAVEL, Saturated @ 19.5', no odor or visual staining							
20		**END OF SOIL BORING**							
21									
22									
23									
24									
25									
26									
27									
28									

Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

WELL DEVELPOMENT LOG

Project: 1333 East Dominick Street

Job Number: 245.005.001

Monitoring location: MW-1

Development method(s): Monsoon/Bailer

Date of activity: 2/18/2010

Well information:	Static Water Level	Total Depth	Depth to top of screen (ft)	Screen length (ft)	Well Diameter (in)	Other (Specify)	Other (Specify)
	--	--	--	--	--		
MP/Notes:							

Date	Time	Turbidity (NTU)	Temp. (F)	Sp. Cond. (US/cm)	ORP (mV)	pH	Water removed/ interval (gal)	Visual/ Olfactory Notes
2/18/2010	12:50	209.4	50.1	290	141	7.8	5	dry after initial 5 gal, dark brown, heavy fines
2/18/2010	14:25	>1100	48	230	188	7.7	15	cloudy, brown
2/18/2010	15:25	544.2	46.3	230	181	7.7	15	cloudy
2/18/2010	15:43	22.41	45.6	210	236	7.4	20	clean, no odor

Notes:

Total Volume Purged: 55

Samplers: BJM

Barton & Loguidice, P.C.
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WELL DEVELPOMENT LOG

Project: 1333 East Dominick Street

Job Number: 245.005.001

Monitoring location: MW-2

Development method(s): Bailer/Monsoon Pump

Date of activity: 2/11/2010

Well information:	Static Water Level	Total Depth	Depth to top of screen (ft)	Screen length (ft)	Well Diameter (in)	Other (Specify)	Other (Specify)
	18.72	26.03	--	--	--		
MP/Notes:							

Date	Time	Turbidity (NTU)	Temp. (F)	Sp. Cond. (US/cm)	ORP (mV)	pH	Water removed/ interval (gal)	Visual/ Olfactory Notes
2/11/2010							20	dark brown, heavy sediment
2/19/2010	9:00	912.3	48.1	5100	219	7.8	30	brown, heavy sediment
2/19/2010	9:15	896.5	47.8	4400	216	7.7	20	light brown, clearing up
2/19/2010	9:35	92.12	47.8	4500	211	7.7	15	cloudy
2/19/2010	9:55	165.4	48.5	1640	198	7.7	15	cloudy
2/19/2010	10:15	30.26	46.6	4100	201	7.7	5	clear

Notes:

Total Volume Purged: 105

Samplers: BJM

Barton & Loguidice, P.C.

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WELL DEVELPOMENT LOG

Project: 1333 East Dominick Street

Job Number: 245.005.001

Monitoring location: MW-3

Development method(s):

Date of activity: 2/11/2010

Well information:	Static Water Level	Total Depth	Depth to top of screen (ft)	Screen length (ft)	Well Diameter (in)	Other (Specify)	Other (Specify)
	21.43	29.62	--	--	--		
MP/Notes:							

Date	Time	Turbidity (NTU)	Temp. (F)	Sp. Cond. (US/cm)	ORP (mV)	pH	Water removed/ interval (gal)	Visual/ Olfactory Notes
2/11/2010							25	dark brown, heavy sediment
2/19/2010	11:00	609.5	47.3	1370	201	7.7	30	Brown
2/19/2010	11:22	7.05	46.7	1370	199	7.7	15	clear, no odor or sheen
2/19/2010	11:50	9.42	49.2	1380	195	7.6	25	clear, no odor or sheen

Notes:

Total Volume Purged: 95

Samplers: BJM

Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

WELL DEVELPOMENT LOG

Project: 1333 East Dominick Street

Job Number: 245.005.001

Monitoring location: MW-4

Development method(s):

Date of activity: 2/11/2001

Well information:	Static Water Level	Total Depth	Depth to top of screen (ft)	Screen length (ft)	Well Diameter (in)	Other (Specify)	Other (Specify)
	19.63	27.22	--	--	--		
MP/Notes:							

Date	Time	Turbidity (NTU)	Temp. (F)	Sp. Cond. (US/cm)	ORP (mV)	pH	Water removed/ interval (gal)	Visual/ Olfactory Notes
2/11/2010	9:50	12.14 Err	49.7	1050	300	8.8	20	brown, heavy sed., no odor
2/11/2010	10:09	154	50	1060	277	8.1	10	
2/11/2010	10:47	391.9	49	1290	270	8	15	
2/11/2010	11:07	849.7	49.2	1350	248	8	5	

Notes:

Total Volume Purged: 50

Samplers: BJM

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WELL DEVELPOMENT LOG

Project: 1333 East Dominick Street

Job Number: 245.005.001

Monitoring location: MW-5

Development method(s): Bailer/Monsoon Pump

Date of activity: 2/18/2010

Well information:	Static Water Level	Total Depth	Depth to top of screen (ft)	Screen length (ft)	Well Diameter (in)	Other (Specify)	Other (Specify)
	--	--	--	--	--		
MP/Notes:							

Date	Time	Turbidity (NTU)	Temp. (F)	Sp. Cond. (US/cm)	ORP (mV)	pH	Water removed/ interval (gal)	Visual/ Olfactory Notes
2/18/2010	16:15	298.5?	48.5	1320	205	7.6	35	brown, heavy sediment
2/18/2010	16:30	339.5?	48.3	1420	230	7.7	35	brown, heavy/medium sediment
2/18/2010	16:55	168.6	49.3	1470	226	7.7	25	cloudy, improvement from last sample
2/18/2010	17:20	12.55	49.9	1480	225	7.5	20	clear

Notes: initial 5 gal w/ bailer - Monsoon pump thereafter

Total Volume Purged: 115

Samplers: BJM

Barton & Loguidice, P.C.
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WELL DEVELPOMENT LOG

Project: 1333 East Dominick Street

Job Number: 245.005.001

Monitoring location: MW-6

Development method(s): Monsoon pump

Date of activity: 2/18/2010

Well information:	Static Water Level	Total Depth	Depth to top of screen (ft)	Screen length (ft)	Well Diameter (in)	Other (Specify)	Other (Specify)
	--	--	--	--	--		
MP/Notes:							

Date	Time	Turbidity (NTU)	Temp. (F)	Sp. Cond. (US/cm)	ORP (mV)	pH	Water removed/ interval (gal)	Visual/ Olfactory Notes
2/18/2010	10:45	1010	52.2	1010	157	7.9	15	brown, fines present
2/18/2010	11:05	4345	50.1	1080	154	7.7	15	brown, fines present
2/18/2010	11:40	902.5	50.3	970	155	7.6	20	brown tint
2/18/2010	12:05	146.8	50.1	1290	112	7.6	15	cloudy
2/18/2010	12:14	76.07	50.6	1180	130	7.7	5	clear, no odor or sheen

Notes:

Total Volume Purged: 70

Samplers: BJM

Barton & Loguidice, P.C.

Engineers • Environmental Scientists • Planners • Landscape Architects

Record of Calibration

Project No: 245.005-001 701 Lawrence 8 1333 E. Dominick Date: 2/24/10

Calibrated By: BJM Time: 07:08

pH Instrument Model: pH Testr 10

Standard Solution	Calibration Reading	Acceptable Range	
pH 4:	4.3	(+/- 1.0 pH, pH 3.0 - 5.0)	Pass / Fail
pH 7:	7.1	(+/- 1.5 pH, pH 5.5 - 8.5)	
pH 10:	10.1	(+/- 1.0 pH, ph 9.0 - 11.0)	

Sp.Conductivity Instrument Model: EC Testr 11

Standard Solution	Calibration Reading	Acceptable Range	
1413 uS	1410	(+/- 1.0 % Error = 1399-1427)	Pass / Fail

ORP Instrument Model: ORP Testr 10

Standard Solution	Calibration Reading	Acceptable Range	
220 mV	215	(+/- 5% at 25°C, 209 - 231 mV)	Pass / Fail
or			
YSI Zobell Soln		(Refer to YSI calibration table)	

Turbidimeter Model: Micro TPI

Standard Solution	Calibration Reading	Acceptable Range	
1000 NTU	1000.0	(+/- 3.0 % Error, 1030-970 NTU)	Pass / Fail
10 NTU	10.0	(+/- 2.0 % Error, 10.20-9.80 NTU)	
0.02 NTU	0.02	(+/- 2.0 % Error, 0.0204-0.0196 NTU)	

~~Methane Meter Model: NA~~

Standard Gas	Calibration Reading	Acceptable Range	
~~2.50% Methane~~		~~(+/- 5.0% Error, 2.63-2.38% methane)~~	Pass / Fail

Comments: weather mid to low 30°F occasional snow

Appendix F

Chain of Custody Records

[redacted]

Chain of Custody Record

Connecticut
128 Long Hill Cross Road
Shelton, CT 08484
Tel: 203-929-8140
Fax: 203-929-8142

TC

TAL-0015 (0508)

Client: ~~City~~ Barton & Loguidice, P.C.
Address: 2 Corp Plaza 264 Washington Ave. Ext
City: Albany | State: NY | Zip Code: 12203
Project Name and Location (State): City of Rome, Rome, N.Y.
Contract/Purchase Order/Project No:

Project Manager: Steve Lefevre
Telephone Number (Area Code)/Fax Number/e-mail address: 518-218-1801 / 518-218-1805
Site Contact:
Lab Contact:
Date: 10/13/09
Field/Telephone Number:
Chain of Custody Number: 017035
Page 1 of 1

Sample Disposal: ☒ Disposal By Lab ☐ Return To Client ☐ Archive For ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Analysis (Attach list if more space is needed)

Field Sample I.D. (Containers for each sample may be combined on one line)	Collection Date	Collection Time	Matrix: Aqueous	Matrix: Solid	Matrix: Other	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Other	8260B	8270C	6020	7471A	8082	8081A	Comments
																			Sample Depth
1313 ED-MW-5	10/13/09	10:30AM		X		X							X	X	X	X	X	X	4-12 ft
1313 ED-SB 16	10/13/09	11:30AM		X		X							X	X	X	X	X	X	0-20 ft
1313 ED-MW-3	10/13/09	12:45PM		X		X							X	X	X	X	X	X	16-20 ft
1313 ED-SS-2	10/13/09	13:30		X		X							X	X	X	X	X	X	1'-2'
1313 ED-SB-17	10/13/09	15:40		X		X							X	X	X	X	X	X	16-20 ft

Turn Around Time Required (business days) Report / EDD Requirements
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☐ 15 Days ☐ Other: ____

State Regulatory QC Requirements: ASP CAT B

	Date	Time		Date	Time
1. Relinquished By: [signature]	10/13/09	16:16	1. Received By: R English, Syr	10/13/09	16:16
2. Relinquished By: R English	10/13/09	18:30	2. Received By: [signature]	10/14/09	0900
3. Received By			Cooler Temps		

Passed Rad. Screen (Lab Use Only) ☐ Yes ☐ No

Comments

4.2°

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

[redacted]

Chain of Custody Record

Connecticut
128 Long Hill Cross Road
Shelton, CT 06484
Tel: 203-929-8140
Fax: 203-929-8142

TAL-0015 (0508)

sletevre@bartonandloguidice.com

Client	Project Manager	Date	Chain of Custody Number
Barton & Loguidice, P.C.	Steve LeFevre	10/14/09	017036

Address	Telephone Number (Area Code)/Fax Number/e-mail address	Field Telephone Number	Page
2 Corporate Plaza 264 Washington Ave Ext.	518-218-1801 / 518 218 1805		Page 1 of

City	State	Zip Code	Site Contact	Lab Contact
Albany	NY	12203		

Project Name and Location (State): City of Rome ERP, New York

Contract/Purchase Order/Project No.: 245.005

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Analysis (Attach list if more space is needed)

Field Sample I.D. (Containers for each sample may be combined on one line)	Collection Date	Collection Time	Matrix: Aqueous	Matrix: Solid	Matrix: Other	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Other	8260B	8270C	~~8082~~ 6010	7471A	8082	8081A				Comments
																						Sample Depth
1313 ED - MW-02	10/14/09	9:15		X		X							X	X	X	X	X	X				16'-20'
1313 ED - SB-02	10/14/09	11:15		X		X							X	X	X	X	X	X				16'-20'
1313 ED - SB-03	10/14/09	13:30		X		X							X	X	X	X	X	X				20'-24'
1313 ED - MW-01	10/14/09	15:15		X		X							X	X	X	X	X	X				
1313 ED - SS-01	10/14/09	14:50		X		X							X	X	X	X	X	X				
1313 ED - Blind Dup #1	10/14/09	PM		X		X							X	X	X	X	X	X				

Turn Around Time Required (business days) Report / EDD Requirements: ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☒ 10 Days ☒ 15 Days ☒ Other STANDARD

State Regulatory QC Requirements

1. Relinquished By	Date	Time	1. Received By	Date	Time
[signature]	10/14/09	16:00	R English, Syr	10/14/09	16:00

2. Relinquished By	Date	Time	2. Received By	Date	Time
R English	10/14/09	18:00	[signature]	10/15/09	0900

3. Received By	Date	Time	Cooler Temps	Passed Rad. Screen (Lab Use Only)
			TC 2.0 °C	☒ Yes ☐ No

Comments

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

[redacted]

Chain of Custody Record

Connecticut
128 Long Hill Cross Road
Shelton, CT 06484
Tel: 203-929-8140
Fax: 203-929-8142

slefevre@bartonandloguidice.com

TAL-0015 (0508)

Client	Project Manager	Date	Chain of Custody Number
Barton & Loguidice, P.C.	Steve LeFevre	10/15/09	017037
Address	**Telephone Number (Area Code)/Fax Number/e-mail address**	**Field Telephone Number**	**Page** 1 **of**
2 Corporate Plaza, 24 Washington Ave Ext.	518-218-1801 / 518 218-1805		

City	State	Zip Code	Site Contact	Lab Contact
Albany	NY	12203		

Project Name and Location (State): City of Rome ERP

Contract/Purchase Order/Project No.: 245005

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Analysis (Attach list if more space is needed)

Field Sample I.D. (Containers for each sample may be combined on one line)	Collection Date	Collection Time	Matrix: Aqueous	Matrix: Solid	Matrix: Other	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Other	8260B	8270C	6010	7471A	8082	8081A			Comments
																					Sample Depth
1313 ED-SB-01	10/15/09	9:15		X		X							X	X	X	X	X	X			0-8'
1313 ED-SB-04	10/15/09	11:15		X		X							X	X	X	X	X	X			0-4'
1313 ED-SB-13	10/15/09	14:15		X		X							X	X	X	X	X	X			16'-20'
1313 ED-SB-15	10/15/09	15:30		X		X							X	X	X	X	X	X			8'-12'

Turn Around Time Required (business days) Report / EDD Requirements
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☐ Other ____

State Regulatory QC Requirements

1. Relinquished By	Date	Time	1. Received By	Date	Time
Bay DD[illegible]	10/15/09		[illegible] Syr	10/15/09	16:03
2. Relinquished By	**Date**	**Time**	**2. Received By**	**Date**	**Time**
R English, Syr	10/15/09	18:30	[illegible]	10/16/09	0920
3. Received By	**Date**	**Time**	**Cooler Temps**	**Passed Rad. Screen (Lab Use Only)**	
				☐ Yes ☐ No	

Comments

2.0

DISTRIBUTION: WHITE - Stays with the Samples, CANARY - Returned to Client with Report, PINK - Field Copy

[redacted]

Chain of Custody Record

TAL-0015 (0508)

Connecticut
128 Long Hill Cross Road
Shelton, CT 06484
Tel: 203-929-8140
Fax: 203-929-8142

Client: Breton & Loguidice, P.C.
Address: 2 Corporate Plaza 264 Washington Ave Ext.
City: Albany | State: NY | Zip Code: 12203
Project Name and Location (State): City of Rome ERP
Contract/Purchase Order/Project No.: 245.005

Project Manager: Steve Lefevre SLefevre@bartonandloguidice.com
Date: 10/16/09
Telephone Number (Area Code)/Fax Number/e-mail address: 518-218-1801 / 518-218-1805
Field Telephone Number:
Site Contact: Josh Haugh
Lab Contact:
Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Chain of Custody Number: 017038
Page 1 of 1

Field Sample I.D. (Containers for each sample may be combined on one line)	Collection Date	Collection Time	Matrix: Aqueous	Matrix: Solid	Matrix: Other	Containers & Preservatives: Unpres.	H_2SO_4	HNO_3	HCl	NaOH	ZnAc/NaOH	Other	8260B	8270C	6010	7471A	8082	8081A	Comments
																			Sample Depth
1313 ED-SB-14	10/16/09	9:15		X		X							X	X	X	X	X	X	12'-16'
1313 ED-SB-06	10/16/09	1015		X		X							X	X	X	X	X	X	8'-13'
1313 ED-SB-07	10/16/09	10:50		X		X							X	X	X	X	X	X	16-20'
1313 ED-SB-09	10/16/09	12:20		X		X							X	X	X	X	X	X	12-16'
1313 ED-MW-04	10/16/09	13:45		X		X							X	X	X	X	X	X	12-20'
Trip Blank	10/16/09	~	X						X				X						
Field Blank 1	10/16/09	15:22	X			X		X	X				X	X	X	X	X	X	
1313 ED-SB-12	10/16/09	16:10																	12-16'

Turn Around Time Required (business days) Report / EDD Requirements: ☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☐ Other ____

State Regulatory QC Requirements: NYSDEC ASP Cat B

	Date	Time		Date	Time
1. Relinquished By: Dan Scott	10/16/09	17:00	1. Received By: R English, SyR	10/16/09	17:00
2. Relinquished By: R English	10/16/09	18:00	2. Received By: [illegible] Baker	10/17/09	0920
3. Received By:			Cooler Temps: 4.0°	Passed Rad. Screen (Lab Use Only) ☐ Yes ☐ No	

Comments:

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

[redacted]

Chain of Custody Record

Connecticut
128 Long Hill Cross Road
Shelton, CT 06484
Tel: 203-929-8140
Fax: 203-929-8142

TL encore

TAL-0015 (0508)

Client: BARTON & LOGUIDICE, P.C.
Address: 2 CORPORATE PLAZA, 264 WASHINGTON AVE EXT
City: ALBANY State: NY Zip Code: 12203
Project Name and Location (State): CITY OF ROME ERP
Contract/Purchase Order/Project No.: 245.005

Project Manager: STEVE LEFEVRE SLEFEVRE@BARTONANDLOGUIDICE.COM
Telephone Number (Area Code)/Fax Number/e-mail address: 518-218-1801 / 518-218-1805
Site Contact: JOSH HAUCK
Lab Contact: F. MOKKOW
Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☒ Archive For ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Date: 10/19/09
Field Telephone Number:

Chain of Custody Number: 017039
Page 1 of 1

Analysis (Attach list if more space is needed)

Field Sample I.D. (Containers for each sample may be combined on one line)	Collection Date	Collection Time	Matrix: Aqueous	Matrix: Solid	Matrix: Other	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Other	8260B	8270C	6010	7471A	8082	8081A	Comments: SAMPLE DEPTH
1313ED-SB-08	10/19/09	10:10 A		X		X							X	X	X	X	X	X	12'-20'
1313ED-SB-10	↓	11:30 A		X		X							X	X	X	X	X	X	16'-20'
1313ED-SB-11	↓	12:45P		X		X							X	X	X	X	X	X	4'-16'
BLIND DUPLICATE	↓	—		X		X							X	X	X	X	X	X	—
TRIP BLANK	—	—	X						X				X						
FIELD BLANK 2	10/17/09	17:00	X			X		X	X				X	X	X	X	X	X	—

Turn Around Time Required (business days) Report / EDD Requirements
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Days ☒ 15 Days ☒ Other STANDARD

State Regulatory QC Requirements: NYSDEC CAT B ASB

	Date	Time		Date	Time
1. Relinquished By: [signature]	10/19/09	17:17	1. Received By: R English, Syk	10/19/09	17:17
2. Relinquished By: R English	10/19/09	18:00	2. Received By: [signature]	10/20/09	09:20
3. Received By:			Cooler Temps: 8.0°C		

Passed Rad. Screen (Lab Use Only) ☐ Yes ☐ No

Comments:

DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy

Chain of Custody Record

TestAmerica

Client Information	Sampler: Barton & Loguidice / Daniel Gordon	Lab PM: Paul Morrow	Carrier Tracking No(s):	COC No: 1
Client Contact: Steve Le Fevre	Phone: (315) 209-2774	E-Mail: Paul.Morrow@testamericainc.com		Page: 1
Company: Barton & Loguidice - Albany, NY		Analysis Requested		Job #:
Address: 2 Corp. Pza. 264 Washington Av	Due Date Requested:			Preservation Codes:
City: Albany	TAT Requested (days): 28			
State, Zip: NY, 12203				
Phone: (518) 218-1801	PO #:			
Email: slefevre@bartonandloguidice.com	WO #: RTB0778			
Project Name: City Of Rome ERP - IRM 3, 1333 East Dominick St.	Project #: 245.005.001 ET02			
Site:	SSOW#:			

Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify), Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix	Field Filtered Sample (Yes or No)	PCBs EPA 8080	PESTS EPA 8080	SVOA + TICs EPA 8270	TAL Metals EPA 6010B	Voa + TICs EPA 8260 + TAGE	Total Number of containers	Special Instructions/Note:
Preservation Code:						I	I	I	N	A		
MW-1	2/24/10	14:20	G	W		1	1	2	1	3	[illegible]	
MW-2 MS/MSD	2/24/10	13:10	G	W	X	[illegible]	[illegible]	4	3	9	[illegible]	
MW-3	2/24/10	14:15	G	W		1	1	2	1	3	[illegible]	
MW-4	2/24/10	12:25	G	W		1	1	2	1	3	[illegible]	
MW-5	2/24/10	13:40	G	W		2	2	2	1	3	10	
MW-6	2/24/10	12:00	G	W		2	2	2	1	3	10	
~~MW-7~~ Dupe Y	2/24/10		G	W		1	1	2	1	3	[illegible]	
Trip Blank				W						4	[illegible]	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months

Deliverable Requested: I, II, III, IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: 16.3
Relinquished by: Brian [signature]	Date/Time: 2/24/10 16:34	Company:	Received by: [signature]	Date/Time: 2-26-10	Company: [illegible]
Relinquished by:	Date/Time:	Company:	Received by: [signature]	Date/Time: 2-25-10 0900	Company: TABH
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

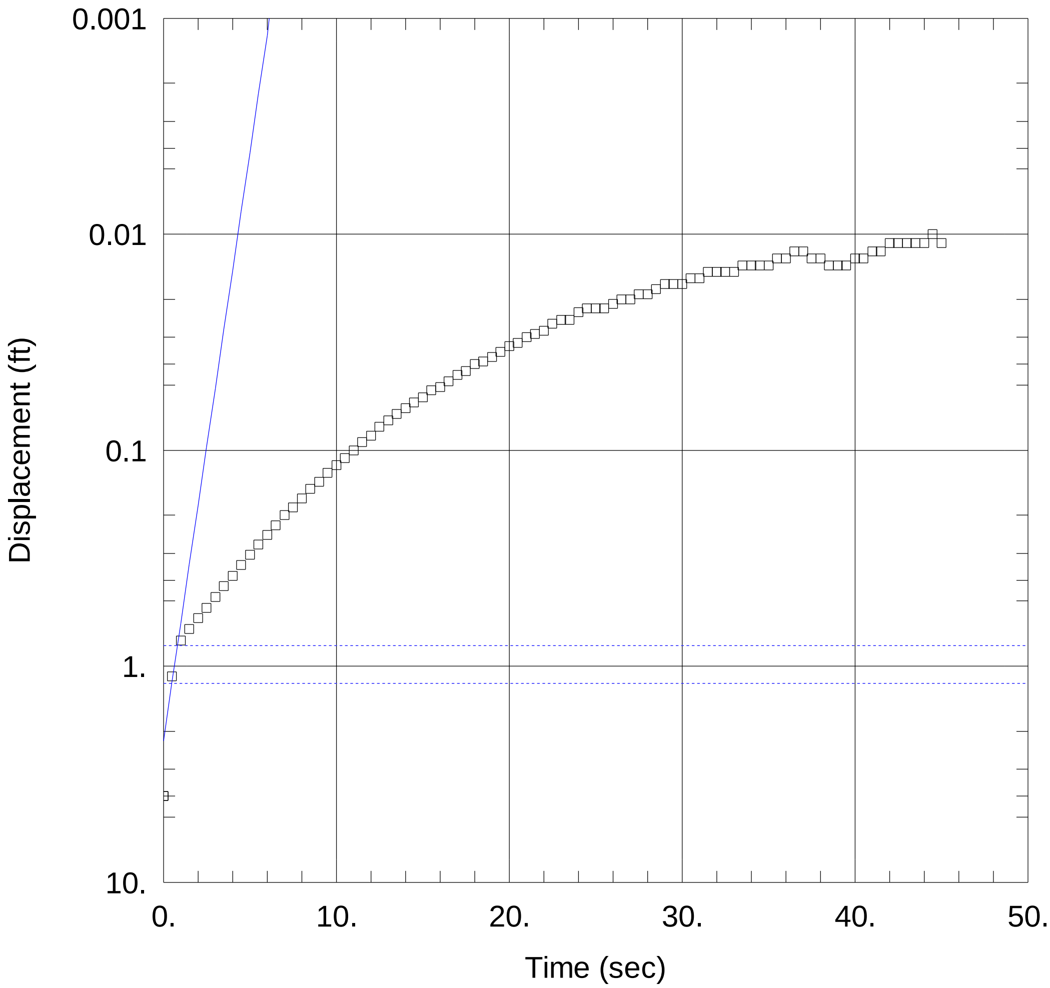
1.1 @ 2.0 °C

Appendix G

Hydraulic Conductivity Analyses

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.1318 cm/sec   y0 = 2.218 ft

AQUIFER DATA

Saturated Thickness: 21.97 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-01 Test 1)

Initial Displacement: 4.007 ft
Static Water Column Height: 8.03 ft
Total Well Penetration Depth: 8.03 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-01_Test1.BouwerRice(091211).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:58:34

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 21.97 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-01 Test 1

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 4.007 ft
Static Water Column Height: 8.03 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 8.03 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 91

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	4.007	23.	0.025
0.5	1.112	23.5	0.025
1.	0.762	24.	0.023
1.5	0.671	24.5	0.022
2.	0.599	25.	0.022
2.5	0.536	25.5	0.022
3.	0.478	26.	0.021
3.5	0.426	26.5	0.02
4.	0.381	27.	0.02
4.5	0.341	27.5	0.019
5.	0.306	28.	0.019
5.5	0.274	28.5	0.018
6.	0.247	29.	0.017
6.5	0.223	29.5	0.017
7.	0.2	30.	0.017

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
7.5	0.184	30.5	0.016
8.	0.167	31.	0.016
8.5	0.151	31.5	0.015
9.	0.14	32.	0.015
9.5	0.127	32.5	0.015
10.	0.117	33.	0.015
10.5	0.109	33.5	0.014
11.	0.1	34.	0.014
11.5	0.092	34.5	0.014
12.	0.086	35.	0.014
12.5	0.078	35.5	0.013
13.	0.073	36.	0.013
13.5	0.068	36.5	0.012
14.	0.064	37.	0.012
14.5	0.06	37.5	0.013
15.	0.057	38.	0.013
15.5	0.053	38.5	0.014
16.	0.051	39.	0.014
16.5	0.048	39.5	0.014
17.	0.045	40.	0.013
17.5	0.043	40.5	0.013
18.	0.04	41.	0.012
18.5	0.039	41.5	0.012
19.	0.037	42.	0.011
19.5	0.035	42.5	0.011
20.	0.033	43.	0.011
20.5	0.032	43.5	0.011
21.	0.03	44.	0.011
21.5	0.029	44.5	0.01
22.	0.028	45.	0.011
22.5	0.026		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

Shape Factor: 2.099

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.1318	cm/sec
y0	2.218	ft

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
K	0.1318	0.01433	cm/sec
y0	2.218	0.1506	ft

Parameter Correlations

	K	y0
K	1.00	0.40
y0	0.40	1.00

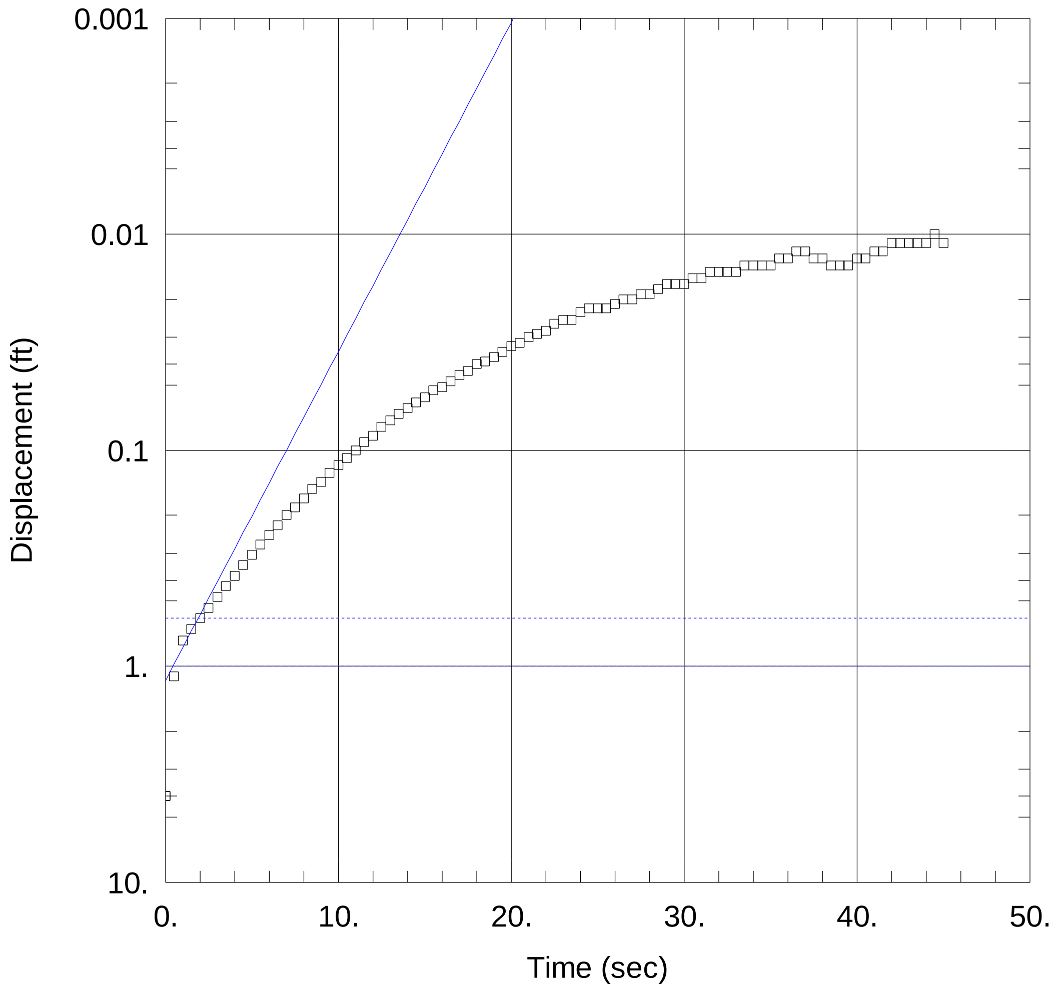
Residual Statistics

for weighted residuals

Sum of Squares . . . . 2.09 ft^2
Variance . . . . 0.02349 ft^2
Std. Deviation . . . . 0.1533 ft
Mean . . . . 0.07406 ft
No. of Residuals 91
No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev

K = 0.05982 cm/sec y0 = 1.166 ft

AQUIFER DATA

Saturated Thickness: 21.97 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-01 Test 1)

Initial Displacement: 4.007 ft
Static Water Column Height: 8.03 ft
Total Well Penetration Depth: 8.03 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-01_Test1.Hvorslev(091211).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:57:52

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 21.97 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-01 Test 1

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 4.007 ft
Static Water Column Height: 8.03 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 8.03 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 91

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	4.007	23.	0.025
0.5	1.112	23.5	0.025
1.	0.762	24.	0.023
1.5	0.671	24.5	0.022
2.	0.599	25.	0.022
2.5	0.536	25.5	0.022
3.	0.478	26.	0.021
3.5	0.426	26.5	0.02
4.	0.381	27.	0.02
4.5	0.341	27.5	0.019
5.	0.306	28.	0.019
5.5	0.274	28.5	0.018
6.	0.247	29.	0.017
6.5	0.223	29.5	0.017
7.	0.2	30.	0.017

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
7.5	0.184	30.5	0.016
8.	0.167	31.	0.016
8.5	0.151	31.5	0.015
9.	0.14	32.	0.015
9.5	0.127	32.5	0.015
10.	0.117	33.	0.015
10.5	0.109	33.5	0.014
11.	0.1	34.	0.014
11.5	0.092	34.5	0.014
12.	0.086	35.	0.014
12.5	0.078	35.5	0.013
13.	0.073	36.	0.013
13.5	0.068	36.5	0.012
14.	0.064	37.	0.012
14.5	0.06	37.5	0.013
15.	0.057	38.	0.013
15.5	0.053	38.5	0.014
16.	0.051	39.	0.014
16.5	0.048	39.5	0.014
17.	0.045	40.	0.013
17.5	0.043	40.5	0.013
18.	0.04	41.	0.012
18.5	0.039	41.5	0.012
19.	0.037	42.	0.011
19.5	0.035	42.5	0.011
20.	0.033	43.	0.011
20.5	0.032	43.5	0.011
21.	0.03	44.	0.011
21.5	0.029	44.5	0.01
22.	0.028	45.	0.011
22.5	0.026		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

Shape Factor: 3.403

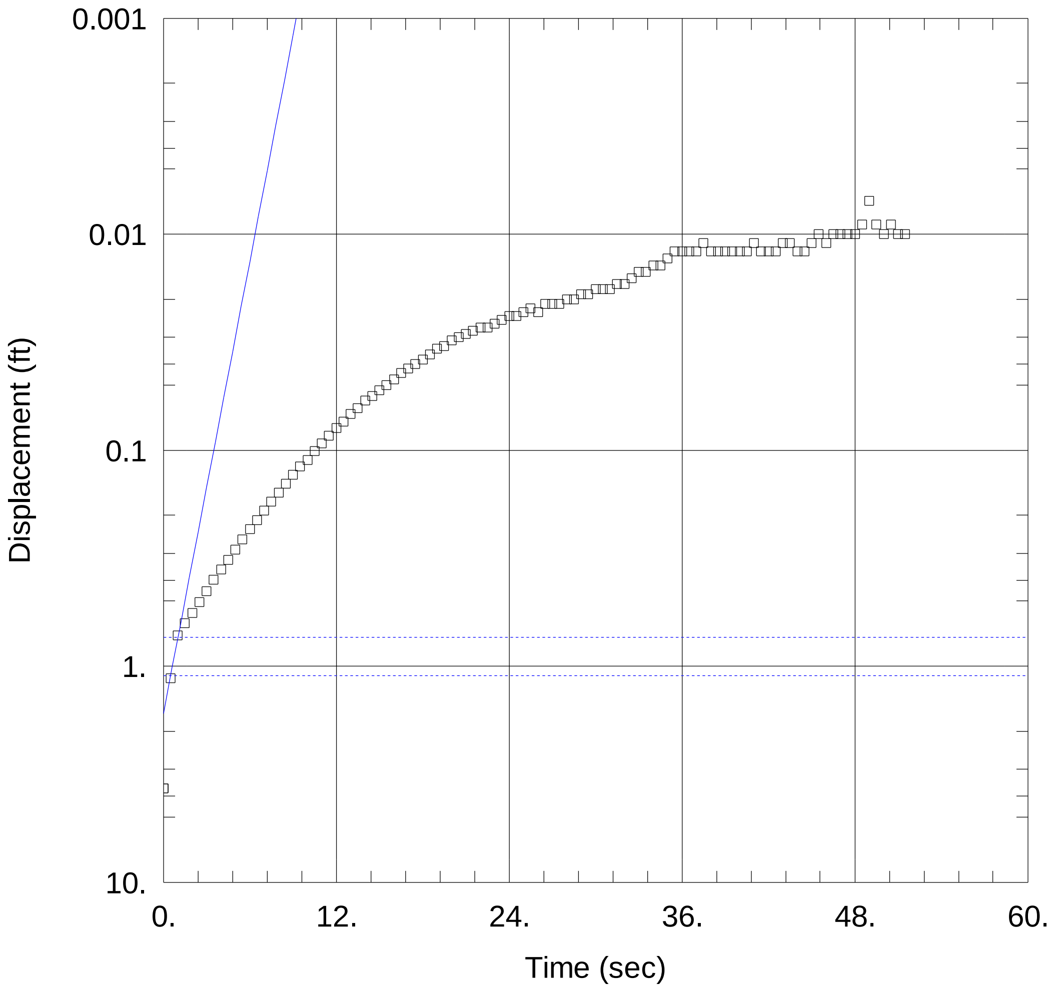
VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.05982	cm/sec
y0	1.166	ft

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.08448 cm/sec   y0 = 1.656 ft

AQUIFER DATA

Saturated Thickness: 21.97 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-01 Test 2)

Initial Displacement: 3.685 ft
Static Water Column Height: 8.03 ft
Total Well Penetration Depth: 8.03 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-01_Test2.BouwerRice(091211).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:57:07

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 21.97 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-01 Test 2

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 3.685 ft
Static Water Column Height: 8.03 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 8.03 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 104

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	3.685	26.	0.023
0.5	1.139	26.5	0.021
1.	0.722	27.	0.021
1.5	0.635	27.5	0.021
2.	0.567	28.	0.02
2.5	0.505	28.51	0.02
3.	0.449	29.	0.019
3.5	0.399	29.5	0.019
4.	0.357	30.01	0.018
4.5	0.323	30.5	0.018
5.	0.288	31.	0.018
5.5	0.259	31.5	0.017
6.	0.232	32.01	0.017
6.5	0.211	32.5	0.016
7.	0.19	33.	0.015

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
7.5	0.173	33.51	0.015
8.	0.157	34.01	0.014
8.5	0.143	34.5	0.014
9.	0.13	35.01	0.013
9.5	0.119	35.51	0.012
10.	0.111	36.	0.012
10.5	0.101	36.5	0.012
11.	0.093	37.01	0.012
11.5	0.086	37.51	0.011
12.	0.079	38.	0.012
12.5	0.074	38.51	0.012
13.	0.068	39.01	0.012
13.5	0.064	39.5	0.012
14.	0.059	40.01	0.012
14.5	0.056	40.51	0.012
15.	0.053	41.01	0.011
15.5	0.05	41.5	0.012
16.	0.047	42.01	0.012
16.5	0.044	42.51	0.012
17.	0.042	43.01	0.011
17.5	0.04	43.51	0.011
18.	0.038	44.01	0.012
18.5	0.036	44.51	0.012
19.	0.034	45.	0.011
19.5	0.033	45.51	0.01
20.	0.031	46.01	0.011
20.5	0.03	46.51	0.01
21.	0.029	47.01	0.01
21.5	0.028	47.51	0.01
22.	0.027	48.01	0.01
22.5	0.027	48.51	0.009
23.	0.026	49.01	0.007
23.5	0.025	49.51	0.009
24.	0.024	50.01	0.01
24.5	0.024	50.51	0.009
25.	0.023	51.01	0.01
25.5	0.022	51.51	0.01

SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

Shape Factor: 2.099

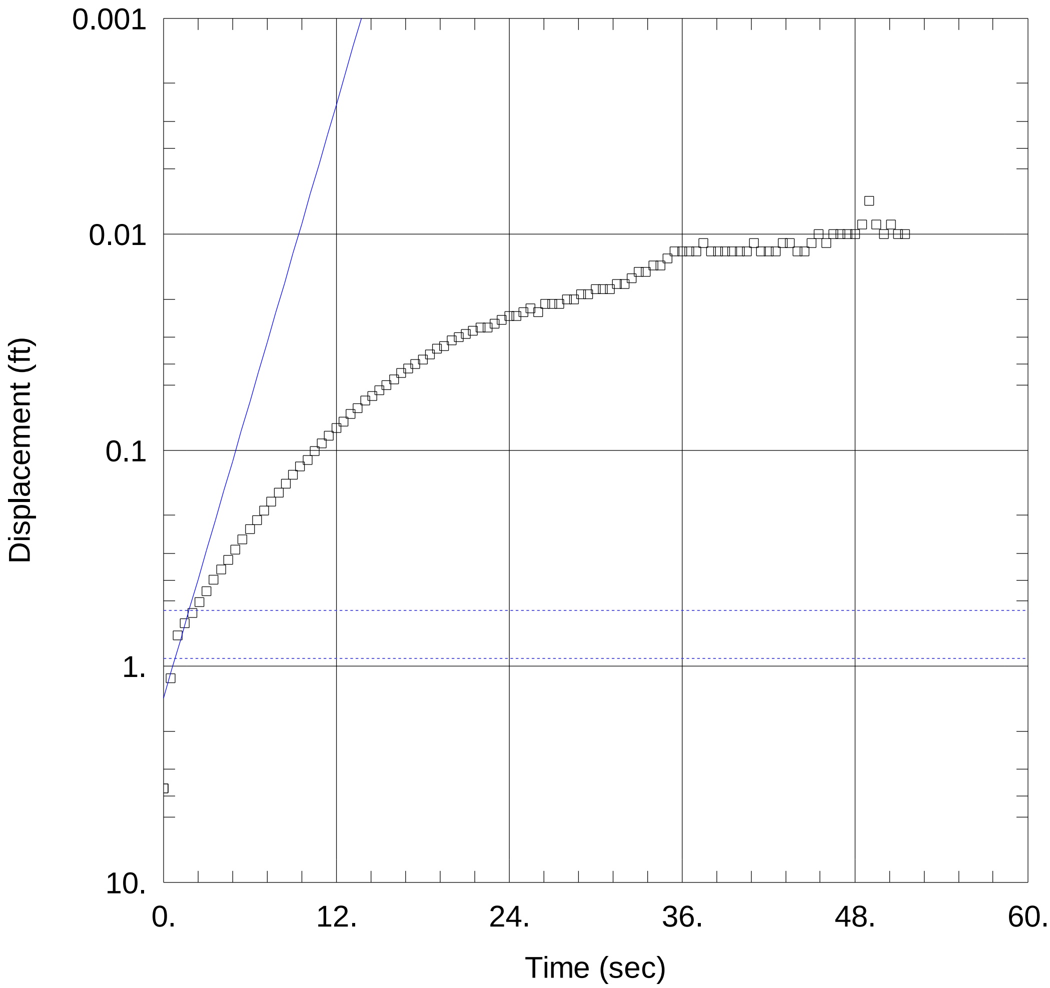
VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.08448	cm/sec
y0	1.656	ft

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev

K = 0.0899 cm/sec y0 = 1.41 ft

AQUIFER DATA

Saturated Thickness: 21.97 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-01 Test 2)

Initial Displacement: 3.685 ft
Static Water Column Height: 8.03 ft
Total Well Penetration Depth: 8.03 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-01_Test2.Hvorslev(091211).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:56:15

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 21.97 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-01 Test 2

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 3.685 ft
Static Water Column Height: 8.03 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 8.03 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 104

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	3.685	26.	0.023
0.5	1.139	26.5	0.021
1.	0.722	27.	0.021
1.5	0.635	27.5	0.021
2.	0.567	28.	0.02
2.5	0.505	28.51	0.02
3.	0.449	29.	0.019
3.5	0.399	29.5	0.019
4.	0.357	30.01	0.018
4.5	0.323	30.5	0.018
5.	0.288	31.	0.018
5.5	0.259	31.5	0.017
6.	0.232	32.01	0.017
6.5	0.211	32.5	0.016
7.	0.19	33.	0.015

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
7.5	0.173	33.51	0.015
8.	0.157	34.01	0.014
8.5	0.143	34.5	0.014
9.	0.13	35.01	0.013
9.5	0.119	35.51	0.012
10.	0.111	36.	0.012
10.5	0.101	36.5	0.012
11.	0.093	37.01	0.012
11.5	0.086	37.51	0.011
12.	0.079	38.	0.012
12.5	0.074	38.51	0.012
13.	0.068	39.01	0.012
13.5	0.064	39.5	0.012
14.	0.059	40.01	0.012
14.5	0.056	40.51	0.012
15.	0.053	41.01	0.011
15.5	0.05	41.5	0.012
16.	0.047	42.01	0.012
16.5	0.044	42.51	0.012
17.	0.042	43.01	0.011
17.5	0.04	43.51	0.011
18.	0.038	44.01	0.012
18.5	0.036	44.51	0.012
19.	0.034	45.	0.011
19.5	0.033	45.51	0.01
20.	0.031	46.01	0.011
20.5	0.03	46.51	0.01
21.	0.029	47.01	0.01
21.5	0.028	47.51	0.01
22.	0.027	48.01	0.01
22.5	0.027	48.51	0.009
23.	0.026	49.01	0.007
23.5	0.025	49.51	0.009
24.	0.024	50.01	0.01
24.5	0.024	50.51	0.009
25.	0.023	51.01	0.01
25.5	0.022	51.51	0.01

SOLUTION

Aquifer Model: Unconfined

Solution Method: Hvorslev

Shape Factor: 3.403

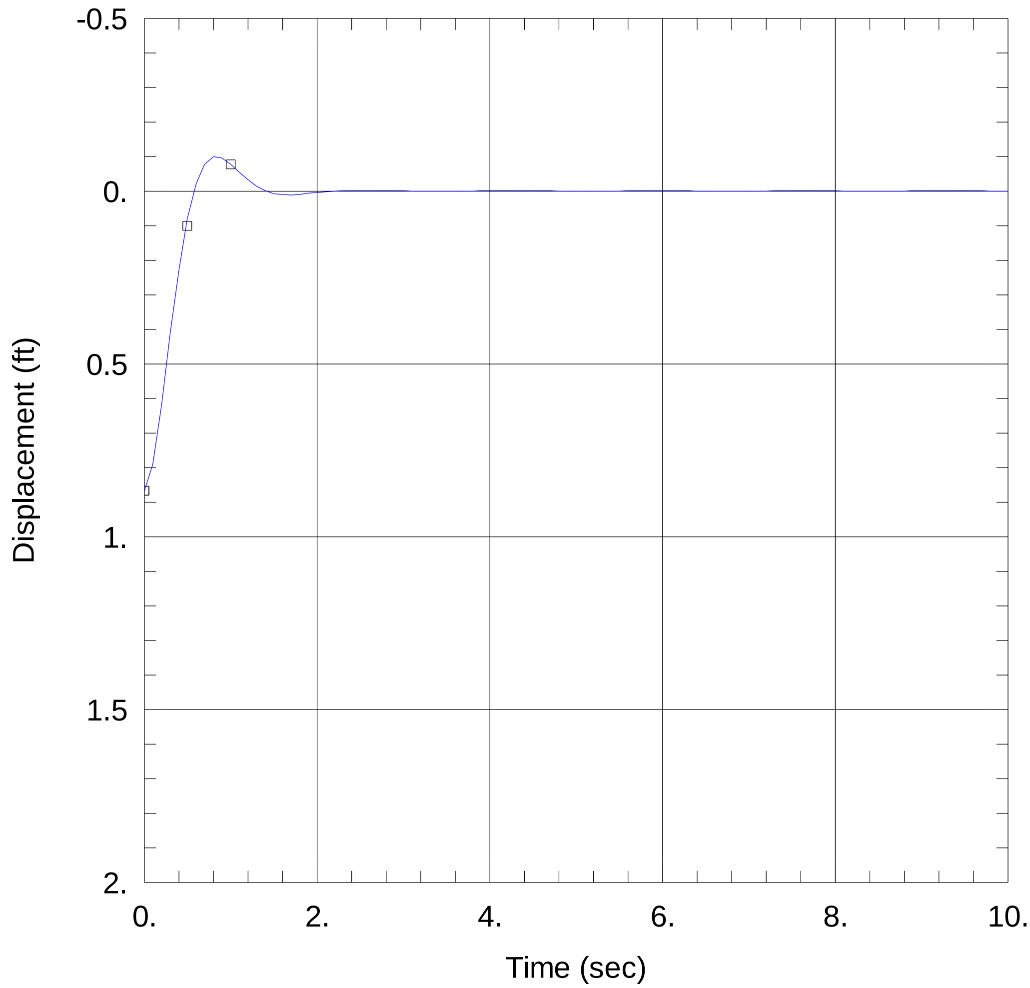
VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.0899	cm/sec
y0	1.41	ft

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.095 cm/sec   C(D) = 0.5675

AQUIFER DATA

Saturated Thickness: 19.81 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-02 Test 1)

Initial Displacement: 0.868 ft
Static Water Column Height: 10.19 ft
Total Well Penetration Depth: 10.19 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-02_Test1.SpringerGelhar(091211).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:54:29

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 19.81 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-02 Test 1

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 0.868 ft
Static Water Column Height: 10.19 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 10.19 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 3

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.868	1.	-0.076
0.5	0.1		

SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar
Shape Factor: 2.235

VISUAL ESTIMATION RESULTS

Estimated Parameters

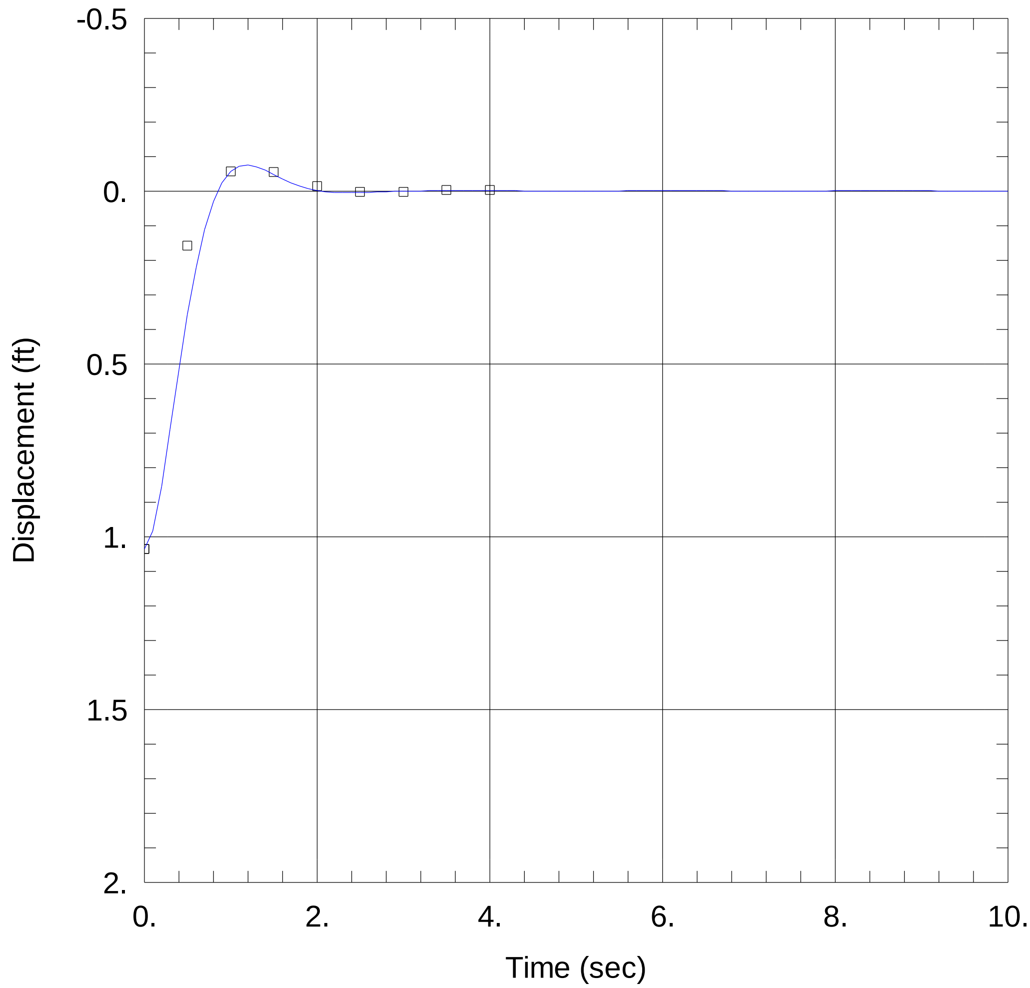
Parameter	Estimate	
K	0.095	cm/sec

C(D)	0.5675

Solution is critically damped when C(D) = 1.

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.0635 cm/sec C(D) = 0.6409

AQUIFER DATA

Saturated Thickness: 19.81 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-02 Test 3)

Initial Displacement: 1.037 ft
Static Water Column Height: 10.19 ft
Total Well Penetration Depth: 10.19 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-02_Test3.SpringerGelhar(091211).aqt

Title: SLUG TEST ANALYSIS

Date: 09/30/11

Time: 14:55:16

PROJECT INFORMATION

Company: Barton & Loguidice

Client: City of Rome

Project: 245.005

Location: 1313-1333 East Dominick St

Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 19.81 ft

Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-02 Test 3

X Location: 0. ft

Y Location: 0. ft

Initial Displacement: 1.037 ft

Static Water Column Height: 10.19 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.333 ft

Well Skin Radius: 0.333 ft

Screen Length: 10. ft

Total Well Penetration Depth: 10.19 ft

Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft

Gravel Pack Porosity: 0.25

No. of Observations: 9

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.037	2.5	0.002
0.5	0.158	3.	0.002
1.	-0.056	3.5	-0.002
1.5	-0.055	4.	-0.002
2.	-0.014		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

Shape Factor: 2.235

VISUAL ESTIMATION RESULTS

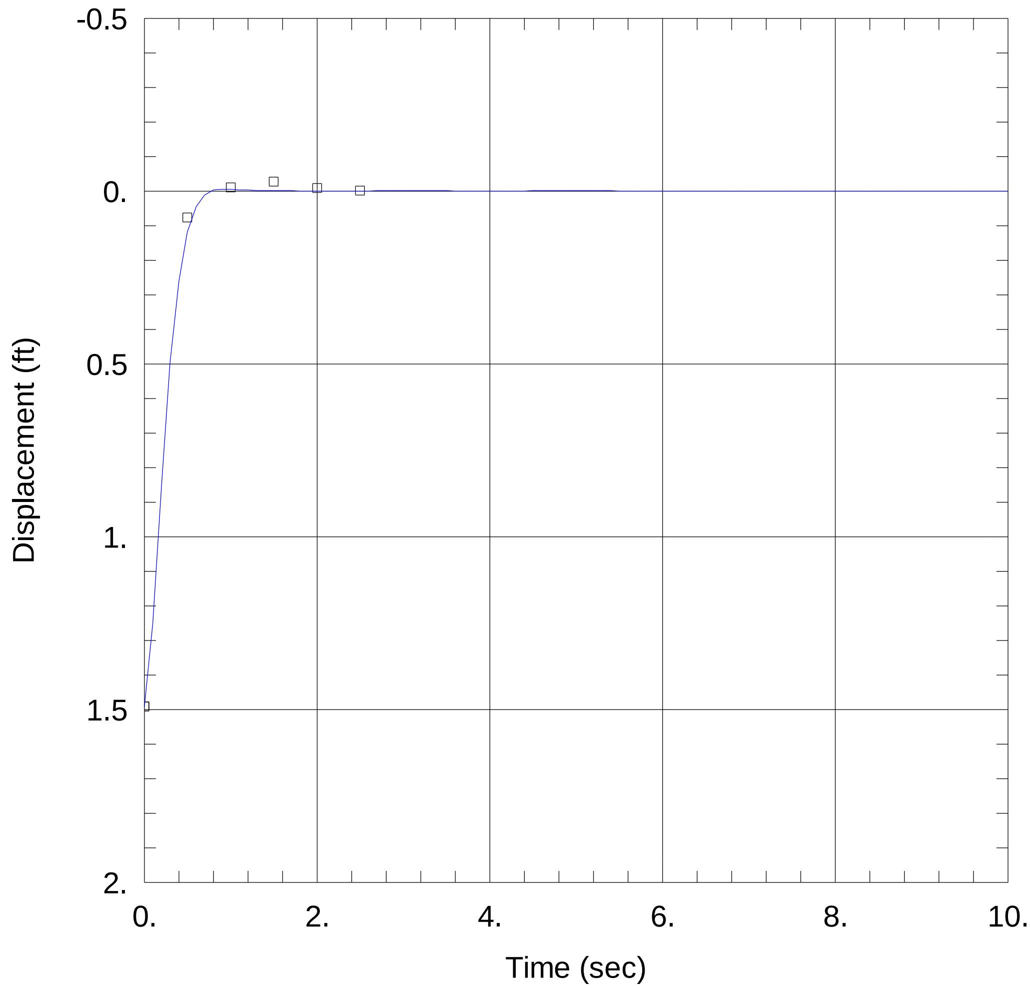
Estimated Parameters

Parameter	Estimate	
K	0.0635	cm/sec
C(D)	0.6409	

Solution is critically damped when C(D) = 1.

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.08867 cm/sec C(D) = 0.8714

AQUIFER DATA

Saturated Thickness: 21.54 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-03 Test 1)

Initial Displacement: 1.491 ft
Static Water Column Height: 8.46 ft
Total Well Penetration Depth: 8.46 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-03_Test1.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:53:24

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 21.54 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-03 Test 1

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.491 ft
Static Water Column Height: 8.46 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 8.46 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 6

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.491	1.5	-0.027
0.5	0.076	2.	-0.008
1.	-0.01	2.5	-0.001

SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar
Shape Factor: 2.127

VISUAL ESTIMATION RESULTS

Estimated Parameters

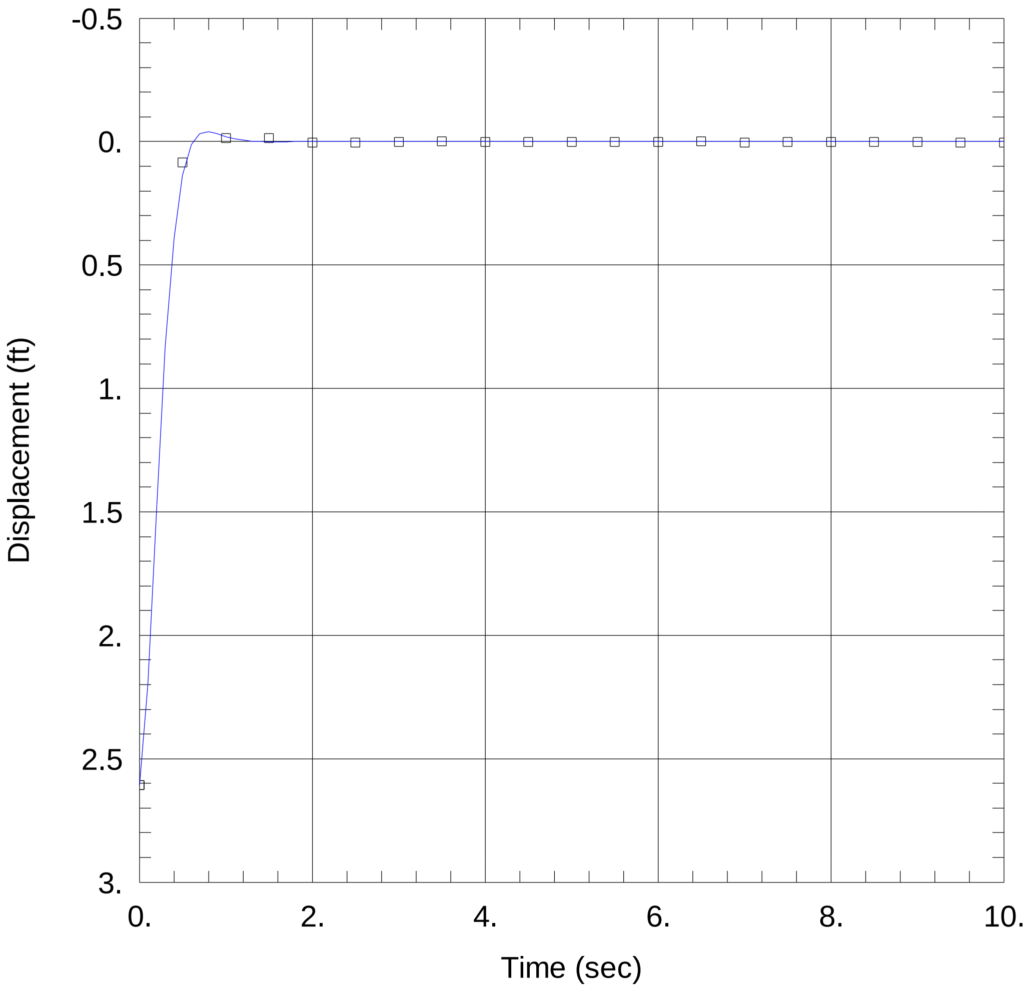
Parameter	Estimate

K	0.08867	cm/sec
C(D)	0.8714	

Solution is critically damped when C(D) = 1.

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.09392 cm/sec C(D) = 0.7991

AQUIFER DATA

Saturated Thickness: 21.54 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-03 Test 2)

Initial Displacement: 2.606 ft
Static Water Column Height: 8.46 ft
Total Well Penetration Depth: 8.46 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-03_Test2.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:52:44

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 21.54 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-03 Test 2

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 2.606 ft
Static Water Column Height: 8.46 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 8.46 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 21

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	2.606	5.5	0.001
0.5	0.084	6.	0.002
1.	-0.015	6.5	0.
1.5	-0.014	7.	0.003
2.	0.003	7.5	0.001
2.5	0.004	8.	0.002
3.	0.001	8.5	0.002
3.5	-0.001	9.	0.002
4.	0.001	9.5	0.003
4.5	0.001	10.	0.003
5.	0.001		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

Shape Factor: 2.127

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.09392	cm/sec
C(D)	0.7991	

Solution is critically damped when C(D) = 1.

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
K	0.09392	0.00127	cm/sec
C(D)	0.7991	0.0195	

Solution is critically damped when C(D) = 1.

Parameter Correlations

	K	C(D)
K	1.00	0.91
C(D)	0.91	1.00

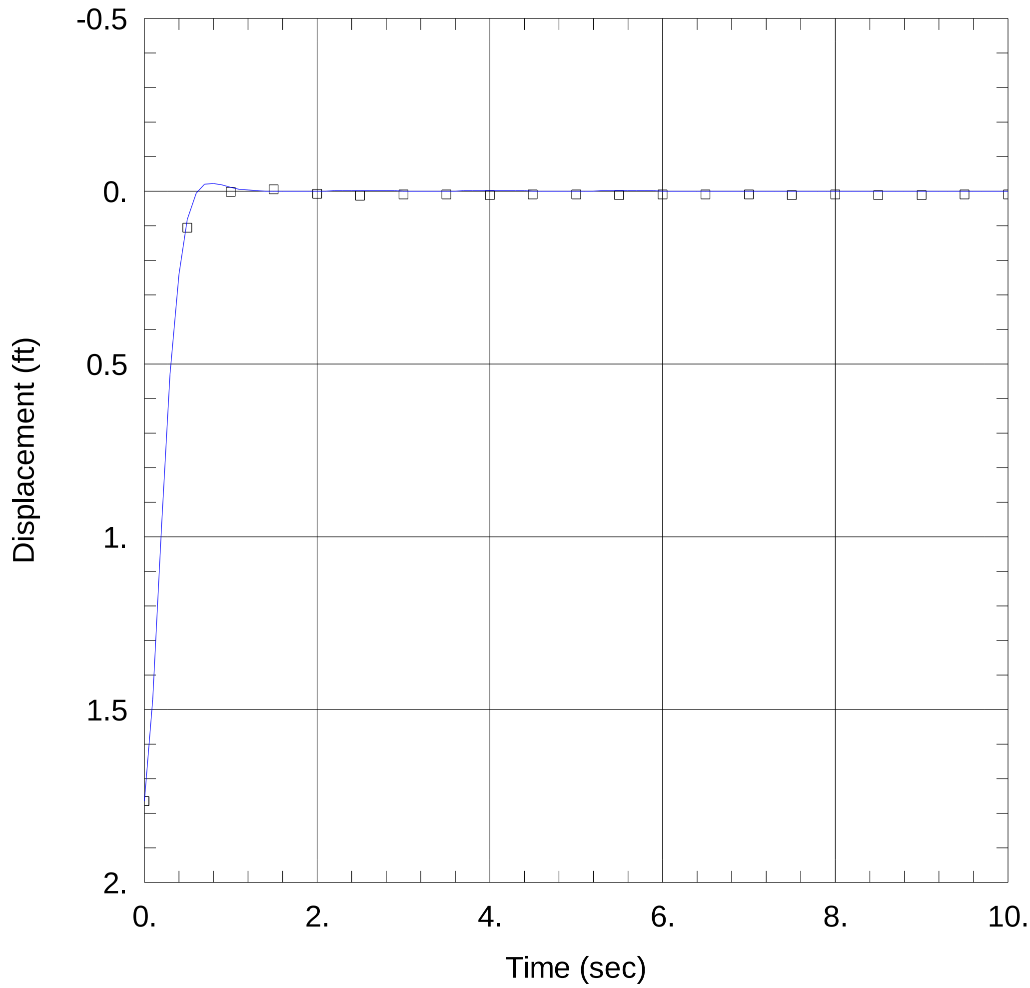
Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.0002893 ft^2
Variance . . . . 1.523E-5 ft^2
Std. Deviation . . . . 0.003902 ft
Mean . . . . 0.0006256 ft
No. of Residuals 21
No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.09614 cm/sec C(D) = 0.8119

AQUIFER DATA

Saturated Thickness: 21.54 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-03 Test 3)

Initial Displacement: 1.766 ft
Static Water Column Height: 8.46 ft
Total Well Penetration Depth: 8.46 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-03_Test3.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:52:02

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 21.54 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-03 Test 3

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.766 ft
Static Water Column Height: 8.46 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 8.46 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 21

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.766	5.5	0.012
0.5	0.107	6.	0.011
1.	0.003	6.5	0.011
1.5	-0.005	7.	0.011
2.	0.008	7.5	0.012
2.5	0.013	8.	0.011
3.	0.011	8.5	0.012
3.5	0.011	9.	0.012
4.	0.012	9.5	0.011
4.5	0.011	10.	0.011
5.	0.011		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

Shape Factor: 2.127

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.09614	cm/sec
C(D)	0.8119	

Solution is critically damped when C(D) = 1.

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
K	0.09614	0.02604	cm/sec
C(D)	0.8119	0.5257	

Solution is critically damped when C(D) = 1.

Parameter Correlations

	K	C(D)
K	1.00	0.99
C(D)	0.99	1.00

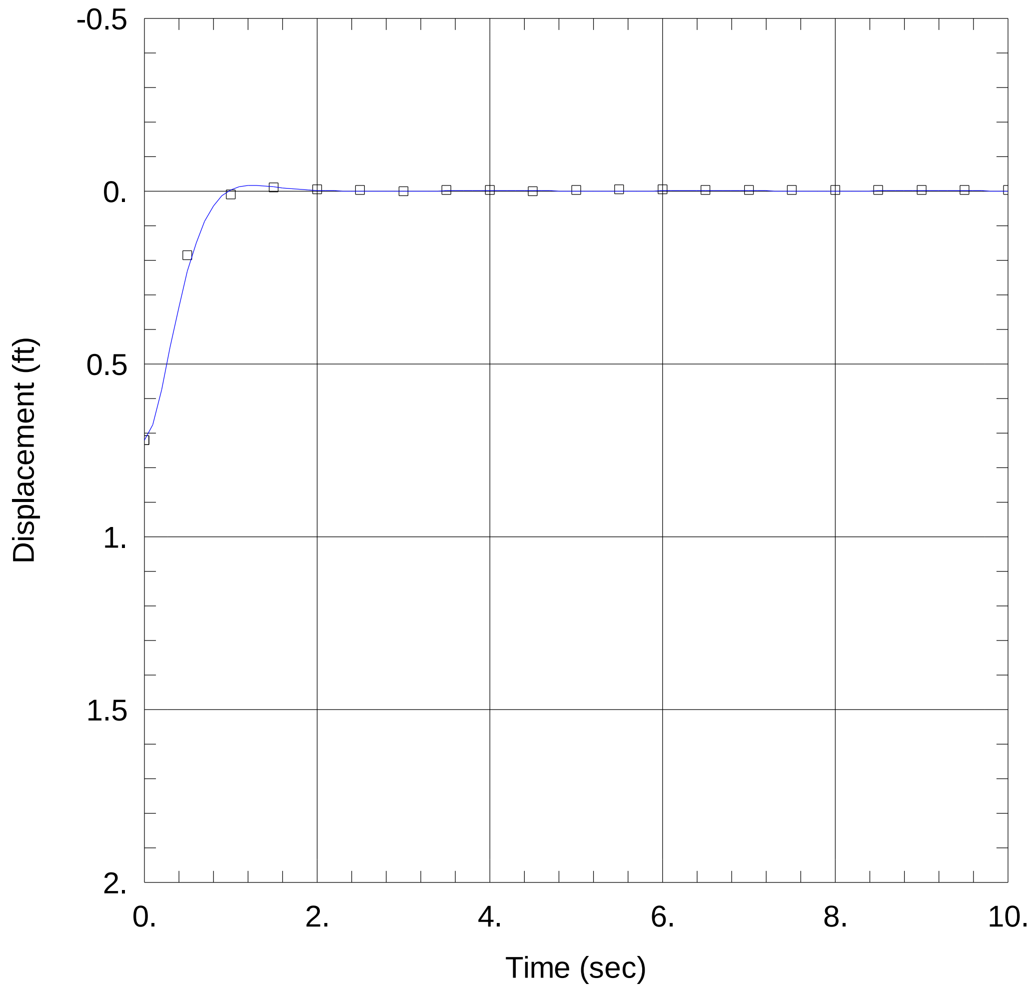
Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.002189 ft^2
Variance . . . . 0.0001152 ft^2
Std. Deviation . . . . 0.01073 ft
Mean . . . . 0.008867 ft
No. of Residuals 21
No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.05805 cm/sec C(D) = 0.7681

AQUIFER DATA

Saturated Thickness: 20.86 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-04 Test 2)

Initial Displacement: 0.721 ft
Static Water Column Height: 9.14 ft
Total Well Penetration Depth: 9.14 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-04_Test2.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:51:11

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.86 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-04 Test 2

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 0.721 ft
Static Water Column Height: 9.14 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.14 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 21

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.721	5.5	-0.004
0.5	0.187	6.	-0.004
1.	0.01	6.5	-0.003
1.5	-0.011	7.	-0.002
2.	-0.005	7.5	-0.002
2.5	-0.002	8.	-0.003
3.	0.	8.5	-0.003
3.5	-0.002	9.	-0.002
4.	-0.002	9.5	-0.002
4.5	0.	10.	-0.002
5.	-0.003		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

Shape Factor: 2.171

VISUAL ESTIMATION RESULTS

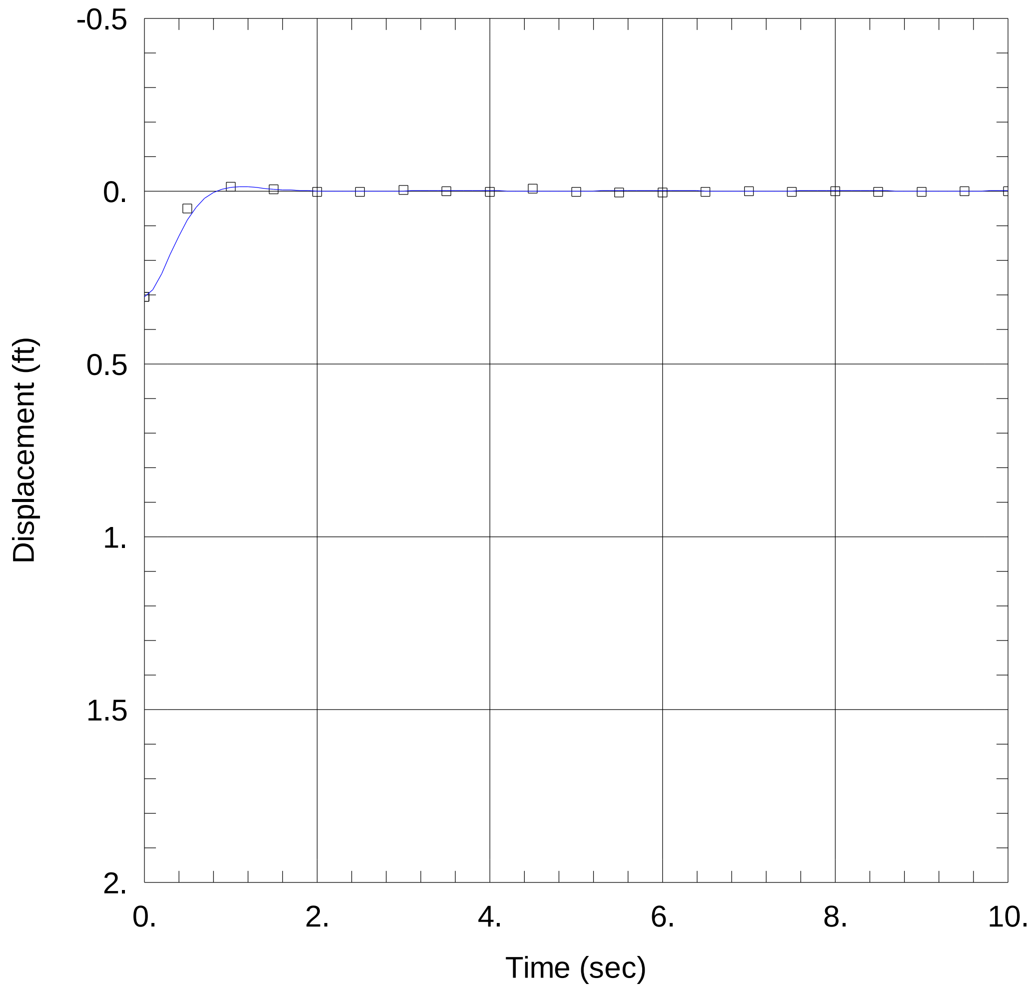
Estimated Parameters

Parameter	Estimate	
K	0.05805	cm/sec
C(D)	0.7681	

Solution is critically damped when C(D) = 1.

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.06435 cm/sec C(D) = 0.7204

AQUIFER DATA

Saturated Thickness: 20.86 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-04 Test 3)

Initial Displacement: 0.307 ft
Static Water Column Height: 9.14 ft
Total Well Penetration Depth: 9.14 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-04_Test3.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:50:15

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.86 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-04 Test 3

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 0.307 ft
Static Water Column Height: 9.14 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.14 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 21

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.307	5.5	0.004
0.5	0.051	6.	0.004
1.	-0.012	6.5	0.003
1.5	-0.005	7.	0.001
2.	0.002	7.5	0.003
2.5	0.003	8.	0.001
3.	-0.002	8.5	0.003
3.5	0.001	9.	0.003
4.	0.002	9.5	0.
4.5	-0.007	10.	0.001
5.	0.002		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

Shape Factor: 2.171

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.06435	cm/sec
C(D)	0.7204	

Solution is critically damped when C(D) = 1.

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
K	0.06435	0.001492	cm/sec
C(D)	0.7204	0.0278	

Solution is critically damped when C(D) = 1.

Parameter Correlations

	K	C(D)
K	1.00	-0.63
C(D)	-0.63	1.00

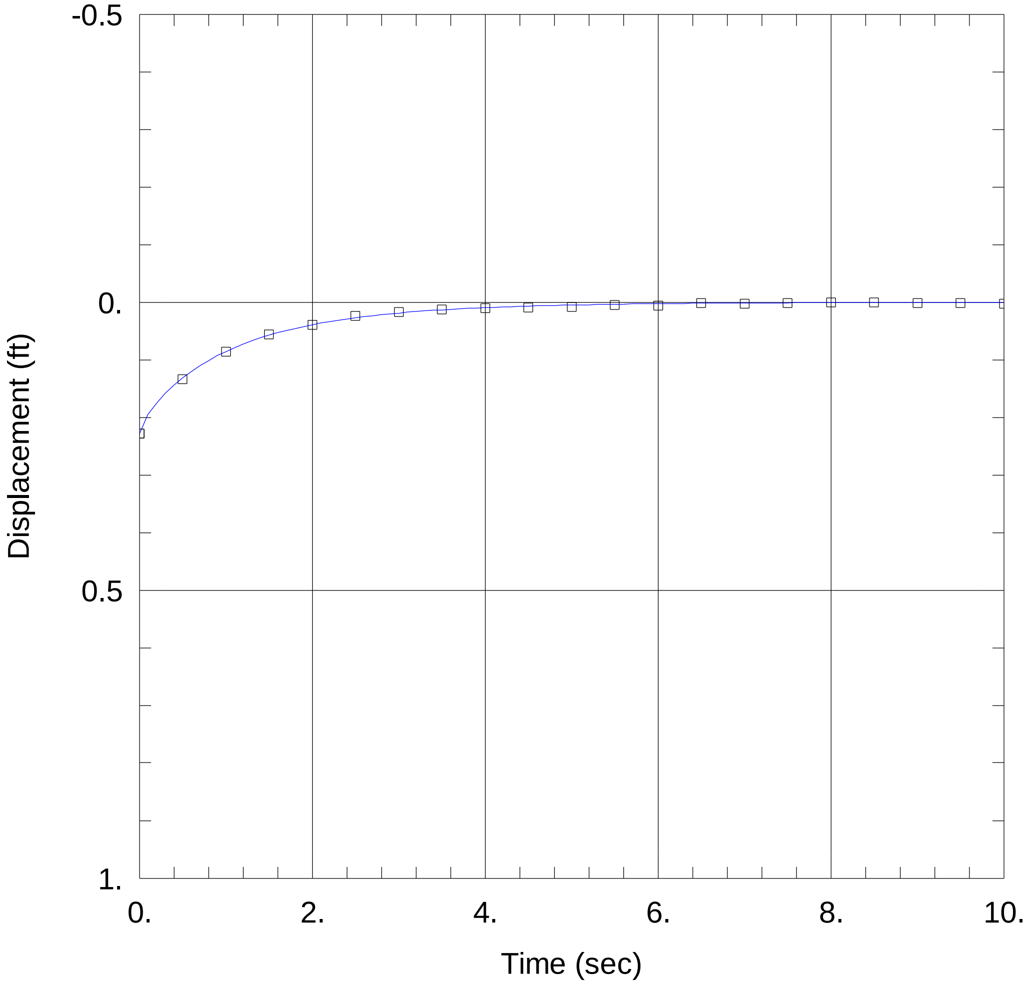
Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.0001581 ft^2
Variance . . . . 8.321E-6 ft^2
Std. Deviation . . . . 0.002885 ft
Mean . . . . 0.0009402 ft
No. of Residuals 21
No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 0.01937 cm/sec Ss = 3.91E-5 ft^{-1}
Kz/Kr = 1.

AQUIFER DATA

Saturated Thickness: 20.89 ft

WELL DATA (MW-05 Test 1)

Initial Displacement: 0.228 ft
Static Water Column Height: 9.11 ft
Total Well Penetration Depth: 9.11 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-05_Test1.KGS(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:35:35

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.89 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-05 Test 1

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 0.228 ft
Static Water Column Height: 9.11 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.11 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 41

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.228	10.5	0.001
0.5	0.134	11.	0.002
1.	0.086	11.5	0.002
1.5	0.056	12.	0.002
2.	0.039	12.5	0.002
2.5	0.024	13.	0.001
3.	0.017	13.5	0.
3.5	0.013	14.	0.002
4.	0.011	14.5	0.003
4.5	0.009	15.	0.001
5.	0.008	15.5	0.
5.5	0.005	16.	-0.002
6.	0.006	16.5	0.
6.5	0.002	17.01	0.
7.	0.003	17.5	-0.001

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
7.5	0.002	18.	0.002
8.	0.001	18.5	0.
8.5	0.001	19.	0.
9.	0.002	19.5	-0.001
9.5	0.002	20.	-0.002
10.	0.003		

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
Kr	0.01937	cm/sec
Ss	3.91E-5	ft^{-1}
Kz/Kr	1.	

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
Kr	0.01937	0.0002419	cm/sec
Ss	3.91E-5	6.225E-6	ft^{-1}
Kz/Kr	1.	not estimated	

Parameter Correlations

	Kr	Ss
Kr	1.00	-0.48
Ss	-0.48	1.00

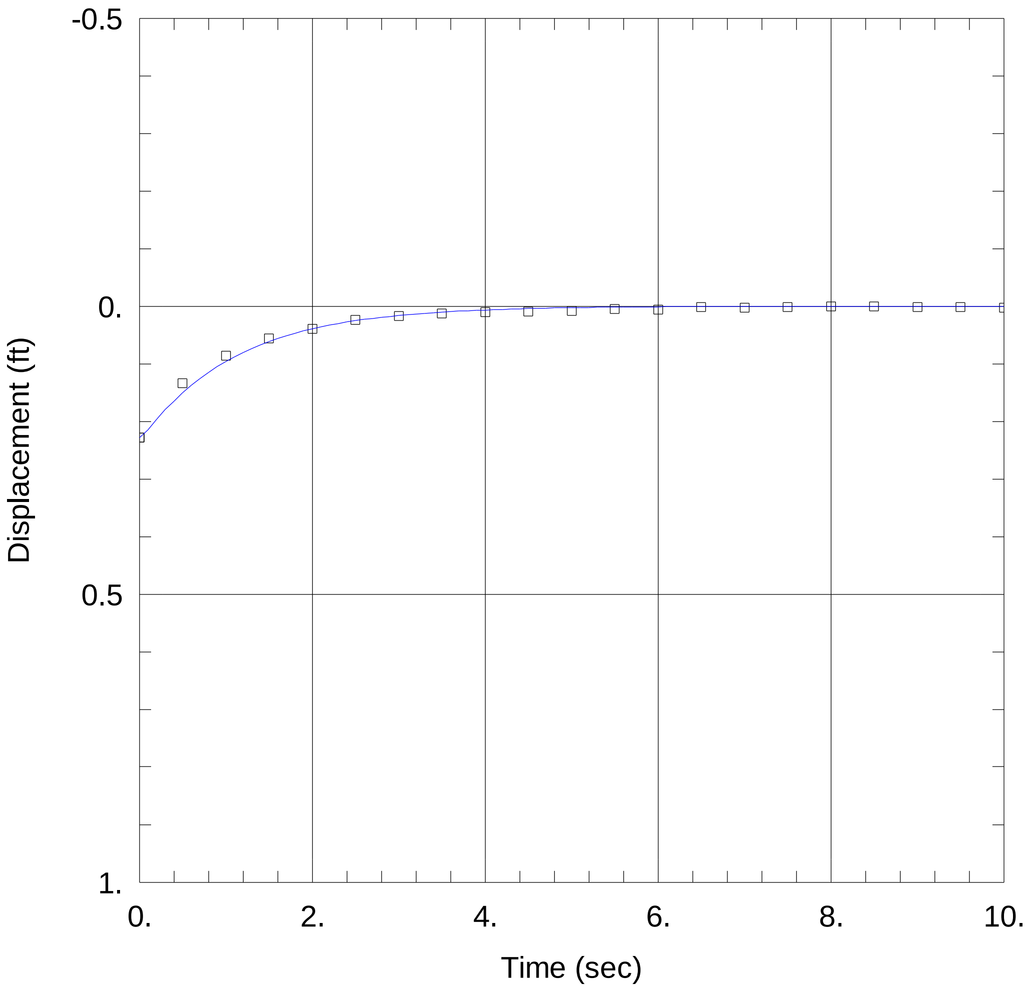
Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.0001067 ft^2
Variance . . . . 2.735E-6 ft^2
Std. Deviation . . . . 0.001654 ft
Mean . . . . 0.00062 ft
No. of Residuals 41
No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.01968 cm/sec C(D) = 2.985

AQUIFER DATA

Saturated Thickness: 20.89 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-05 Test 1)

Initial Displacement: 0.228 ft
Static Water Column Height: 9.11 ft
Total Well Penetration Depth: 9.11 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-05_Test1.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:38:41

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.89 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-05 Test 1

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 0.228 ft
Static Water Column Height: 9.11 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.11 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 41

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.228	10.5	0.001
0.5	0.134	11.	0.002
1.	0.086	11.5	0.002
1.5	0.056	12.	0.002
2.	0.039	12.5	0.002
2.5	0.024	13.	0.001
3.	0.017	13.5	0.
3.5	0.013	14.	0.002
4.	0.011	14.5	0.003
4.5	0.009	15.	0.001
5.	0.008	15.5	0.
5.5	0.005	16.	-0.002
6.	0.006	16.5	0.
6.5	0.002	17.01	0.
7.	0.003	17.5	-0.001

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
7.5	0.002	18.	0.002
8.	0.001	18.5	0.
8.5	0.001	19.	0.
9.	0.002	19.5	-0.001
9.5	0.002	20.	-0.002
10.	0.003		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

Shape Factor: 2.169

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.01968	cm/sec
C(D)	2.985	

Solution is critically damped when C(D) = 1.

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
K	0.01968	0.0003953	cm/sec
C(D)	2.985	62.84	

Solution is critically damped when C(D) = 1.

Parameter Correlations

	K	C(D)
K	1.00	0.10
C(D)	0.10	1.00

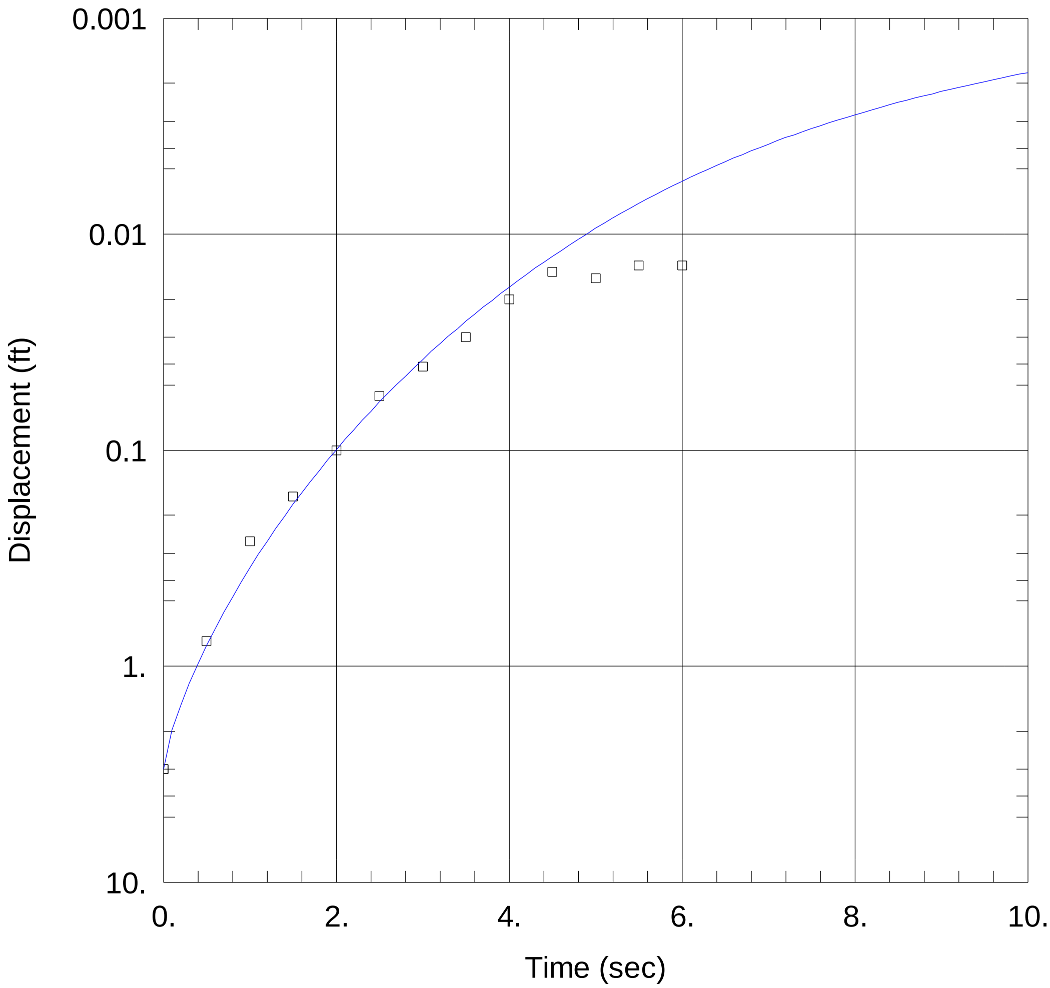
Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.0003598 ft^2
Variance . . . . 9.225E-6 ft^2
Std. Deviation . . . . 0.003037 ft
Mean . . . . 0.001355 ft
No. of Residuals 41
No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

Kr = 0.04878 cm/sec Ss = 0.0001601 ft^{-1}
Kz/Kr = 1.

AQUIFER DATA

Saturated Thickness: 20.89 ft

WELL DATA (MW-05 Test 2)

Initial Displacement: 3.008 ft
Static Water Column Height: 9.11 ft
Total Well Penetration Depth: 9.11 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-05_Test2.KGS(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:46:58

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.89 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-05 Test 2

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 3.008 ft
Static Water Column Height: 9.11 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.11 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 13

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	3.008	3.5	0.03
0.5	0.764	4.	0.02
1.	0.265	4.5	0.015
1.5	0.164	5.	0.016
2.	0.1	5.5	0.014
2.5	0.056	6.	0.014
3.	0.041		

SOLUTION

Aquifer Model: Unconfined
Solution Method: KGS Model

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
Kr	0.04878	cm/sec
Ss	0.0001601	ft^{-1}
Kz/Kr	1.	

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
Kr	0.04878	0.001159	cm/sec
Ss	0.0001601	3.085E-5	ft^{-1}
Kz/Kr	1.	not estimated	

Parameter Correlations

	Kr	Ss
Kr	1.00	-0.54
Ss	-0.54	1.00

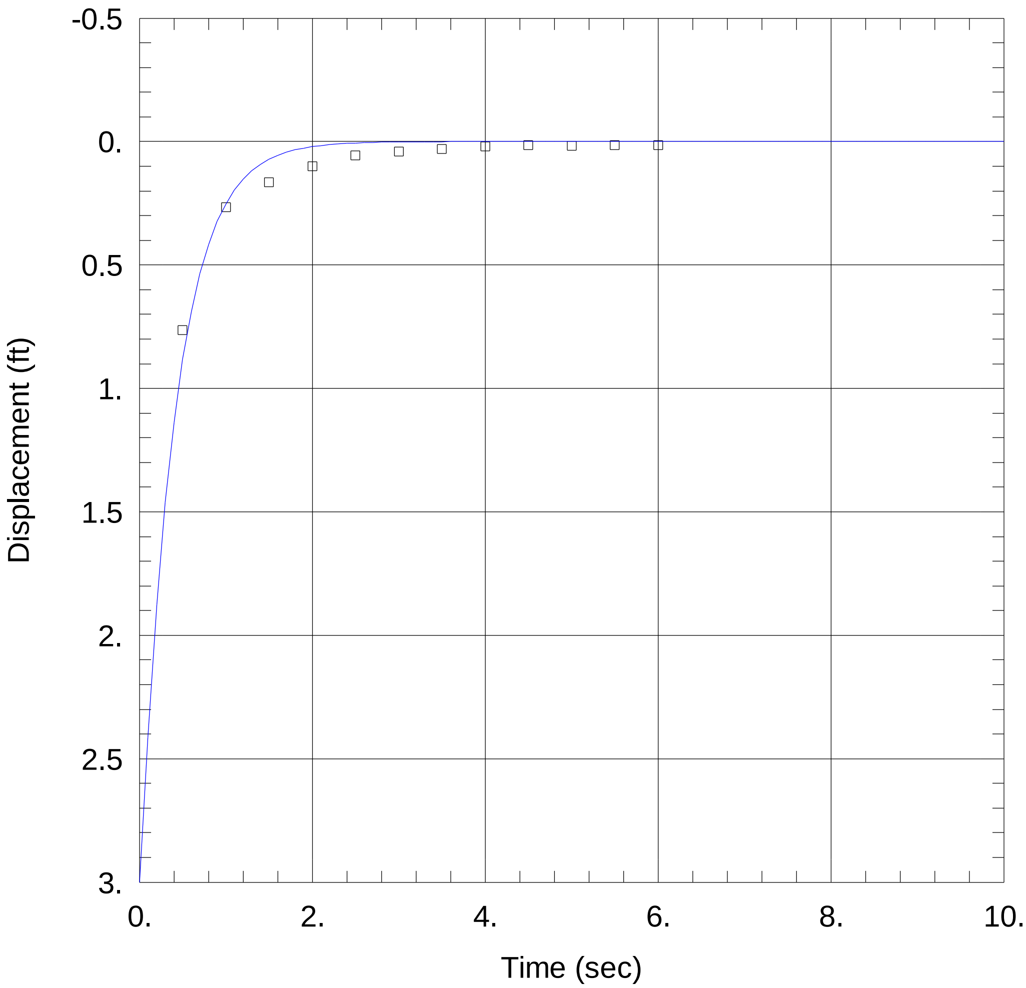
Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.00344 ft^2
Variance . . . . 0.0003127 ft^2
Std. Deviation . . . . 0.01768 ft
Mean . . . . 0.00459 ft
No. of Residuals 13
No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.05549 cm/sec C(D) = 2.985

AQUIFER DATA

Saturated Thickness: 20.89 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-05 Test 2)

Initial Displacement: 3.008 ft
Static Water Column Height: 9.11 ft
Total Well Penetration Depth: 9.11 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-05_Test2.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:45:45

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.89 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-05 Test 2

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 3.008 ft
Static Water Column Height: 9.11 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.11 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 13

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	3.008	3.5	0.03
0.5	0.764	4.	0.02
1.	0.265	4.5	0.015
1.5	0.164	5.	0.016
2.	0.1	5.5	0.014
2.5	0.056	6.	0.014
3.	0.041		

SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar
Shape Factor: 2.169

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.05549	cm/sec
C(D)	2.985	

Solution is critically damped when C(D) = 1.

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
K	0.05549	0.006202	cm/sec
C(D)	2.985	519.7	

Solution is critically damped when C(D) = 1.

Parameter Correlations

	K	C(D)
K	1.00	0.90
C(D)	0.90	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.03073 ft^2
Variance . . . . 0.002793 ft^2
Std. Deviation . . . . 0.05285 ft
Mean . . . . 0.03432 ft
No. of Residuals 13
No. of Estimates 2

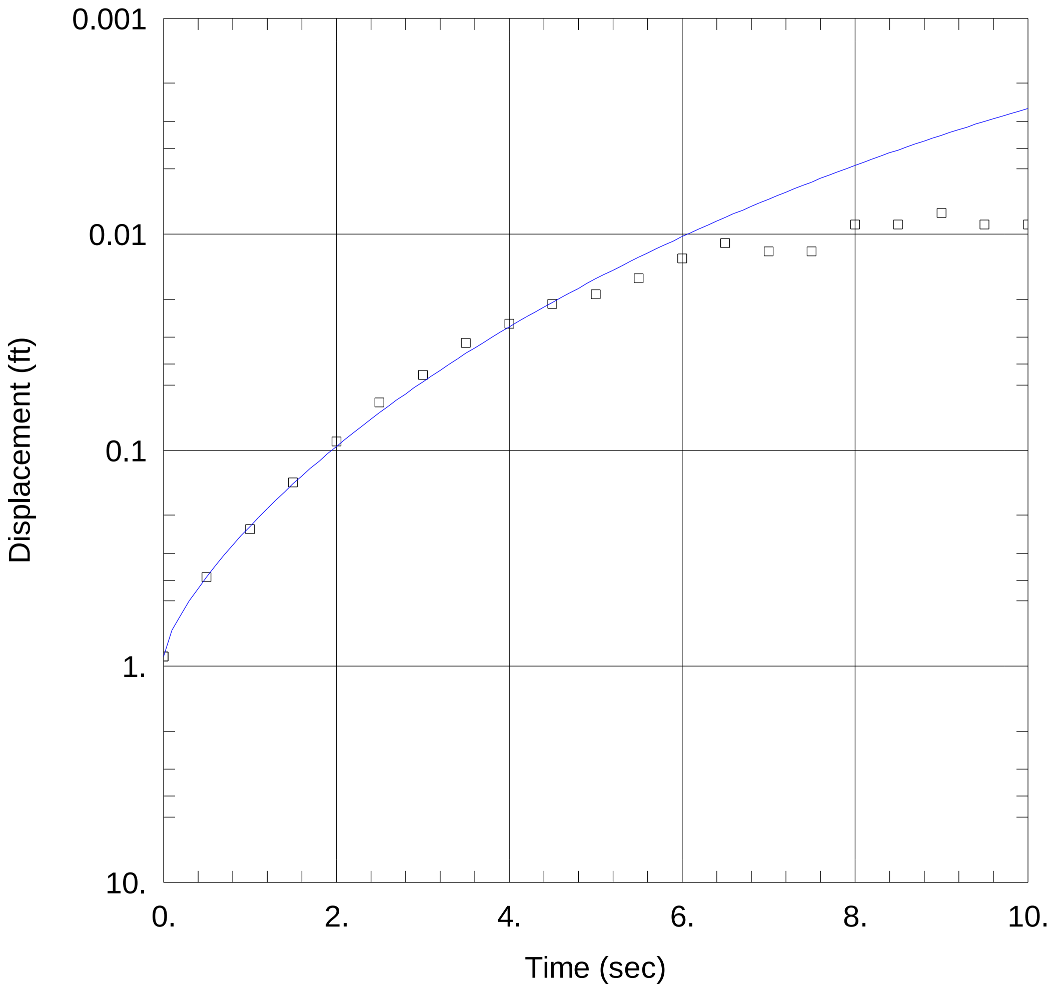
SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice

Prepared For: City of Rome

Project: 245.005

Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

Kr = 0.02586 cm/sec   Ss = 0.0001729 ft^{-1}

Kz/Kr = 1.

AQUIFER DATA

Saturated Thickness: 20.89 ft

WELL DATA (MW-05 Test 3)

Initial Displacement: 0.904 ft

Static Water Column Height: 9.11 ft

Total Well Penetration Depth: 9.11 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.333 ft

Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-05_Test3.KGS(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:47:44

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.89 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-05 Test 3

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 0.904 ft
Static Water Column Height: 9.11 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.11 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 26

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.904	6.5	0.011
0.5	0.388	7.	0.012
1.	0.232	7.5	0.012
1.5	0.141	8.	0.009
2.	0.091	8.5	0.009
2.5	0.06	9.	0.008
3.	0.045	9.5	0.009
3.5	0.032	10.	0.009
4.	0.026	10.5	0.008
4.5	0.021	11.	0.008
5.	0.019	11.5	0.008
5.5	0.016	12.	0.007
6.	0.013	12.5	0.008

SOLUTION

Aquifer Model: Unconfined

Solution Method: KGS Model

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
Kr	0.02586	cm/sec
Ss	0.0001729	ft^{-1}
Kz/Kr	1.	

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
Kr	0.02586	0.0003744	cm/sec
Ss	0.0001729	1.649E-5	ft^{-1}
Kz/Kr	1.	not estimated	

Parameter Correlations

	Kr	Ss
Kr	1.00	-0.64
Ss	-0.64	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.000567 ft^2

Variance . . . . 2.363E-5 ft^2

Std. Deviation . . . . 0.004861 ft

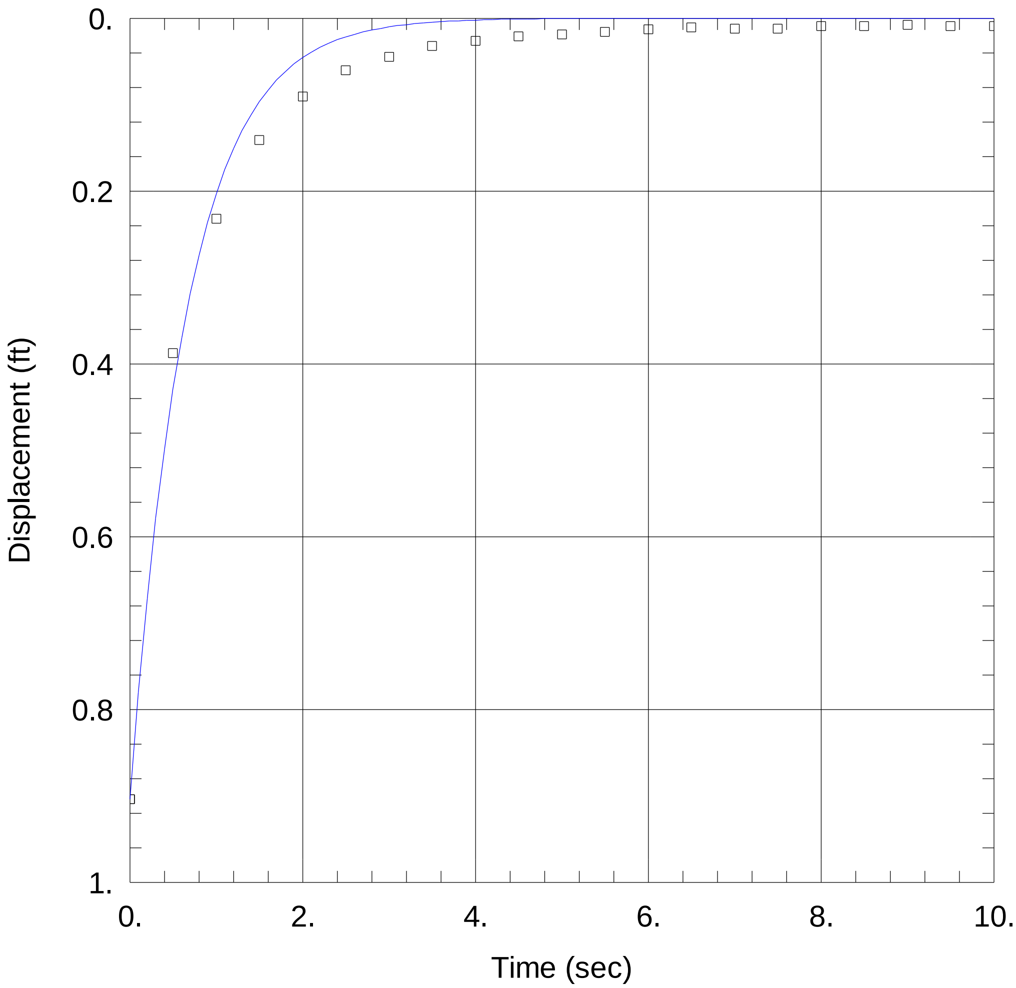
Mean . . . . 0.002452 ft

No. of Residuals 26

No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.03393 cm/sec C(D) = 10.

AQUIFER DATA

Saturated Thickness: 20.89 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-05 Test 3)

Initial Displacement: 0.904 ft
Static Water Column Height: 9.11 ft
Total Well Penetration Depth: 9.11 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-05_Test3.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:48:31

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.89 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-05 Test 3

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 0.904 ft
Static Water Column Height: 9.11 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.11 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 26

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.904	6.5	0.011
0.5	0.388	7.	0.012
1.	0.232	7.5	0.012
1.5	0.141	8.	0.009
2.	0.091	8.5	0.009
2.5	0.06	9.	0.008
3.	0.045	9.5	0.009
3.5	0.032	10.	0.009
4.	0.026	10.5	0.008
4.5	0.021	11.	0.008
5.	0.019	11.5	0.008
5.5	0.016	12.	0.007
6.	0.013	12.5	0.008

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

Shape Factor: 2.169

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.03393	cm/sec
C(D)	10.	

Solution is critically damped when C(D) = 1.

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
K	0.03393	0.001615	cm/sec
C(D)	10.	221.3	

Solution is critically damped when C(D) = 1.

Parameter Correlations

	K	C(D)
K	1.00	0.34
C(D)	0.34	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.01279 ft^2

Variance . . . . 0.0005331 ft^2

Std. Deviation . . . . 0.02309 ft

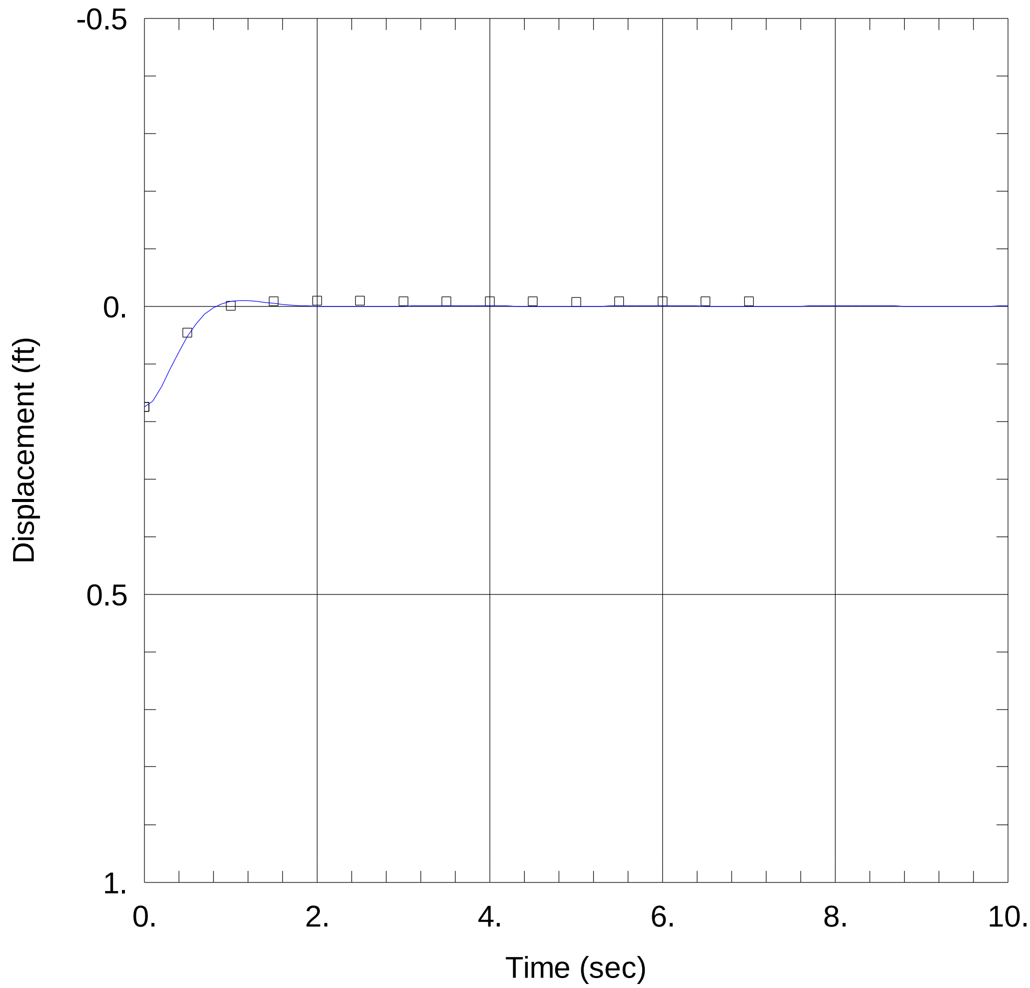
Mean . . . . 0.01483 ft

No. of Residuals 26

No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.06359 cm/sec C(D) = 0.6807

AQUIFER DATA

Saturated Thickness: 20.81 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-06 Test 1)

Initial Displacement: 0.175 ft
Static Water Column Height: 9.19 ft
Total Well Penetration Depth: 9.19 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-06_Test1.SpringerGelhar(091311).aqt

Title: SLUG TEST ANALYSIS

Date: 09/30/11

Time: 14:37:50

PROJECT INFORMATION

Company: Barton & Loguidice

Client: City of Rome

Project: 245.005

Location: 1313-1333 East Dominick St

Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.81 ft

Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-06 Test 1

X Location: 0. ft

Y Location: 0. ft

Initial Displacement: 0.175 ft

Static Water Column Height: 9.19 ft

Casing Radius: 0.083 ft

Wellbore Radius: 0.333 ft

Well Skin Radius: 0.333 ft

Screen Length: 10. ft

Total Well Penetration Depth: 9.19 ft

Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft

Gravel Pack Porosity: 0.25

No. of Observations: 15

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.175	4.	-0.008
0.5	0.046	4.5	-0.008
1.	-0.001	5.	-0.007
1.5	-0.008	5.5	-0.008
2.	-0.009	6.	-0.008
2.5	-0.009	6.5	-0.008
3.	-0.008	7.	-0.008
3.5	-0.008		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

Shape Factor: 2.174

VISUAL ESTIMATION RESULTS

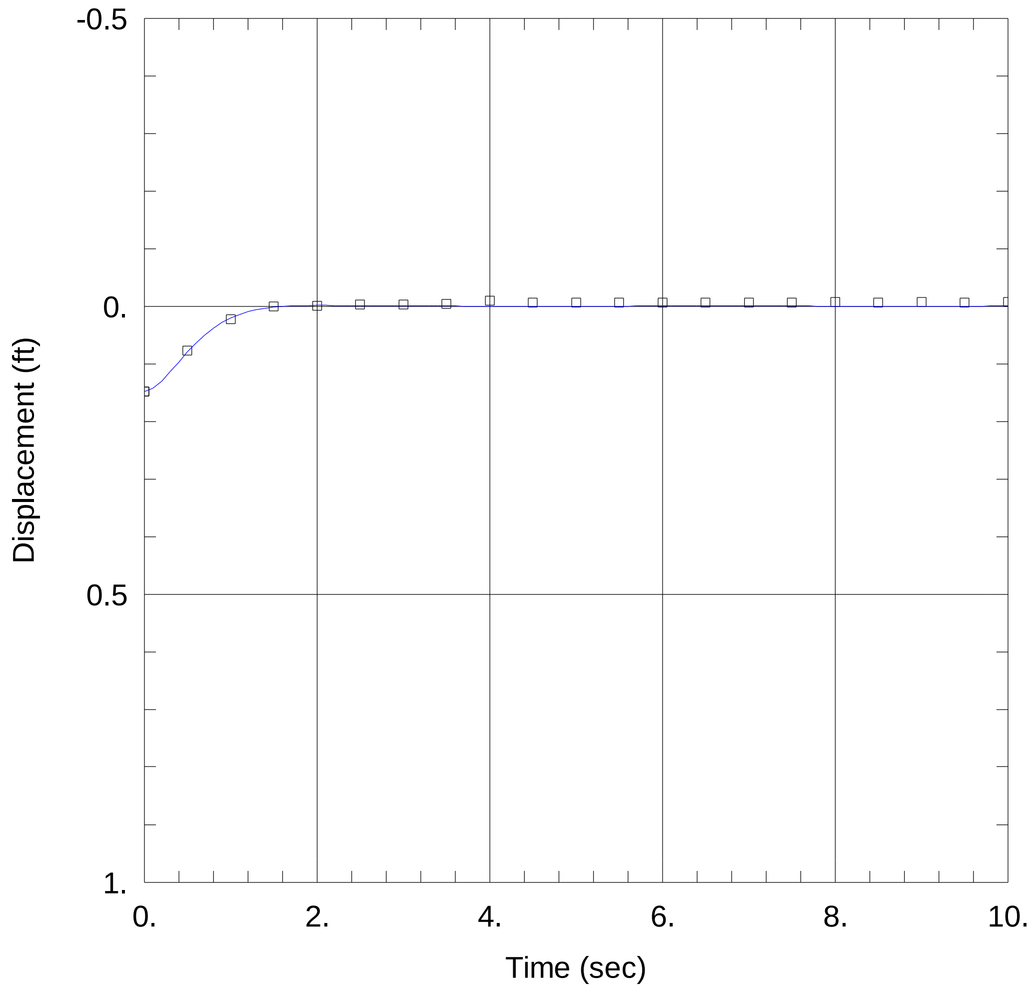
Estimated Parameters

Parameter	Estimate	
K	0.06359	cm/sec
C(D)	0.6807	

Solution is critically damped when C(D) = 1.

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.03889 cm/sec   C(D) = 0.8398

AQUIFER DATA

Saturated Thickness: 20.81 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-06 Test 2)

Initial Displacement: 0.148 ft
Static Water Column Height: 9.19 ft
Total Well Penetration Depth: 9.19 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-06_Test2.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:40:26

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.81 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-06 Test 2

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 0.148 ft
Static Water Column Height: 9.19 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.19 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 21

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.148	5.5	-0.006
0.5	0.077	6.	-0.006
1.	0.023	6.5	-0.006
1.5	0.001	7.	-0.006
2.	-0.001	7.5	-0.006
2.5	-0.003	8.	-0.007
3.	-0.003	8.5	-0.006
3.5	-0.004	9.	-0.007
4.	-0.009	9.5	-0.006
4.5	-0.006	10.	-0.007
5.	-0.006		

SOLUTION

Aquifer Model: Unconfined

Solution Method: Springer-Gelhar

Shape Factor: 2.174

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.03889	cm/sec
C(D)	0.8398	

Solution is critically damped when C(D) = 1.

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
K	0.03889	0.002371	cm/sec
C(D)	0.8398	0.1061	

Solution is critically damped when C(D) = 1.

Parameter Correlations

	K	C(D)
K	1.00	-0.52
C(D)	-0.52	1.00

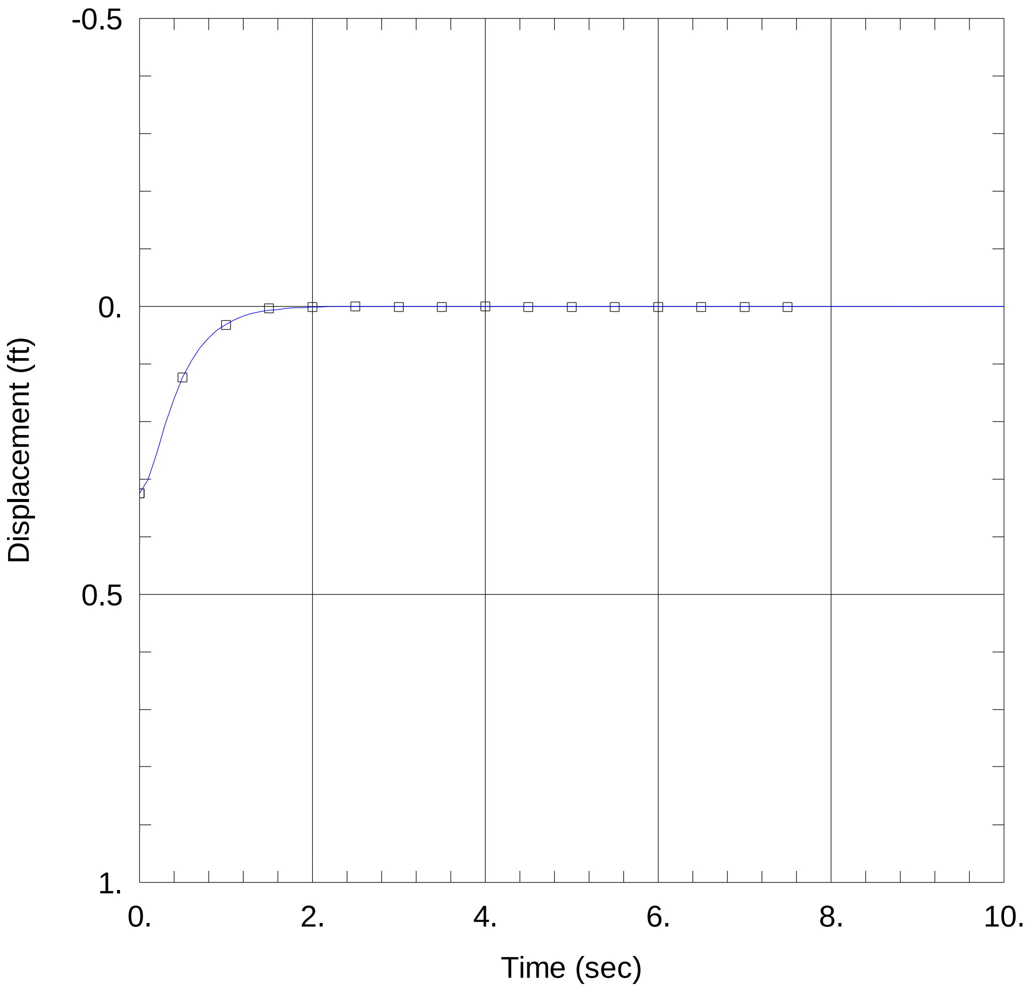
Residual Statistics

for weighted residuals

Sum of Squares . . . . 0.000592 ft^2
Variance . . . . 3.116E-5 ft^2
Std. Deviation . . . . 0.005582 ft
Mean . . . . -0.004514 ft
No. of Residuals 21
No. of Estimates 2

SLUG TEST ANALYSIS

Prepared By: Barton & Loguidice	Prepared For: City of Rome
Project: 245.005	Location: 1313-1333 East Dominick St



SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar

K = 0.04643 cm/sec C(D) = 1.103

AQUIFER DATA

Saturated Thickness: 20.81 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-06 Test 3)

Initial Displacement: 0.325 ft
Static Water Column Height: 9.19 ft
Total Well Penetration Depth: 9.19 ft
Screen Length: 10. ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Gravel Pack Porosity: 0.25

Data Set: U:\200\245 - Rome, City of\245.005-S-EC-Env Restoration Program\4 ENVIRONMENTAL\HC_data\1313ED\1313ED-MW-06_Test3.SpringerGelhar(091311).aqt
Title: SLUG TEST ANALYSIS
Date: 09/30/11
Time: 14:39:34

PROJECT INFORMATION

Company: Barton & Loguidice
Client: City of Rome
Project: 245.005
Location: 1313-1333 East Dominick St
Test Date: April 2010

AQUIFER DATA

Saturated Thickness: 20.81 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: : MW-06 Test 3

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 0.325 ft
Static Water Column Height: 9.19 ft
Casing Radius: 0.083 ft
Wellbore Radius: 0.333 ft
Well Skin Radius: 0.333 ft
Screen Length: 10. ft
Total Well Penetration Depth: 9.19 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.1814 ft
Gravel Pack Porosity: 0.25

No. of Observations: 16

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	0.325	4.	0.001
0.5	0.124	4.5	0.002
1.	0.033	5.	0.002
1.5	0.004	5.5	0.002
2.	0.002	6.	0.002
2.5	0.001	6.5	0.002
3.	0.002	7.	0.002
3.5	0.002	7.5	0.002

SOLUTION

Aquifer Model: Unconfined
Solution Method: Springer-Gelhar
Shape Factor: 2.174

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.04643	cm/sec
C(D)	1.103	

Solution is critically damped when C(D) = 1.

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	
K	0.04643	0.0005043	cm/sec
C(D)	1.103	0.04494	

Solution is critically damped when C(D) = 1.

Parameter Correlations

	K	C(D)
K	1.00	-0.31
C(D)	-0.31	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . 5.265E-5 ft^2
Variance . . . . 3.761E-6 ft^2
Std. Deviation . . . . 0.001939 ft
Mean . . . . 0.001103 ft
No. of Residuals 16
No. of Estimates 2

Appendix H

Groundwater Field Sampling Data Sheets

Barton & Loguidice, P.C.
Consulting Engineers

FIELD SAMPLING DATA SHEET

SITE: *1313 East Dominick Street* **SAMPLE LOCATION:** *MW-1*
CLIENT: *City of Rome* **JOB NO.:** *245.005.001*

Weather conditions: *sleet, upper 30s F*

SAMPLE TYPE: Groundwater [x] Surface Water [ ] Other (specify):__________
Sediment [ ] Leachate [ ] __________

WATER LEVEL DATA

Static Water Level (feet)*:	*23.00*
Measured Well Depth (feet)*:	*29.70*
Well Casing Diameter (inches):	
Volume in Well Casing (gallons):	*1.005*

*depth from measuring point

Measuring Pt: Top of Riser: [X] Other: ______
Measured by: *BJM/DMJ*
Date: *2/24/2010*
Time: *14:27*

PURGING METHOD
Equipment: Bailer [x] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]
Dedicated [ ] Non-dedicated [x]

Calc. Vol. of Water Purged (gal) 3.02
Volume of Water Purged (gal): *3.25*

Did well purge dry? No [x] Yes [ ] Vol before dry: ______
Did well recover? No [ ] Yes [ ] Recovery time: ______

SAMPLING METHOD
Equipment: Bailer [x] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]
Dedicated [ ] *Non-dedicated* [x]

Sampled by: *BJM/DMJ* **Time:** *14:30* **Date:** *2/24/2010*

SAMPLING DATA
Sample Appearance:
Color: *clear to slight haze* Sediment: *trace fines*
Odor: *none* Other: ______

Field Measured Parameters:

pH (Standard Units)	7.6	Sp. Conductivity (mS/cm)	280
Temperature (F)	49.4	Eh-Redox Potential (mV)	314
Turbidity (NTUs)	200.9	Dissolved Oxygen (mg/L)	

Samples Collected: 4 amber - SVOC,PCB, Pest., Extra; 3 VOA-VOC; 1 Plastic - metals ; 8 bottles

Samples Delivered: *Test America* **Time:** ______ **Date:** ______

COMMENTS:

Barton & Loguidice, P.C.
Consulting Engineers

FIELD SAMPLING DATA SHEET

SITE: *1313 East Dominick Street* **SAMPLE LOCATION:** *MW-2 (MS/MSD)*
CLIENT: *City of Rome* **JOB NO.:** *245.005.001*

Weather conditions: *cloudy, sleet*

SAMPLE TYPE: Groundwater [x] Surface Water [ ] Other (specify):_________
Sediment [ ] Leachate [ ]

WATER LEVEL DATA

Static Water Level (feet)*:	*18.85*
Measured Well Depth (feet)*:	*26.64*
Well Casing Diameter (inches):	
Volume in Well Casing (gallons):	*1.250*

*depth from measuring point

Measuring Pt: Top of Riser: [X] Other: ________
Measured by: *BJM/DMJ*
Date: *2/24/2010*
Time: ________

PURGING METHOD
Equipment: Bailer [x] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]
Dedicated [ ] Non-dedicated [x]

Calc. Vol. of Water Purged (gal) 3.74
Volume of Water Purged (gal): ________

Did well purge dry? No [x] Yes [ ] Vol before dry: ________
Did well recover? No [ ] Yes [ ] Recovery time: ________

SAMPLING METHOD
Equipment: Bailer [x] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]
Dedicated [ ] *Non-dedicated* [x]

Sampled by: *BJM/DMJ* **Time:** *13:10* **Date:** *2/24/2001*

SAMPLING DATA
Sample Appearance:
Color: *hazy brown* Sediment: *lots of fines*
Odor: *none* Other: ________

Field Measured Parameters:

pH (Standard Units)	7.6	Sp. Conductivity (mS/cm)	1600
Temperature (F)	50.2	Eh-Redox Potential (mV)	196
Turbidity (NTUs)	472.3	Dissolved Oxygen (mg/L)	

Samples Collected: 12 Amber - SVOC, PCB, herb./pest., Extra; 9 VOA, VOCs; 3 Plastic - Metals

Samples Delivered: *Test America* **Time:** ________ **Date:** *2/24/10*

COMMENTS:
MS/MSD location

Barton & Loguidice, P.C.
Consulting Engineers

FIELD SAMPLING DATA SHEET

SITE: *1313 East Dominick Street* **SAMPLE LOCATION:** *MW-3*
CLIENT: *City of Rome* **JOB NO.:** *245.005.001*

Weather conditions: *sleet, upper 30 F*

SAMPLE TYPE: Groundwater [x] Surface Water [ ] Other (specify):_________
Sediment [ ] Leachate [ ] ________________________

WATER LEVEL DATA

Static Water Level (feet)*:	*21.64*
Measured Well Depth (feet)*:	*29.73*
Well Casing Diameter (inches):	*2.00*
Volume in Well Casing (gallons):	*1.290*

*depth from measuring point

Measuring Pt: Top of Riser: [X]
Other: ________
Measured by: *BJM/DMJ*
Date: *2/24/2010*
Time: ________

PURGING METHOD

Equipment: Bailer [x] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]

Dedicated [ ] Non-dedicated [x]

Calc. Vol. of Water Purged (gal) 3.88
Volume of Water Purged (gal): *4.00*

Did well purge dry? No [x] Yes [ ] Vol before dry: ________
Did well recover? No [ ] Yes [ ] Recovery time: ________

SAMPLING METHOD

Equipment: Bailer [ ] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]
Dedicated [ ] *Non-dedicated* [ ]

Sampled by: *BJM/DMJ* **Time:** *14:15* **Date:** *2/24/2010*

SAMPLING DATA

Sample Appearance:
Color: *brown haze* Sediment: *lots of fines*
Odor: *none* Other: ________

Field Measured Parameters:

pH (Standard Units)	7.7	Sp. Conductivity (mS/cm)	1250
Temperature (F)	51	Eh-Redox Potential (mV)	314
Turbidity (NTUs)	495.4	Dissolved Oxygen (mg/L)	

Samples Collected: 4 Amber - SVOC, PCB, Pest., Extra; 3 VOA-VOCs; 1 Plastic - Metals

Samples Delivered: *Test America* **Time:** ________ **Date:** *2/24/10*

COMMENTS:

Barton & Loguidice, P.C.
Consulting Engineers

FIELD SAMPLING DATA SHEET

SITE: *1313 East Dominick Street* **SAMPLE LOCATION:** *MW-4*
CLIENT: *City of Rome* **JOB NO.:** *245.005.001*

Weather conditions: *cloudy, upper 30 F*

SAMPLE TYPE:

Groundwater	x	Surface Water		Other (specify):__________	
Sediment		Leachate		__________	

WATER LEVEL DATA

Static Water Level (feet)*:	*19.84*
Measured Well Depth (feet)*:	*26.74*
Well Casing Diameter (inches):	
Volume in Well Casing (gallons):	*1.104*

*depth from measuring point

Measuring Pt: Top of Riser: X
Other:
Measured by: *BJM/DMJ*
Date: *2/24/2010*
Time: *12:15*

PURGING METHOD

Equipment:

Bailer	x	Submersible Pump		Air Lift System	
Bladder Pump		Foot Valve		Peristaltic Pump	
Dedicated		Non-dedicated	x		

Calc. Vol. of Water Purged (gal) 3.31
Volume of Water Purged (gal):

Did well purge dry? No [ ] Yes [ ] Vol before dry: ______
Did well recover? No [ ] Yes [ ] Recovery time: ______

SAMPLING METHOD

Equipment:

Bailer	x	Submersible Pump		Air Lift System	
Bladder Pump		Foot Valve		Peristaltic Pump	
Dedicated		*Non-dedicated*	x		

Sampled by: *BJM/DMJ* **Time:** *12:25* **Date:** *2/24/2010*

SAMPLING DATA
Sample Appearance:
Color: *cloudy brown* Sediment: *sediment present*
Odor: *none* Other:

Field Measured Parameters:

pH (Standard Units)	7.6	Sp. Conductivity (mS/cm)	1370
Temperature (F)	50.4	Eh-Redox Potential (mV)	174
Turbidity (NTUs)	733.3	Dissolved Oxygen (mg/L)	

Samples Collected: 4 Amber - SVOC, PBC, Herb/Pest, Extra; 3 VOA-VOCs; 1 Plastic - Metals

Samples Delivered: ______ **Time:** ______ **Date:** ______

COMMENTS:

Barton & Loguidice, P.C.
Consulting Engineers

FIELD SAMPLING DATA SHEET

SITE: *1313 East Dominick Street* **SAMPLE LOCATION:** *MW-5 (Dupe-x)*
CLIENT: *City of Rome* **JOB NO.:** *245.005.001*

Weather conditions: *sleet, upper 30 F*

SAMPLE TYPE: Groundwater [x] Surface Water [ ] Other (specify):_________
Sediment [ ] Leachate [ ]

WATER LEVEL DATA

Static Water Level (feet)*:	*19.98*
Measured Well Depth (feet)*:	*27.19*
Well Casing Diameter (inches):	
Volume in Well Casing (gallons):	*1.150*

*depth from measuring point

Measuring Pt: Top of Riser: [X] Other: ________
Measured by: *BJM/DMJ*
Date: *2/24/2010*
Time: ________

PURGING METHOD
Equipment: Bailer [x] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]
Dedicated [ ] Non-dedicated [x]
Calc. Vol. of Water Purged (gal) 3.46
Volume of Water Purged (gal): ________
Did well purge dry? No [x] Yes [ ] Vol before dry: ________
Did well recover? No [ ] Yes [ ] Recovery time: ________

SAMPLING METHOD
Equipment: Bailer [x] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]
Dedicated [ ] *Non-dedicated* [x]

Sampled by: *BJM/DMJ* **Time:** *13:40* **Date:** *2/24/2010*

SAMPLING DATA
Sample Appearance:
Color: *dark brown* Sediment: *lot of heavy fines*
Odor: *none* Other: ________

Field Measured Parameters:

pH (Standard Units)	7.7	Sp. Conductivity (mS/cm)	1410
Temperature (F)	50.6	Eh-Redox Potential (mV)	217
Turbidity (NTUs)	401.6	Dissolved Oxygen (mg/L)	

Samples Collected: 4 Amber - SVOC, PCB, Pest/Herb, Extra; 3 VOA-VOCs; 1 Plastic - Metals -- 7 bottles
Dupe-X - 7 bottles with same

Samples Delivered: *Test America* **Time:** ________ **Date:** ________

COMMENTS:
Dupe-X location; no odor no sheen

Barton & Loguidice, P.C.
Consulting Engineers

FIELD SAMPLING DATA SHEET

SITE: *1313 East Dominick Street* **SAMPLE LOCATION:** *MW-6*
CLIENT: *City of Rome* **JOB NO.:** *245.005.001*

Weather conditions: *light snow/sleet upper 30F*

SAMPLE TYPE: Groundwater [x] Surface Water [ ] Other (specify):__________
Sediment [ ] Leachate [ ]

WATER LEVEL DATA

Static Water Level (feet)*:	*19.82*
Measured Well Depth (feet)*:	*27.08*
Well Casing Diameter (inches):	
Volume in Well Casing (gallons):	*1.160*

*depth from measuring point

Measuring Pt: Top of Riser: [X] Other: ______
Measured by: *BJM/DMJ*
Date: *2/24/2010*
Time: *11:49*

PURGING METHOD
Equipment: Bailer [x] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]
Dedicated [ ] Non-dedicated [x]

Calc. Vol. of Water Purged (gal) 3.48
Volume of Water Purged (gal): *3.50*

Did well purge dry? No [x] Yes [ ] Vol before dry: ______
Did well recover? No [ ] Yes [ ] Recovery time: ______

SAMPLING METHOD
Equipment: Bailer [x] Submersible Pump [ ] Air Lift System [ ]
Bladder Pump [ ] Foot Valve [ ] Peristaltic Pump [ ]
Dedicated [ ] *Non-dedicated* [x]

Sampled by: *BJM/DMJ* **Time:** *12:00* **Date:** *2/24/2010*

SAMPLING DATA
Sample Appearance:
Color: *clear to slight brown haze* Sediment: *fines present*
Odor: *none* Other: ______

Field Measured Parameters:

pH (Standard Units)	7.6	Sp. Conductivity (mS/cm)	1100
Temperature (F)	48	Eh-Redox Potential (mV)	137
Turbidity (NTUs)	81.11	Dissolved Oxygen (mg/L)	

Samples Collected: 4 Amber - SVOC, PBC, Herb/Pest, Extra; 3 VOA-VOCs; 1 Plastic - Metals -- 8 bottles

Samples Delivered: *Test America* **Time:** ______ **Date:** ______

COMMENTS:

Appendix I

Laboratory Analytical Summary Reports (Electronic)

Appendix J

Data Validation Report

Data Usability Summary Report

1313-1333 East Dominick Street Site
Rome, New York

Samples Collected
February 2009 – February 2010

December 2011

EnviroAnalytics
Data Management and Validation Service

2117 Rowley Road #1
Ballston Spa, New York 12020

Data Usability Summary Report

Samples Collected
February 2009 - February 2010

1313-1333 East Dominick Street Site
Rome, New York

Prepared By:

EnviroAnalytics, LLC
Data Management and Validation Service
2117 Rowley Road # 1
Ballston Spa, New York 12020

EXECUTIVE SUMMARY

This report addresses data quality for soil and water samples collected at the 1313-1333 East Dominick Street site located in Rome, New York. The samples were analyzed for volatile organics (VOCs), semivolatile organics (SVOCs), polychlorinated biphenyls (PCBs), organochlorine pesticides (Pesticides), and inorganics (Metals) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Barton and Loguidice, P.C. of Albany, New York. Analytical services were provided by TestAmerica Laboratories, Inc. located in Amherst, New York and Shelton, CT.

The inorganics analyses data have been determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several analytes were qualified based on deviations from laboratory duplicate, ICP serial dilution, and matrix spike recovery criteria.

The volatile organics analyses data were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several compounds were qualified based on deviations from method blank, matrix spike recovery, and continuing calibration criteria.

The semivolatile organics analyses data were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several compounds were qualified based on deviations from laboratory control sample, matrix spike recovery, initial calibration, and continuing calibration criteria.

The PCBs data were determined to be usable for qualitative and quantitative purposes with the exception of the detected Aroclor 1260 result for 1333ED-CONC-BOILERROOM-1, which was rejected (R) due to a PCB identification criteria deviation. Sample results for several samples were also qualified based on deviations from PCB identification and surrogate recovery criteria.

The pesticides data were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several samples were qualified based on deviations from blank analysis, continuing calibration, pesticide identification, surrogate recovery, and matrix spike analysis criteria.

TABLE of CONTENTS

Appendices

SECTION 1 - INTRODUCTION

1.1 Introduction

This report addresses data quality for soil and water samples collected at the 1313-1333 East Dominick Street site located in Rome, New York. The samples were analyzed for volatile organics (VOCs), semivolatile organics (SVOCs), polychlorinated biphenyls (PCBs), organochlorine pesticides (Pesticides), and inorganics (Metals) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies. Sample collection was performed by Barton and Loguidice, P.C. of Albany, New York. Analytical services were provided by TestAmerica Laboratories, Inc. located in Amherst, New York and Shelton, Connecticut. The quantity and types of samples submitted for data validation are tabulated below.

Table 1: Introduction - Sample Summary Table

SDG#	Date Collected	Matrix	Sample Identification	
			Client ID	Laboratory ID
220-8178-1	2/24/2009	Soil/Wipe	1313ED-SED-01A	220-8178-1
			1313ED-SED-01A-DUP	220-8178-2
			1313ED-SED-01B	220-8178-3
			1313ED-SED-02A	220-8178-4
			1313ED-SED-02B	220-8178-5
			1313ED-WP-01	220-8178-10
220-9351	6/12/2009	Solid/Wipe	1313ED-WP-02	220-9351-1
			1313ED-WP-03	220-9351-2
			1313ED-CONC-01COMP	220-9351-3
RSJ0721	10/9/2009	Soil/Solid	1333EDSOILCYT BOTTOM	RSJ0721-05
	10/12/2009		1333EDSOILCYT EAST	RSJ0721-02
			1333EDSOILCYT NORTH	RSJ0721-01
			1333EDSOILCYT SOUTH	RSJ0721-03
			1333EDSOILCYT WEST	RSJ0721-04
			1333EDSOILINTANK	RSJ0721-01
RSL0800	10/13/2009	Soil	1313ED-MW-3	RSJ0800-03
			1313ED-MW-5	RSJ0800-01
			1313ED-SB-16	RSJ0800-02
			1313ED-SB-17	RSJ0800-07
			1313ED-SS-2	RSJ0800-04
RSJ0867	10/14/2009	Soil	1313ED-MW-02	RSJ0867-01
			1313ED-SB-02	RSJ0867-02
			1313ED-SB-03	RSJ0867-03
			1313ED-MW-01	RSJ0867-04
			1313ED-SS-01	RSJ0867-05
			1313ED-BLIND DUP#1	RSJ0867-06
RSJ0969	10/15/2009	Soil	1313ED-MW-04	RSJ1025-05
	10/16/2009		1313ED-SB-01	RSJ0969-01
	10/19/2009		1313ED-SB-04	RSJ0969-02
			1313ED-SB-06	RSJ1025-02
			1313ED-SB-07	RSJ1025-03
			1313ED-SB-08	RSJ1079-01
			1313ED-SB-09	RSJ1025-04
			1313ED-SB-10	RSJ1079-02
			1313ED-SB-11	RSJ1079-03
			1313ED-SB-12	RSJ1025-06
			1313ED-SB-13	RSJ0969-03
			1313ED-SB-14	RSJ1025-01
			1313ED-SB-15	RSJ0969-04
			BLIND DUPLICATE	RSJ1079-04

SDG#	Date Collected	Matrix	Sample Identification	
			Client ID	Laboratory ID
RSJ0969	10/15/2009 10/16/2009 10/19/2009	Water	FIELD BLANK 1 FIELD BLANK 2 TRIP BLANK (10/15/2009) TRIP BLANK (10/16/2009) TRIP BLANK (10/19/2009)	RSJ1025-07 RSJ1079-05 RSJ0969-05 RSJ1025-08 RSJ1079-06
RSK0820	11/16/2009	Solid/Wipe	1333ED-WOOD-BASEMENT-1 1333ED-WOOD-BASEMENT-2 1333ED-CONC-SHOPA-1 1333ED-CONC-SHOPA-2 1333ED-SED-SHOPA DRAIN 1333ED-CONC-BOILERROOM-1 1333ED-CONC-BOILERROOM-2 1333ED-CONC-SHOPB-1 1333ED-CONC-SHOPB-2 1333ED-CONC-STORAGE-1 1333ED-CONC-STORAGE-2 1333ED-CONC-SHOPC-1 1333ED-WIPE-SHOPD-1 1333ED-WIPE-SHOPD-2 1333ED-CONC-FIELD DUPE 1333ED-CONC-SHOPC-2	RSK0820-01 RSK0820-02 RSK0820-03 RSK0820-04 RSK0820-05 RSK0820-08 RSK0820-09 RSK0820-10 RSK0820-11 RSK0820-12 RSK0820-13 RSK0820-14 RSK0820-17 RSK0820-18 RSK0820-19 RSK0820-20
RTA0949	1/21/2010	Soil/Solid	1333ED-CONC-MACHROOM-1 1333ED-CONC-BASEMENT-2 1333ED-WOOD-BASEMENT-3 1333ED-WOOD-BASEMENT-4 1333ED-CONC-BASEMNET-3 1333ED-CONC-FIELDUP-2 1333ED-CONC-BASEMENT-1	RTA0949-01 RTA0949-03 RTA0949-04 RTA0949-05 RTA0949-06 RTA0949-07 RTA0949-08
RTA0949	1/21/2010	Water	FIELD BLANK	RTA0949-02
RTB0895	2/19/2010	Soil	1333ED-PCBBORING-1 1333ED-PCBBORING-2 1333ED-PCBBORING-3 1333ED-PCBBORING-4 1333ED-PCBBORING-5 1333ED-PCBBORING-6 1333ED-PCBBORING-6 DEEP 1333ED-PCBBORING-FIELD DUP	RTB0895-01 RTB0895-02 RTB0895-03 RTB0895-04 RTB0895-05 RTB0895-06 RTB0895-09 RTB0895-10
RTB0895	2/19/2010	Water	1333ED-METHODBLANK	RTB0895-11
RTB1061	2/24/2010	Water	MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 DUPE Y TRIP BLANK	RTB1061-01 RTB1061-02 RTB1061-05 RTB1061-06 RTB1061-07 RTB1061-08 RTB1061-09 RTB1061-10

1.2 Analytical Methods

The samples were analyzed for volatile organics (VOCs), semivolatile organics (SVOCs), polychlorinated biphenyls (PCBs), organochlorine pesticides (Pesticides), and inorganics (Metals) following New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) methodologies (2005 update). Laboratory analyses were provided by TestAmerica Laboratories, Inc. located in Amherst, New York and Shelton, Connecticut.

1.3 Validation Protocols

Data validation is a process that involves the evaluation of analytical data against prescribed quality control criteria to determine the usefulness of the data. The analytical data addressed in this report were evaluated utilizing the quality control criteria presented in the following documents:

- *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*, USEPA-540-R-08-01, June 2008.
- *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review*, USEPA-540-R-10-011, January 2010.
- *CLP Organics Data Review and Preliminary Review*, SOP No. HW-6 Revision #14, USEPA Region II, September 2006.
- *Validation of Metals for the Contract Laboratory Program (CLP) based on SOW ILMO5.3*, SOP No. HW-2, Revision #13, USEPA Region II, September 2006.
- *Validating Volatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-846 Method 8260B*, SOP No. HW-24 Revision #2, USEPA Hazardous Waste Support Branch, August 2008.
- *Validating Semivolatile Organic Compounds By Gas Chromatography/Mass Spectrometry SW-846 Method 8270D*, SOP No. HW-22 Revision #4, USEPA Hazardous Waste Support Branch, August 2008.
- *Validating PCB Compounds by Gas Chromatography SW-846 Method 8082A*, SOP No. HW-45 Revision #1, USEPA Hazardous Waste Support Branch, October 2006.
- *Validating Pesticide Compounds, Organochlorine Pesticides by Gas Chromatography SW-846 Method 8081B*, SOP No. HW-44 Revision #1, USEPA Hazardous Waste Support Branch, October 2006.
- *Exhibit E of New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP)*, NYSDEC June 2005.

1.3.1 Inorganic Parameters

The validation of inorganics for this project followed the requirements presented in the analytical methodology and the data validation guidelines presented above. The following QA/QC parameters were evaluated:

1. Holding Times
2. Calibration
   a. Initial Calibration Verification
   b. Continuing Calibration Verification
3. Blank Analysis
4. ICP Interference Check Sample Analysis (ICP only)

5. Matrix Spike Analysis
6. Laboratory Duplicate Analysis
7. Laboratory Control Sample Analysis
8. ICP Serial Dilution Analysis (ICP only)
9. Furnace Atomic Absorption Analysis
10. Method of Standard Addition Results
11. Field Blanks
12. Element Quantification and Reported Detection Limits
13. Document Completeness
14. Overall Data Assessment

1.3.2 Organic Parameters

The validation of organic parameters for this project followed the requirements presented in the analytical methodology and the data validation guidelines presented above. The following QA/QC parameters were evaluated:

Volatile and Semivolatile Organics Analyses

1. Holding Times
2. GC/MS Instrument Tuning Criteria
3. Calibration
    a. Initial Calibration
    b. Continuing Calibration
4. Blank Analysis
5. Surrogate Recovery
6. Matrix Spike / Matrix Spike Duplicate Analysis
7. Reference Standard Analysis
8. Internal Standards Recovery
9. Compound Identification and Quantification
10. Field Duplicate Analysis
11. System Performance
12. Documentation Completeness
13. Overall Data Assessment

Pesticides/PCBs Analyses

1. Holding Times
2. Instrument Performance
    a. Standards Retention Time Windows
    b. DCBP Retention Time Shift
    c. Baseline Stability
    d. Chromatographic Resolution
3. Calibration
    a. Initial Calibration
    b. Analytical Sequence Verification
    c. Continuing Calibration Verification
4. Blank Analysis
5. Surrogate Recovery
6. Matrix Spike/Matrix Spike Duplicate Analysis

7. Reference Standard Analysis
8. Compound Identification and Quantification
9. Documentation Completeness
10. Overall Data Assessment

1.4 Data Qualifiers

The following qualifiers as specified in the guidance documents presented in Section 1.3 of this report have been used for this data validation.

U Indicates that the compound was analyzed for, but was not detected. The sample quantification limit is presented and adjusted for dilution. This qualifier is also used to signify that the detection limit of an analyte was raised due to blank contamination.

J Indicates that the result should be considered approximate. This qualifier is used when the data validation procedure identifies a deficiency in the data generation process.

UJ Indicates that the detection limit for the analyte in this sample should be considered approximate. This qualifier is used when the data validation process identifies a deficiency in the data generation process.

R Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data are considered to be unusable for both qualitative and quantitative purposes.

The following sections of this document present a summary of the data validation process. Section 2 discusses data compliance with established QA/QC criteria and qualifications performed on the sample data. A discussion of the Precision, Accuracy, Representativeness, Comparability, and Completeness (PARCC) of the data and data usability are discussed in Section 3. The USEPA Region II Data Validation Checklists are presented in Appendix A.

SECTION 2 - DATA VALIDATION SUMMARY

This section presents a discussion of QA/QC parameter compliance with established criteria and the qualification of data performed when QA/QC parameter deviations were identified. When several deviations from established QA/QC criteria were observed, the final qualifier assigned to the data was based on the cumulative effect of the deviations.

2.1 Inorganics Analysis

Data validation was performed for thirty-one soil/sediment samples, seven water samples, and two field blank samples for total inorganic parameters. The QA/QC parameters presented in Section 1.3.1 of this report were found to be within specified limits with the exception of the following:

Matrix Spike Analysis

Matrix spike (MS) recovery criteria requiring spike recoveries to be between 75 and 125 percent were exceeded for several analytes. Qualification of sample results included the approximation of results when spike recoveries were greater than the upper limit, but less than 200 percent or less than the lower limit, but greater than 10 percent. Qualification of sample data was not required when the non-spiked sample concentration was greater than four-times the spike solution concentration. Samples qualified due to MS recovery deviations are tabulated below.

Table 2: Inorganics Analyses - Matrix Spike Deviations

MS/MSD Sample ID	Inorganic	Percent Recovery (MS/MSD)	Qualifier	Affected Samples
1313ED-SED-01A	Silver Arsenic Cadmium Cobalt Nickel Antimony Selenium Vanadium Potassium	71 %/137 % 0 %/0 % 0 %/ 0 % 83 %/69 % 32 %/0 % 53 %/34 % 68 %/67 % 74 %/84 % 123 %/ 160 %	J, UJ J J J J J J, UJ J J	1313ED-SED-01A 1313ED-SED-01A-DUP 1313ED-SED-01B 1313ED-SED-02A 1313ED-SED-02B
1313ED-SS-2	Aluminum Antimony Copper	48 %/77 % 50 %/44 % 184 %/107 %	J UJ J	1313ED-MW-5 1313ED-SB-16 1313ED-MW-3 1313ED-SS-2 1313Ed-SB-17
1313ED-MW-02	Antimony	62 %/62 %	J, UJ	1313ED-MW-02 1313ED-SB-02 1313ED-SB-03 1313ED-MW-01 1313ED-SS-01 1313ED-BLIND DUP#1
1333ED-SED-SHOPA DRAIN	Antimony Barium Magnesium Nickel Selenium	52 %/51 % 151 %/114 % 329 %/73 % 12 %/0 % 58 %/51 %	J J J J UJ	1333ED-SED-SHOPA DRAIN

MS/MSD Sample ID	Inorganic	Percent Recovery (MS/MSD)	Qualifier	Affected Samples
MW-2	Manganese	168 %/192 %	J	MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 DUPE Y

Laboratory Duplicates

The laboratory duplicate analysis of sample 1313ED-SED-01A exceeded the relative percent difference (RPD) upper control limit of 50 percent for soil samples for arsenic, calcium, iron, magnesium, and antimony. Detected results for these analytes were approximated (J) for samples 1313ED-SED-01A, 1313ED-SED-01A-DUP, 1313ED-SED-01B, 1313ED-SED-02A, and 1313ED-SED-02B.

Method Blank Analysis

The preparation blanks associated with SDG# RTB1061 had detectable concentrations of manganese. The concentrations of this analyte in the associated samples were greater than five-times the preparation blank concentrations. Qualification of the associated samples was not required due to these deviations.

The preparation blanks associated with SDG# RSK0820 had detectable concentrations of copper, manganese, and zinc. The concentrations of these analytes in the associated sample were greater than five-times the preparation blank concentrations. Qualification of the associated sample was not required due to these deviations.

The preparation blanks associated with SDG# RSJ0867 had detectable concentrations of aluminum, copper, manganese, vanadium, and zinc. The concentrations of these analytes in the associated samples were greater than five-times the preparation blank concentrations. Qualification of the associated samples was not required due to these deviations.

The preparation blanks associated with SDG# RSJ0969 had detectable concentrations of aluminum, arsenic, chromium, copper, magnesium, manganese, and zinc. The concentrations of these analytes in the associated samples were greater than five-times the preparation blank concentrations. Qualification of the associated samples was not required due to these deviations.

The preparation blanks associated with SDG# RSJ0800 had detectable concentrations of arsenic, beryllium, magnesium, manganese, and zinc. The concentrations of these analytes in the associated samples were greater than five-times the preparation blank concentrations. Qualification of the associated samples was not required due to these deviations.

ICP Serial Dilution Analysis

ICP serial dilution criteria require the %D between results of a non-diluted analysis and a four-fold dilution analysis to be less than 10 percent for analytes with a non-diluted concentration greater than 50 times the instrument detection limit (IDL). Analytes with %D values greater than 10 percent are qualified as approximated for samples with concentrations greater than 50 times the IDL. Analytes that exceeded ICP serial dilution criteria and the samples that required qualification are presented below.

Table 3: Inorganics Analyses – ICP Serial Dilution Deviations

Serial Dilution Sample ID	Inorganic	%D	Qualifier	Affected Samples
1313ED-MW-02	Aluminum	11 %	J	1313ED-MW-02
	Beryllium	23 %	J	1313ED-SB-02
	Zinc	12 %	J	1313ED-SB-03
				1313ED-MW-01
				1313ED-SS-01
				1313ED-BLIND DUP#1
1333ED-SED-SHOPA DRAIN	Beryllium	37 %	J	1333ED-SED-SHOPA DRAIN
	Lead	12 %	J	
	Magnesium	12 %	J	
	Manganese	12 %	J	
	Sodium	19 %	J	
	Thallium	28 %	J	
	Potassium	14 %	J	
	Zinc	14 %	J	

Overall Data Assessment

Overall, the laboratory performed inorganics analyses in accordance with the requirements specified in the methods listed in Section 1.2 of this report. These data have been determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several analytes were qualified based on deviations from laboratory duplicate, ICP serial dilution, and matrix spike recovery criteria.

2.2 Volatiles Analysis

Data validation was performed for thirty-one soil samples, seven water samples, two field blank samples, and four trip blank samples. The QA/QC parameters presented in Section 1.3.2 of this report were found to be within specified limits with the exception of the following:

Blank Analysis

The method blanks contained detectable concentrations of methylene chloride, which is considered to be a common laboratory contaminant. Therefore, blank action levels were calculated at ten times the blank concentrations for these compounds. Detected sample results, which were less than the blank action levels were qualified with a "U" in the associated samples. Results that were detected below the contract required detection limit (CRDL) were raised to the CRDL and qualified with a "U" qualifier. The "U" qualifier indicates that the volatile organic was analyzed for but was not detected above the CRDL. Samples qualified for blank contamination are tabulated below.

Table 4: Volatile Organics Analyses - Blank Analysis Deviations

Blank Matrix	Compound	Blank Action Level	Associated Samples	Qualified Sample Result
Soil	Methylene chloride	10 µg/Kg	1313ED-SB-03	5.7 U µg/Kg
Soil	Methylene chloride	13 µg/Kg	1313ED-SB-01 1313ED-SB-04 1313ED-SB-13 1313ED-SB-15	7.0 U µg/Kg 6.8 U µg/Kg 6.6 U µg/Kg 7.4 U µg/Kg
Soil	Cyclohexane	6.5 µg/Kg	1313ED-SB-08 BLIND DUPLICATE	5.4 U µg/Kg 4.6 U µg/Kg
	Methylene chloride	20 µg/Kg	1313ED-SB-08 1313ED-SB-10 1313ED-SB-11 BLIND DUPLICATE	5.4 U µg/Kg 4.9 U µg/Kg 5.1 U µg/Kg 4.6 U µg/Kg
Water	Cyclohexane	6.5 µg/L	FIELD BLANK 2 TRIP BLANK	2.4 U µg/L 1.3 U µg/L
	Methylene chloride	20 µg/L	FIELD BLANK 2 TRIP BLANK	3.9 U µg/L 2.4 U µg/L

Matrix Spike Recovery

The matrix spike/matrix spike duplicate analysis of sample 1313ED-SS-2 (SDG# RSJ0800) exceeded prescribed recovery limits for 1,1,2,2-tetrachloroethane, 1,2,4-trichlorobenzene, 1,2-dibromo-3-chloropropane, 2-butanone, 1,2-dichlorobenzene, 1,3-dichlorobenzene, styrene, 1,4-dichlorobenzene, 2-hexanone, 4-methyl-2-pentanone, chlorobenzene, ethylbenzene, methylcyclohexane, trans-1,2-dichloropropene, and xylenes (total) with recoveries less than the lower control limit, but greater than 30 percent. Due to these deviations, the non-detected sample results for these compounds were qualified as approximated (UJ) for samples 1313ED-MW-3, 1313ED-MW-5, 1313ED-SB-16, 1313ED-SB-17, and 1313ED-SS-2.

Continuing Calibration

The continuing calibration percent difference (%D) limit, which requires the %D to be less than 25 percent, was exceeded for several compounds. Sample qualification included the approximation (J, UJ) of results when %D criteria were exceeded, but were less than 90 percent. Samples requiring qualification due to these deviations are tabulated below.

Table 5: Volatile Organics Analyses - Continuing Calibration Deviations

Date Analyzed	Compound	%D	Result Qualifier	Affected Samples
10/14/2009	Chloroethane Dichlorodifluoromethane	43.7 % 32.4 %	UJ UJ	1333EDSOILCYT BOTTOM
10/15/2009	Bromomethane Chloroethane Dichlorodifluoromethane	46.8 % 68.0 % 31.2 %	UJ UJ UJ	1333EDSOILINTANK

Date Analyzed	Compound	%D	Result Qualifier	Affected Samples
10/15/2009	Chloroethane	49.2 %	UJ	1333EDSOILCYT NORTH 1333EDSOILCYT WEST 1313ED-MW-3 1313ED-MW-5 1313ED-SB-16 1313ED-SB-17 1313ED-SS-2
10/19/2009	1,1,2,2-Tetrachloroethane Chloroethane Isopropylbenzene Methyl acetate Tetrachloroethene	36.9 % 48.0 % 25.3 % 25.3 % 26.1 %	UJ UJ UJ UJ UJ	TRIP BLANK (10/15/2009)
10/20/2009	Bromomethane Carbon disulfide Methyl acetate	31.6 % 41.3 % 27.3 %	UJ UJ UJ	1313ED-MW-02 1313ED-SB-02 1313ED-MW-01 1313ED-SS-01 1313ED-BLIND DUP#1
10/21/2009	1,1,2-Trichlorotrifluoroethane 1,2-Dibromo-3-Chloropropane Bromomethane Carbon disulfide Cyclohexane	35.1 % 28.4 % 45.9 % 54.2 % 33.0 %	UJ UJ UJ UJ UJ	1313ED-SB-03
10/23/2009	1,1,2-Trichlorotrifluoroethane 1,2-Dibromo-3-Chloropropane Chloroethane Methyl acetate Trichlorofluoromethane	33.3 % 28.0 % 26.1 % 36.3 % 30.8 %	UJ UJ UJ UJ UJ	1313ED-SB-14 1313ED-SB-06 1313ED-SB-07 1313ED-SB-09 1313ED-MW-04 1313ED-SB-12
10/23/2009	1,1,2-Trichlorofluoroethane 1,2-Dibromo-3-Chloropropane Chloroethane Methyl acetate	34.0 % 27.6 % 26.4 % 31.4 %	UJ UJ UJ UJ	FIELD BLANK 2 TRIP BLANK (10/19/2009) 1313ED-SB-08 1313ED-SB-10 1313ED-SB-11 BLIND DUPLICATE
3/1/2010	1,2-Dibromo-3-Chloropropane Bromoform Chlorodibromomethane	31.9 % 32.9 % 25.1 %	UJ UJ UJ	MW-1 MW-3 MW-4 MW-5 MW-6 DUPE Y TRIP BLANK
3/3/2010	Acetone Bromoform	45.4 % 27.5 %	J UJ	MW-2

Overall Data Assessment

Overall, the laboratory performed volatile organics analyses in accordance with the requirements specified in the method listed in Section 1.2. These data were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several compounds were qualified based on deviations from method blank, matrix spike recovery, and continuing calibration criteria.

2.3 Semivolatiles Analysis

Data validation was performed for thirty-seven soil/sediment samples, seven water samples, and two field blank samples. The QA/QC parameters presented in Section 1.3.2 of this report were found to be within specified limits with the exception of the following:

Laboratory Control Sample Analysis

Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recovery criteria requiring compound recoveries to be within laboratory generated control limits were exceeded for several compounds. Qualification of sample results included the approximation of results when spike recoveries were greater than the upper limit, but less than 200 percent or less than the lower limit, but greater than 10 percent. Samples qualified due to LCS recovery deviations are tabulated below.

Table 6: Semivolatile Organics Analyses – Laboratory Control Sample Deviations

Matrix	Compound	Percent Recovery (LCS/LCSD)	Control Limits	Qualifier	Affected Samples
Soil	Atrazine	58 %/63 %	73 % to 133 %	UJ	1333EDSOILCYT BOTTOM 1333EDSOILCYT EAST 1333EDSOILCYT NORTH 1333EDSOILCYT SOUTH 1333EDSOILCYT WEST 1333EDSOILINTANK
Soil	Atrazine	72 %/79 % 68 %/72 %	73 % to 133 %	UJ	1313ED-MW-04 1313ED-SB-01 1313ED-SB-04 1313ED-SB-06 1313ED-SB-07 1313ED-SB-08 1313ED-SB-09 1313ED-SB-10 1313ED-SB-11 1313ED-SB-12 1313ED-SB-13 1313ED-SB-14 1313ED-SB-15 BLIND DUPLICATE
Water	2-Nitroaniline 3,3'-Dichlorobenzidine 4-Nitroaniline Caprolactam	57 % 19 % 55 % 26 %	67 % to 136 % 33 % to 140 % 64 % to 135 % 30 % to 140 %	UJ UJ UJ UJ	FIELD BLANK 1 FIELD BLANK 2

Matrix Spike Recovery

The matrix spike/matrix spike duplicate analysis of sample 1313ED-SS-2 (SDG# RSJ0800) exceeded prescribed recovery limits for bis(2-chloroethoxy)methane with recoveries less than the lower control limit, but greater than 30 percent. Due to these deviations, the non-detected sample results for this compound were qualified as approximated (UJ) for samples 1313ED-MW-3, 1313ED-MW-5, 1313ED-SB-16, 1313ED-SB-17, and 1313ED-SS-2. Additionally, the recovery of 2,4-dinitrophenol was within recovery limits for the MS sample, but was not recovered in the MSD sample (0 percent). Due to this deviation, the non-detected sample results for 2,4-dinitrophenol were qualified as approximated (UJ) for samples 1313ED-MW-3, 1313ED-MW-5, 1313ED-SB-16, 1313ED-SB-17, and 1313ED-SS-2.

Initial Calibration

The initial calibration relative standard deviation (%RSD) limit, which requires the %RSD to be less than 30 percent, was exceeded for several compounds. Sample qualification included the approximation (J, UJ) of results when %RSD criteria were exceeded. Samples requiring qualification due to these deviations are tabulated below.

Table 7: Semivolatile Organics Analyses – Initial Calibration Deviations

Date Analyzed	Compound	%RSD	Result Qualifier	Affected Samples
2/25/2009	N-Nitrosodimethylamine Benzaldehyde	34.0 % 49.1 %	J, UJ J, UJ	1313ED-SED-01A 1313ED-SED-01A-DUP 1313ED-SED-01B 1313ED-SED-02A 1313ED-SED-02B

Continuing Calibration

The continuing calibration percent difference (%D) limit, which requires the %D to be less than 25 percent, was exceeded for several compounds. Sample qualification included the approximation (J, UJ) of results when %D criteria were exceeded, but were less than 90 percent. Samples requiring qualification due to these deviations are tabulated below.

Table 8: Semivolatile Organics Analyses - Continuing Calibration Deviations

Date Analyzed	Compound	%D	Result Qualifier	Affected Samples
3/4/2009	Caprolactam	57.0 %	J, UJ	1313ED-SED-01A 1313ED-SED-01A-DUP 1313ED-SED-01B 1313ED-SED-02A 1313ED-SED-02B
10/20/2009	2-Methylphenol	27.7 %	UJ	1313ED-SB-14 1313ED-SB-06 1313ED-SB-07 1313ED-SB-09 1313ED-MW-04 1313ED-SB12
10/24/2009	bis(2-Chloroisopropyl) ether	28.0 %	UJ	1313ED-MW-02 1313ED-SB-02 1313ED-SB-03 1313ED-MW-01 1313ED-SS-01 1313ED-BLIND DUP#1
10/26/2009	bis(2-Chloroisopropyl) ether	35.5 %	UJ	FIELD BLANK 2
3/1/2010	2,4-Dinitrophenol	25.7 %	UJ	MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 DUPE Y

Internal Standard Recovery

The Chrysene-d12 and Perylene-D12 internal standard area counts exceeded the upper control limits for a majority of the samples for SDG 220-8178-1. These elevated area counts were attributed to chromatographic interferences that were observed in the chromatograms. Qualification of the sample data was not required because the surrogate compound recoveries quantified using the elevated internal standard areas were within the prescribed control limits.

Overall Data Assessment

Overall, the laboratory performed semivolatile organics analyses in accordance with the requirements specified in the method listed in Section 1.2. These data were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several compounds were qualified based on deviations from laboratory control sample, matrix spike recovery, initial calibration, and continuing calibration criteria.

2.4 PCBs Analyses

Data validation was performed for sixty soil/solid samples, five wipe samples, seven water samples, and four field blank samples. The QA/QC parameters presented in Section 1.3.2 of this report were found to be within specified limits with the exception of the following:

Continuing Calibration

The continuing calibration standards exceeded the percent difference control limit of 15 percent for several chromatographic peaks for Aroclors 1016 and 1260 on the primary and confirmation columns. Qualification of the associated sample data was not required because Aroclor 1016 was not detected in the associated samples. The detected Aroclor 1260 results were calculated as the average value from the individual chromatographic peaks. The average calibration factors determined from the individual chromatographic peaks were within the continuing calibration criteria limits.

PCB Identification

Detected PCB results are required to have sample concentrations calculated from the primary and secondary (confirmation) chromatographic columns differ by less than 25 percent. Detected sample results that have a confirmation column percent difference (%D) greater than 25 percent require qualification. Qualification of sample data included the approximation of detected results for compounds with %D values greater than 25 percent, but less than 100 percent. Detected results were rejected (R) for compounds with %D values greater than 100 percent when chromatographic interferences were not observed. Samples qualified due to confirmation column percent difference deviations are tabulated below.

Table 9: PCBs Analyses – PCB Identification Deviations

Sample ID	Compound	%D	Qualifier
1313ED-SED-01A	Aroclor 1254	44.4 %	J
1313ED-SED-01A-DUP	Aroclor 1248 Aroclor 1254	61.2 % 31.0 %	J J
1313ED-WP-01	Aroclor 1254	38.5 %	J
1313ED-SS-2	Aroclor 1262	28 %	J
1313ED-SB-17	Aroclor 1254	27 %	J
1313ED-SB-08	Aroclor 1254	32 %	J
BLIND DUPLICATE	Aroclor 1254	43 %	J
1313ED-SS-01	Aroclor 1260	47 %	J

Sample ID	Compound	%D	Qualifier
1313ED-BLIND DUP#1	Aroclor 1260	40 %	J
1333ED-CONC-BASEMENT-2	Aroclor 1254	28 %	J
1333ED-WOOD-BASEMENT-3	Aroclor 1254	59 %	J
1333ED-WOOD-BASEMENT-4	Aroclor 1254	32 %	J
1333ED-CONC-BASEMENT-1	Aroclor 1254	31 %	J
1333ED-CONC-SHOPA-2	Aroclor 1260	52 %	J
1333ED-CONC-BOILERROOM-1	Aroclor 1260	103 %	R
1333ED-CONC-BOILERROOM-2	Aroclor 1260	54 %	J
1333ED-CONC-SHOPB-1	Aroclor 1260	43 %	J
1333ED-WIPE-SHOPD-1	Aroclor 1254	30 %	J
1333ED-WIPE-SHOPD-2	Aroclor 1260	74 %	J

Form 10 for sample 1313ED-WP-02 reported the %D value as 188.9% for the detected Aroclor 1254 concentration. Review of the supporting data and recalculation of the sample results identified that the primary column result was incorrectly reported as 56,800 and should have been reported as 1,703,233. The corrected %D value for this sample was determined to be 17.1%. This deviation did not affect the reported sample result of 2000 μg/wipe.

Overall Data Assessment

Overall, the laboratory performed PCB analyses in accordance with the requirements specified in the method listed in Section 1.2. These data were determined to be usable for qualitative and quantitative purposes with the exception of the detected Aroclor 1260 result for 1333ED-CONC-BOILERROOM-1, which was rejected (R) due to a PCB identification criteria deviation. Sample results for several samples were also qualified based on deviations from PCB identification and surrogate recovery criteria.

2.5 Pesticides Analyses

Data validation was performed for twenty-six soil/solid samples, seven water samples, and two field blank samples. The QA/QC parameters presented in Section 1.3.2 of this report were found to be within specified limits with the exception of the following:

Blank Analysis

The method blanks contained detectable concentrations of several pesticide compounds. Therefore, blank action levels were calculated at five times the blank concentrations for these compounds. Detected sample results, which were less than the blank action levels were qualified with a "U" in the associated samples. Results that were detected below the contract required detection limit (CRDL) were raised to the CRDL and qualified with a "U" qualifier. The "U" qualifier indicates that the volatile organic was analyzed for but was not detected above the CRDL. Samples qualified for blank contamination are tabulated below.

Table 10: Pesticides Analyses - Blank Analysis Deviations

Blank Matrix	Compound	Blank Action Level	Associated Samples	Qualified Sample Result
Soil	alpha-BHC	4.2 μg/Kg	1313ED-MW-3	1.8 U μg/Kg

Blank Matrix	Compound	Blank Action Level	Associated Samples	Qualified Sample Result
Water	delta-BHC	0.26 μg/L	MW-1 MW-2 MW-4 MW-6 DUPE Y	0.047 U μg/L 0.048 U μg/L 0.048 U μg/L 0.047 U μg/L 0.048 U μg/L
Soil	4,4'-DDE	4.85 μg/Kg	1313ED-SB-08	1.7 U μg/Kg

Continuing Calibration

The continuing calibration percent difference (%D) limit, which requires the %D to be less than 15 percent, was exceeded for several compounds. Sample qualification included the approximation (J, UJ) of results when %D criteria were exceeded, but were less than 90 percent. Samples requiring qualification due to these deviations are tabulated below.

Table 11: Pesticides Analyses - Continuing Calibration Deviations

Date Analyzed	Compound	%D	Result Qualifier	Affected Samples
10/20/2009	Endosulfan sulfate	18.5 %	UJ	1313ED-SB-01 1313ED-SB-04 1313ED-SB-13
10/21/2009	Endrin aldehyde	36.3 %	UJ	1313ED-MW-02 1313ED-SB-02 1313ED-SB-03 1313ED-MW-01 1313ED-SS-01 1313ED-BLIND DUP#1
10/23/2009	4,4'-DDT Methoxychlor	22.0 % 16.8 %	J, UJ UJ	1313ED-SB-15 1313ED-SB-14 1313ED-SB-06 1313ED-SB-07 1313ED-SB-09 1313ED-MW-04 1313ED-SB-12

Pesticide Identification

Detected pesticide results are required to have sample concentrations calculated from the primary and secondary (confirmation) chromatographic columns differ by less than 25 percent. Detected sample results that have a confirmation column percent difference (%D) greater than 25 percent require qualification. Qualification of sample data included the approximation of detected results for compounds with %D values greater than 25 percent, but less than 100 percent. Detected results were rejected (R) for compounds with %D values greater than 100 percent when chromatographic interferences were not observed. Samples qualified due to confirmation column percent difference deviations are tabulated below.

Table 12: Pesticides Analyses – Pesticide Identification Deviations

Sample ID	Compound	%D	Qualifier
1313ED-MW-5	4,4'-DDD	129 %	J*
	gamma-Chlordane	93 %	J
1313ED-SB-16	gamma-Chlordane	73 %	J
1313EB-SB-17	4,4'-DDD	45 %	J
	4,4'-DDE	75 %	J
	Endosulfan I	234 %	J*
	Endosulfan II	700 %	J*
	gamma-Chlordane	115 %	J*
	Heptachlor epoxide	274 %	J*
1313ED-SB-01	Dieldrin	38 %	J
1313ED-SB-09	Endosulfan II	56 %	J
1313ED-SB-12	4,4'-DDT	29 %	J
1313ED-SB-13	Heptachlor epoxide	383 %	J*
FIELD BLANK 1	Heptachlor epoxide	52 %	J
1313ED-MW-01	Endosulfan II	47 %	J
1313ED-SS-01	delta-BHC	35 %	J
	Endosulfan II	441 %	J*
1333ED-SED-SHOPA DRAIN	4,4'-DDT	26 %	J
	Endosulfan I	150 %	J*
	Endosulfan II	822 %	J*
	Endrin	26 %	J
	gamma-Chlordane	111 %	J*
	Heptachlor epoxide	336 %	J*

* The data validation functional guidelines (HW-44) specify that detected results for compounds with %D values greater than 100 % should be rejected (R) if chromatographic interferences are not observed. For this sample, the detected results were qualified as approximated (J) due to chromatographic interferences caused by the Aroclor 1254 concentration in the sample.

Surrogate Recovery

Surrogate compounds are added to the samples prior to sample preparation to evaluate the efficiency of the sample preparation procedures. The data validation guidelines require the surrogate compounds to have percent recovery values within the laboratory generated control limits. When one or more of the surrogate compounds exceed the recovery limits the associated sample data require qualification. Samples that required qualification for surrogate compound deficiencies are tabulated below.

Table 13: Pesticides Analyses - Surrogate Compound Deviations

Sample ID	Surrogate Compound	Surrogate Recovery	Control Limits	Qualifier	Affected Compounds
MW-2	Decachlorobiphenyl	12 %	15 to 139 %	UJ	All Pesticide Compounds
MW-4	Decachlorobiphenyl	14 %	15 to 139 %	UJ	All Pesticide Compounds
MW-6	Decachlorobiphenyl	14 %	15 to 139 %	UJ	All Pesticide Compounds

Matrix Spike Analysis

The matrix spike/matrix spike duplicate analysis of sample 1313ED-SS-2 (SDG# RSJ0800) exceeded prescribed recovery limits for beta-BHC. The recovery of beta-BHC was within recovery limits for the primary column of the MS sample, but was not recovered on the secondary column in the MS sample nor in either column of the MSD sample (0 percent). Due to this deviation, the non-detected sample results for beta-BHC were qualified as approximated (UJ) for samples 1313ED-MW-3, 1313ED-MW-5, 1313ED-SB-16, 1313ED-SB-17, and 1313ED-SS-2.

Overall Data Assessment

Overall, the laboratory performed pesticide analyses in accordance with the requirements specified in the method listed in Section 1.2. These data were determined to be usable for qualitative and quantitative purposes with minor qualification. Sample results for several samples were qualified based on deviations from blank analysis, continuing calibration, pesticide identification, surrogate recovery, and matrix spike analysis criteria.

SECTION 3 - DATA USABILITY and PARCC EVALUATION

3.1 Data Usability

This section presents a summary of the usability of the analytical data and an evaluation of the PARCC parameters. Data usability was calculated as the percentage of data that was not qualified as rejected based on a significant deviation from established QA/QC criteria. Data usability, which was calculated separately for each type of analysis, is tabulated below.

Table 14: Data Usability and PARCC Evaluation - Data Usability

Parameter	Usability	Deviations
Inorganic Parameters	100 %	None resulting in the rejection of data.
Volatile Organics	100 %	None resulting in the rejection of data.
Semivolatile Organics	100 %	None resulting in the rejection of data.
PCBs	99.79 %	Detected Aroclor 1260 result for 1333ED-CONC-BOILERROOM-1 was rejected (R) due to a PCB identification criteria deviation.
Pesticides	100 %	None resulting in the rejection of data.

3.2 PARCC Evaluation

The following sections provide an evaluation of the analytical data with respect to the precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters.

3.2.1 Precision

Precision is measured through field duplicate samples, split samples, and laboratory duplicate samples. For this sampling program, none of the data were qualified for field duplicate criteria deviations and 0.30 percent of the data were qualified for laboratory duplicate criteria deviations.

3.2.2 Accuracy

Matrix spike sample, surrogate recovery, internal standard recovery, laboratory control samples, and calibration criteria indicate the accuracy of the data. For this sampling program, 1.67 percent of the analytical data were qualified for deviations from matrix spike recovery criteria; 0.80 percent of the data were qualified for surrogate recovery criteria deviations; none of the data were qualified for internal standard recovery criteria deviations; 0.29 percent of the data were qualified for laboratory control sample deviations; and 2.98 percent of the data were qualified for calibration criteria deviations.

3.2.3 Representativeness

Holding times, sample preservation, and blank analysis are indicators of the representativeness of the analytical data. For this investigation, none of the analytical data required qualification for holding time deviations and 0.27 percent of the analytical data required qualification for blank analysis deviations.

3.2.4 Comparability

Comparability is not compromised provided that the analytical methods did not change over time. A major component of comparability is the use of standard reference materials for calibration and QC. These standards are compared to other unknowns to verify their concentrations. Since standard analytical methods and reporting procedures were consistently used by the laboratory, the comparability criteria for the analytical data were met.

3.2.5 Completeness

The overall percent usability or completeness of the data was 99.99 percent.

APPENDIX A

DATA VALIDATION CHECKLISTS

Table of Contents

Data Validation Checklist - Part A: VOA Analyses

No:	Parameter	YES	NO	N/A
1.0	**Traffic Reports and Laboratory Narrative**			
1.1	Are the traffic Report Forms present for all samples?	X		
1.2	Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?		X	
2.0	**Holding Times**			
2.1	Have any VOA technical holding times, determined from date of collection to date of analysis, been exceeded?		X	
3.0	**System Monitoring Compound (SMC) Recovery (Form II)**			
3.1	Are the VOA SMC Recovery Summaries (FORM II) present for each of the following matrices:			
	a. Low Water	X		
	b. Low Soil	X		
	c. Air			X
3.2	Are all the VOA samples listed on the appropriate System Monitoring Compound Recovery Summary for each of the following matrices:			
	a. Low Water	X		
	b. Low Soil	X		
	c. Air			X
3.3	Were outliers marked correctly with an asterisk?	X		
3.4	Was one or more VOA system monitoring compound recovery outside of contract specifications for any sample or method blank?		X	
	If yes, were samples re-analyzed?			X
	Were method blanks re-analyzed?			X
3.5	Are there any transcription/calculation errors between raw data and Form II?		X	
4.0	**Matrix Spikes (Form III)**			
4.1	Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present?	X		
4.2	Were matrix spikes analyzed at the required frequency for each of the following matrices?			
	a. Low Water	X		
	b. Low Soil	X		
	c. Air			X
4.3	How many VOA spike recoveries are outside QC limits?			
	Water 0 out of 47 Soils 15 out of 47			
4.4	How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?			
	Water 0 out of 47 Soils 0 out of 47			

Data Validation Checklist - Part A: VOA Analyses

No:	Parameter	YES	NO	N/A
5.0	**Blanks (Form IV)**			
5.1	Is the Method Blank Summary (Form IV) present?	X		
5.2	Frequency of Analysis: for the analysis of VOA TCL compounds, has a reagent/method blank been analyzed for each SDG or every 20 samples of similar matrix (low water, low soil, medium soil), whichever is more frequent?	X		
5.3	Has a VOA method/instrument blank been analyzed at least once every twelve hours for each concentration level and GC/MS system used?	X		
5.4	Is the chromatographic performance (baseline stability) for each instrument acceptable for VOAs?	X		
6.0	**Contamination**			
6.1	Do any method/instrument/reagent blanks have positive results (TCL and/or TIC) for VOAs?	X		
6.2	Do any field/trip/rinse blanks have positive VOA results (TCL and/or TIC)?	X		
6.3	Are there field/rinse/equipment blanks associated with every sample?		X	
7.0	**GC/MS Instrument Performance Check (Form V)**			
7.1	Are the GC/MS Instrument Performance Check Forms (Form V) present for Bromofluorobenzene (BFB)?	X		
7.2	Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the BFB provided for each twelve hour shift?	X		
7.3	Has an instrument performance compound been analyzed for every twelve hours of sample analysis per instrument?	X		
7.4	Have the ion abundances been normalized to m/z 95?	X		
7.5	Have the ion abundance criteria been met for each instrument used?	X		
7.6	Are there any transcription/calculation errors between mass lists and Form V's?		X	
7.7	Have the appropriate number of significant figures (two) been reported?	X		
7.8	Are the spectra of the mass calibration compound acceptable?	X		
8.0	**Target Compound List (TCL) Analytes**			
8.1	Are the Organic Analysis Data Sheets (Form I VOA) present with required header information on each page, for each of the following:			
	a. Sample and/or fractions as appropriate?	X		
	b. Matrix spikes and matrix spike duplicates?	X		
	c. Blanks?	X		
8.2	Are the VOA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?			
	a. Samples and/or fractions as appropriate?	X		
	b. Matrix spikes and matrix spike duplicates (Mass spectra not required)?	X		
	c. Blanks?	X		
8.3	Are the response factors shown in the Quant Report?	X		

Data Validation Checklist - Part A: VOA Analyses

No:	Parameter	YES	NO	N/A
8.4	Is the chromatographic performance acceptable with respect to:			
	Baseline stability?	X		
	Resolution?	X		
	Peak shape?	X		
	Full-scale graph (attenuation)?	X		
	Other:			
8.5	Are the lab-generated standard mass spectra of the identified VOA compounds present for each sample?	X		
8.6	Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	X		
8.7	Are all ions in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	X		
8.8	Do sample and standard relative ion intensities agree within 20%?	X		
9.0	**Tentatively Identified Compounds (TIC)**			
9.1	Are all Tentatively Identified Compound Forms (Form I Part B) present; and do listed TICs include scan number or retention time, estimated concentration and “JN” qualifier?	X		
9.2	Are the mass spectra for the tentatively identified compounds and associated “best match” spectra included in the sample package for each of the following:			
	a. Samples and/or fractions as appropriate?	X		
	b. Blanks?	X		
9.3	Are any TCL compounds (from any fraction) listed as TIC compounds?		X	
9.4	Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	X		
9.5	Do TIC and “best match” standard relative ion intensities agree within 20%?	X		
10.0	**Compound Quantitation and Reported Detection Limits**			
10.1	Are there any transcription/calculation errors in Form I results?		X	
10.2	Are the CRQLs adjusted to reflect sample dilutions and, for soils, sample moisture?	X		
11.0	**Standards Data (GC/MS)**			
11.1	Are the Reconstructed Ion Chromatograms, and data system printouts present for initial and continuing calibration?	X		
12.0	**GC/MS Initial Calibration (Form VI)**			
12.1	Are the Initial Calibration Forms (Form VI) present and complete for the volatile fraction at concentrations of 10, 20, 50, 100, 200 ug/L? Are there separate calibrations for low/med soils and low soil samples?	X		
12.2	Were all low level soil standards, blanks, and samples analyzed by heated purge?	X		
12.3	Are the response factors stable for VOA’s over the concentration range of the calibration (%Relative Standard Deviation (%RSD) <30%)	X		
12.4	Are the RRFs above 0.01?	X		
12.5	Are there any transcription/calculation errors in the reporting of average response factors (RRF) or %RSD?		X	

Data Validation Checklist - Part A: VOA Analyses

No:	Parameter	YES	NO	N/A
13.0	**GC/MS Continuing Calibration (Form VII)**			
13.1	Are the Continuing Calibration Forms (Form VII) present and complete for the volatile fraction?	X		
13.2	Has a continuing calibration standard been analyzed for every twelve hours of sample analysis per instrument?	X		
13.3	Do any volatile compounds have a %Difference (%D) between the initial and continuing RRF which exceeds the +/- 25% criteria?	X		
13.4	Do any volatile compounds have a RRF <0.01?		X	
13.5	Are there any transcription/calculation errors in the reporting of average response factor (RRF) or %difference (%D) between initial and continuing RRFs?		X	
14.0	**Internal Standard (Form VIII)**			
14.1	Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to +100%) for each continuing calibration?	X		
14.2	Are the retention times of the internal standards within 30 seconds of the associated calibration standard?	X		
15.0	**Field Duplicates**			
15.1	Were any field duplicates submitted for VOA analysis?	X		

Data Validation Checklist - Part B: BNA Analyses

No:	Parameter	YES	NO	N/A
1.0	**Traffic Reports and Laboratory Narrative**			
1.1	Are the traffic Report Forms present for all samples?	X		
1.2	Do the Traffic Reports or Lab Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?		X	
2.0	**Holding Times**			
2.1	Have any BNA technical holding times, determined from date of collection to date of extraction, been exceeded?		X	
3.0	**System Monitoring Compound (SMC) Recovery (Form II)**			
3.1	Are the BNA Surrogate Recovery Summaries (FORM II) present for each of the following matrices:			
	a. Low Water	X		
	b. Low Soil	X		
	c. Med Soil	X		
3.2	Are all the BNA samples listed on the appropriate System Monitoring Compound Recovery Summary for each of the following matrices:			
	a. Low Water	X		
	b. Low Soil	X		
	c. Med Soil	X		
3.3	Were outliers marked correctly with an asterisk?	X		
3.4	Were two or more base neutral or acid surrogate compound recoveries out of specification for any sample or method blank?	X		
	If yes, were samples re-analyzed?	X		
	Were method blanks re-analyzed?	X		
3.5	Are there any transcription/calculation errors between raw data and Form II?		X	
4.0	**Matrix Spikes (Form III)**			
4.1	Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present?	X		
4.2	Were matrix spikes analyzed at the required frequency for each of the following matrices?	X		
	a. Low Water	X		
	b. Low Soil	X		
	c. Med Soil	X		
4.3	How many BNA spike recoveries are outside QC limits?			
	Water __0__ out of 65 Soils __2__ out of 65			

Data Validation Checklist - Part B: BNA Analyses

No:	Parameter	YES	NO	N/A
4.4	How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits? Water ___0___ out of 65 Soils ___0___ out of 65			
5.0	**Blanks (Form IV)**			
5.1	Is the Method Blank Summary (Form IV) present?	X		
5.2	Frequency of Analysis: Has a reagent/method blank analysis been reported per 20 samples of a similar matrix, or concentration level, for each extraction batch?	X		
5.3	Has a BNA method blank been analyzed for each GC/MS system used?	X		
5.4	Is the chromatographic performance (baseline stability) for each instrument acceptable for BNAs?	X		
6.0	**Contamination**			
6.1	Do any method/instrument/reagent blanks have positive results (TCL and/or TIC) for BNAs?		X	
6.2	Do any field/rinse blanks have positive BNA results (TCL and/or TIC)?	X		
6.3	Are there field/rinse/equipment blanks associated with every sample?		X	
7.0	**GC/MS Instrument Performance Check (Form V)**			
7.1	Are the GC/MS Instrument Performance Check Forms (Form V) present for Decafluorotriphenylphosphine (DFTPP)?	X		
7.2	Are the enhanced bar graph spectrum and mass/charge (m/z) listing for the DFTPP provided for each twelve-hour shift?	X		
7.3	Has an instrument performance check solution been analyzed for every twelve hours of sample analysis per instrument?	X		
7.4	Have the ion abundances been normalized to m/z 198?	X		
7.5	Have the ion abundance criteria been met for each instrument used?	X		
7.6	Are there any transcription/calculation errors between mass lists and Form V's?		X	
7.7	Have the appropriate number of significant figures (two) been reported?	X		
7.8	Are the spectra of the mass calibration compound acceptable?	X		
8.0	**Target Compound List (TCL) Analytes**			
8.1	Are the Organic Analysis Data Sheets (Form I BNA) present with required header information on each page, for each of the following:			
	a. Sample and/or fractions as appropriate?	X		
	b. Matrix spikes and matrix spike duplicates?	X		
	c. Blanks?	X		
8.2	Has GPC cleanup been performed on all soil/sediment sample extracts?		X	
8.3	Are the BNA Reconstructed Ion Chromatograms, the mass spectra for the identified compounds, and the data system printouts (Quant Reports) included in the sample package for each of the following?			

Data Validation Checklist - Part B: BNA Analyses

No:	Parameter	YES	NO	N/A
	a. Samples and/or fractions as appropriate?	X		
	b. Matrix spikes and matrix spike duplicates (Mass spectra not required)?	X		
	c. Blanks?	X		
8.4	Are the response factors shown in the Quant Report?	X		
8.5	Is the chromatographic performance acceptable with respect to:			
	Baseline stability?	X		
	Resolution	X		
	Peak shape?	X		
	Full-scale graph (attenuation)?	X		
	Other:			
8.6	Are the lab-generated standard mass spectra of identified BNA compounds present for each sample?	X		
8.7	Is the RRT of each reported compound within 0.06 RRT units of the standard RRT in the continuing calibration?	X		
8.8	Are all ions in the standard mass spectrum at a relative intensity greater than 10% also present in the sample mass spectrum?	X		
8.9	Do sample and standard relative ion intensities agree within 20%?	X		
9.0	**Tentatively Identified Compounds (TIC)**			
9.1	Are all Tentatively Identified Compound Forms (Form I, Part B) present; and do listed TICs include scan number or retention time, estimated concentration and "JN" qualifier?	X		
9.2	Are the mass spectra for the tentatively identified compounds and associated "best match" spectra included in the sample package for each of the following:			
	a. Samples and/or fractions as appropriate?	X		
	b. Blanks?	X		
9.3	Are any TCL compounds (from any fraction) listed as TIC compounds?		X	
9.4	Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	X		
9.5	Do TIC and "best match" standard relative ion intensities agree within 20%?	X		
10.0	**Compound Quantitation and Reported Detection Limits**			
10.1	Are there any transcription/calculation errors in Form I results?		X	
10.2	Are the CRQLs adjusted to reflect sample dilutions and, for soils, sample moisture?	X		
11.0	**Standards Data (GC/MS)**			
11.1	Are the Reconstructed Ion Chromatograms, and data system printouts present for initial and continuing calibration?	X		
12.0	**GC/MS Initial Calibration (Form VI)**			

Data Validation Checklist - Part B: BNA Analyses

No:	Parameter	YES	NO	N/A
12.1	Are the Initial Calibration Forms (Form VI) present and complete for the BNA fraction?	X		
12.2	Are response factors stable for BNA's over the concentration range of the calibration (%Relative Standard Deviation (%RSD) <30%)		X	
12.3	Are all BNA compound RRFs > 0.01?	X		
12.4	Are there any transcription/calculation errors in the reporting of average response factors (RRF) or %RSD?		X	
13.0	**GC/MS Continuing Calibration (Form VII)**			
13.1	Are the Continuing Calibration Forms (Form VII) present and complete for the BNA fraction?	X		
13.2	Has a continuing calibration standard been analyzed for every twelve hours of sample analysis per instrument?	X		
13.3	Do any semivolatile compounds have a %Difference (%D) between the initial and continuing RRF which exceeds the +/- 25% criteria?	X		
13.4	Do any semivolatile compounds have a RRF <0.01?		X	
13.5	Are there any transcription/calculation errors in the reporting of average response factor (RRF) or %difference (%D) between initial and continuing RRFs?		X	
14.0	**Internal Standard (Form VIII)**			
14.1	Are the internal standard areas (Form VIII) of every sample and blank within the upper and lower limits (-50% to +100%) for each continuing calibration?		X	
14.2	Are the retention times of the internal standards within 30 seconds of the associated calibration standard?	X		
15.0	**Field Duplicates**			
15.1	Were any field duplicates submitted for BNA analysis?	X		

Data Validation Checklist - Part C: Pesticide/PCB Analysis

No:	Parameter	YES	NO	N/A
1.0	**Traffic Reports and Laboratory Narrative**			
1.1	Are the traffic Report Forms present for all samples?	X		
1.2	Do the Traffic Reports or SDG Narrative indicate any problems with sample receipt, condition of samples, analytical problems or special circumstances affecting the quality of the data?	X		
2.0	**Holding Times**			
2.1	Have any PEST/PCB technical holding times, determined from date of collection to date of extraction, been exceeded?		X	
3.0	**System Monitoring Compound (SMC) Recovery (Form II)**			
3.1	Are the PEST/PCB Surrogate Recovery Summaries (FORM II) present for each of the following matrices:			
	a. Low Water	X		
	b. Soil	X		
3.2	Are all the PEST/PCB samples listed on the appropriate Surrogate Recovery Summary for each of the following matrices:			
	a. Low Water	X		
	b. Soil	X		
3.3	Were outliers marked correctly with an asterisk?	X		
3.4	Were surrogate recoveries of TCX or DCB outside of the contract specifications for any sample or method blank? (60-150%)	X		
3.5	Were surrogate retention times (RT) within the windows established during the initial 3-point analysis of Individual Standard Mixture A?	X		
3.6	Are there any transcription/calculation errors between raw data and Form II?		X	
4.0	**Matrix Spikes (Form III)**			
4.1	Is the Matrix Spike/Matrix Spike Duplicate Recovery Form (Form III) present?	X		
4.2	Were matrix spikes analyzed at the required frequency for each of the following matrices?	X		
	a. Low Water	X		
	b. Soil	X		
4.3	How many PEST/PCB spike recoveries are outside QC limits?			
	Water 0 out of 31 Soils 1 out of 31			
4.4	How many RPD's for matrix spike and matrix spike duplicate recoveries are outside QC limits?			
	Water 0 out of 31 Soils 0 out of 31			
5.0	**Blanks (Form IV)**			
5.1	Is the Method Blank Summary (Form IV) present?	X		

Data Validation Checklist - Part C: Pesticide/PCB Analysis

No:	Parameter	YES	NO	N/A
5.2	Frequency of Analysis: For the analysis of Pesticide/PCB TCL compounds, has a reagent/method blank been analyzed for each SDG or every 20 samples of similar matrix or concentration or each extraction batch, whichever is more frequent?	X		
5.3	Has a PEST/PCB instrument blank been analyzed at the beginning of every 12 hr. period following the initial calibration sequence?	X		
5.4	Is the chromatographic performance (baseline stability) for each instrument acceptable for PEST/PCBs?	X		
6.0	**Contamination**			
6.1	Do any method/instrument/reagent blanks have positive results PEST/PCBs?	X		
6.2	Do any field/rinse blanks have positive PEST/PCB results?		X	
6.3	Are there field/rinse/equipment blanks associated with every sample?	X		
7.0	**Calibration and GC Performance**			
7.1	Are the following Gas Chromatograms and Data Systems Printouts for both columns present for all samples, blanks, MS/MSD?			
	a. Peak resolution check	X		
	b. Performance evaluation mixtures	X		
	c. Aroclor 1016/1260	X		
	d. Aroclors 1221, 1232, 1242, 1248, 1254	X		
	e. Toxaphene	X		
	f. Low points individual mixtures A & B	X		
	g. Med points individual mixtures A & B	X		
	h. High points individual mixtures A & B	X		
	I. Instrument blanks	X		
7.2	Are Forms VI - PEST 1-4 present and complete for each column and each analytical sequence?	X		
7.3	Are there any transcription/calculation errors between raw data and Forms VI?		X	
7.4	Do all standard retention times, including each pesticide in each level of Individual Mixtures A & B, fall within the windows established during the initial calibration analytical sequence?	X		
7.5	Are the linearity criteria for the initial analyses of Individual Standards A & B within limits for both columns?	X		
7.6	Is the resolution between any two adjacent peaks in the Resolution Check Mixture > 60.0% for both columns?	X		
7.7	Is Form VII - Pest-1 present and complete for each Performance Evaluation Mixture analyzed during the analytical sequence for both columns?	X		
7.8	Has the individual %breakdown exceeded 20.0% on either column?		X	
	- for 4,4' - DDT?		X	
	- for endrin?		X	

Data Validation Checklist - Part C: Pesticide/PCB Analysis

No:	Parameter	YES	NO	N/A
	Has the combined %breakdown for 4,4' - DDT/Endrin exceeded 30.0% on either column?		X	
7.9	Are the relative percent difference (RPD) values for all PEM analytes <25.0%?	X		
7.10	Have all samples been injected within a 12 hr. Period beginning with the injection of an Instrument Blank?	X		
7.11	Is Form VII - Pest-2 present and complete for each INDA and INDB Verification Calibration analyzed?	X		
7.12	Are there any transcription/calculation errors between raw data and Form VII - Pest-2?		X	
7.13	Do all standard retention times for each INDA and INDB Verification Calibration fall within the windows established by the initial calibration sequence?	X		
7.14	Are the RPD values for all verification calibration standard compounds <25.0%?	X		
8.0	**<u>Analytical Sequence Check (Form VIII-PEST)</u>**			
8.1	Is Form VIII present and complete for each column and each period of analyses?	X		
8.2	Was the proper analytical sequence followed for each initial calibration and subsequent analyses?	X		
9.0	**<u>Cleanup Efficiency Verification (Form IX)</u>**			
9.1	Is Form IX - Pest-1 present and complete for each lot of Florisil Cartridges used?		X	
9.2	Are all samples listed on the Pesticide Florisil Cartridge Check Form?		X	
9.3	If GPC Cleanup was performed, is Form IX - Pest-2 present?			X
9.4	Are percent recoveries (%R) of the pesticide and surrogate compounds used to check the efficiency of the cleanup procedures within QC limits:			
	80-120% for florisil cartridge check?			X
	80-110% for GPC calibration?			X
10.0	**<u>Pesticide/PCB Identification</u>**			
10.1	Is Form X complete for every sample in which a pesticide or PCB was detected?	X		
10.2	Are there any transcription/calculation errors between raw data and Forms 6E, 6G, 7E, 7D, 8D, 9A, 9B, 10A?		X	
10.3	Are retention times (RT) of the sample compounds within the established windows for both analyses?	X		
10.4	Is the percent difference (%D) calculated for the positive sample results on the two GC columns < 25.0%?		X	
10.5	Check chromatograms for false negatives, especially the multiple peak compounds toxaphene and PCBs. Were there any false negatives?		X	
11.0	**<u>Compound Quantitation and Reported Detection Limits</u>**			
11.1	Are there any transcription/calculation errors in Form I results?		X	
11.2	Are the CRQLs adjusted to reflect sample dilutions and, for soils, %moisture?	X		
12.0	**<u>Chromatogram Quality</u>**			
12.1	Were baselines stable?		X	

Data Validation Checklist - Part C: Pesticide/PCB Analysis

No:	Parameter	YES	NO	N/A
12.2	Were any electropositive displacement (negative peaks) or unusual peaks seen?	X		
13.0	**Field Duplicates**			
13.1	Were any field duplicates submitted for PEST/PCB analysis?	X		

Data Validation Checklist - Part D: Metals Analyses

No:	Parameter	YES	NO	N/A
1.0	**Form I to IX**			
1.1	Are all the Form I through Form IX labeled with:			
	Laboratory Name?	X		
	Case/SAS No.?		X	
	EPA sample No.?		X	
	SDG No.?	X		
	Contract No.?	X		
	Correct units?	X		
	Matrix?	X		
1.2	Do any computer/transcription errors exceed 10% of reported values on Forms I-IX for:			
	A. All analytes analyzed by ICP?		X	
	B. All analytes analyzed by GFAA?			X
	C. All analytes analyzed by AA Flame?			X
	D. Mercury?		X	
	E. Cyanide?			X
2.0	**Raw Data**			
2.1	Digestion Log for flame AA/ICP (Form XIII) present?	X		
2.2	Digestion Log for furnace AA (Form XIII) present?			X
2.3	Distillation Log for mercury (Form XIII) present?		X	
2.4	Distillation Log for cyanides (Form XIII) present?			X
2.5	Are pH values (pH<2 for all metals, pH>12 for cyanide) present?	X		
2.6	Percent solids calculation dates present on sample preparation logs/bench sheets?	X		
2.7	Are preparation dates present on sample preparation logs/bench sheets?	X		
2.8	Measurement read out record present?			
	A. ICP	X		
	B. Flame AA			X
	C. Furnace AA			X
	D. Mercury	X		
	E. Cyanides			X
2.9	Are all raw data to support all sample analyses and QC operations present?	X		
3.0	**Holding Times**			
3.1	A. Mercury analysis (28 days) ....exceeded?		X	
	B. Cyanide distillation (14 days) ....exceeded?			X
	C. Other Metals analysis (6 months) ....exceeded?		X	
3.2	Is pH of aqueous samples for:			
	A. Metals Analysis >2?		X	

Data Validation Checklist - Part D: Metals Analyses

No:	Parameter	YES	NO	N/A
	B. Cyanides Analysis <12?			X
4.0	**Form I (Final Data)**			
4.1	Are all Forms I's present and complete?	X		
4.2	Are correct units (ug/l for waters and mg/kg for soils) indicated on Form I's?	X		
4.3	Are soil sample results for each parameter corrected for percent solids?	X		
4.4	Are all "less than IDL" values properly coded with "U"?	X		
4.5	Are the correct concentration qualifiers used with final data?	X		
4.6	Are EPA sample #s and corresponding laboratory sample ID #s the same as on the Cover Page, Form I's and in the raw data?	X		
4.7	Was a brief physical description of samples given on Form I's?	X		
4.8	Was the dilution of any sample diluted beyond the requirements of the contract noted on Form I or Form XIV?		X	
5.0	**Calibration**			
5.1	Is record of at least 2 point calibration present for ICP analysis?	X		
5.2	Is record of 5 point calibration present for Hg analysis?	X		
5.3	Is record of 4 point calibration present for:			X
	Flame AA?			X
	Furnace AA?			X
	Cyanides?			X
5.4	Is one calibration standard at the CRDL level for all AA (except Hg) and cyanides analyses?	X		
5.5	Is correlation coefficient less than 0.995 for:			
	Mercury Analysis?	X		
	Cyanide Analysis?			X
	Atomic Absorption Analysis?			X
5.6	In the instance where less than 4 standards are measured in absorbance (or peak area, peak height, etc.) Mode, are remaining standards analyzed in concentration mode immediately after calibration within +/- 10% of the true values?			X
6.0	**Form II A (Initial and Continuing Calibration Verification)**			
6.1	Present and complete for every metal and cyanide?	X		
6.2	Present and complete for AA ICP when both are used for the same analyte?			X
6.3	Are all calibration standards (initial and continuing) within control limits:			
	Metals - 90 - 110 %R	X		
	Hg - 80 - 120 %R	X		
	Cyanides - 85 - 115 %R			X
6.4	Was continuing calibration performed every 10 samples or every 2 hours?	X		
6.5	Was ICV for cyanides distilled?			X

Data Validation Checklist - Part D: Metals Analyses

No:	Parameter	YES	NO	N/A
7.0	**Form II B (CRDL Standards for AA and ICP)**			
7.1	Was a CRDL standard (CRA) analyzed after initial calibration for all AA metals (except Hg)?	X		
7.2	Was a mid range calibration verification standard distilled and analyzed for cyanide analysis?			X
7.3	Was a 2xCRDL (or 2xIDL when IDL>CRDL) analyzed (CRI) for each ICP run?	X		
7.4	Was CRI analyzed after ICV/ICB and before the final CCV/CCB, and twice every eight hours of ICP run?	X		
7.5	Are CRA and CRI standards within control limits: Metals 70 – 130 %R?	X		
7.6	Is mid-range standard within control limits: Cyanide 70 - 130 %R?			X
8.0	**Form III (Initial and Continuing Calibration Blanks)**			
8.1	Present and complete?	X		
8.2	For both AA and ICP when both are used for the same analyte?			X
8.3	Was an initial calibration blank analyzed?	X		
8.4	Was a continuing calibration blank analyzed after every 10 samples or every 2 hours (which ever is more frequent)?	X		
8.5	Are all calibration blanks (when IDL<CRDL) less than or equal to the Contract Required Detection Limits (CRDLs)?	X		
8.6	Are all calibration blanks less than two times Instrument Detection Limit (when IDL>CRDL)?			X
9.0	**Form III (Preparation Blank)**			
9.1	Was one preparation blank analyzed for:			
	each Sample Delivery Group?	X		
9.2	Is concentration of preparation blank value greater than the CRDL when IDL is less than or equal to CRDL?		X	
9.3	If yes, is the concentration of the sample with the least concentrated analyte less than 10 times the preparation blank?			X
9.4	Is concentration of preparation blank value (Form III) less than two times IDL, when IDL is greater than CRDL?			X
9.5	Is concentration of preparation blank below the negative CRDL?		X	
10.0	**Form IV (Interference Check Sample)**			
10.1	Present and Complete?	X		
10.2	Are all Interference Check Sample results inside the control limits (+/- 20%)?	X		
10.3	If no, is concentration of Al, Ca, Fe, or Mg lower than the respective concentration in ICS?			X
11.0	**Form V A (Spiked Sample recovery - Pre-Digestion/Pre-Distillation**			
11.1	Present and complete for:			
	each SDG?	X		
	each matrix type?	X		
	each concentration range (i.e., low, medium, high)?	X		

Data Validation Checklist - Part D: Metals Analyses

No:	Parameter	YES	NO	N/A
	For both AA and ICP when both are used for the same analyte?			X
11.2	Was field blank used for spiked sample?		X	
11.3	Are all recoveries within control limits?		X	
11.4	If no, is sample concentration greater than or equal to four times spike concentration?		X	
12.0	**Form VI (Lab Duplicates)**			
12.1	Present and complete for :			
	each SDG?	X		
	each matrix type?	X		
	each concentration range (i.e., low, medium, high)?	X		
	both AA and ICP when both are used for the same analyte?			X
12.2	Was field blank used for duplicate analysis?		X	
12.3	Are all values within control limits (RPD 20% or difference </= +/-CRDL)?		X	
12.4	If no, are all results outside the control limits flagged with an * on Form I's and VI?	X		
13.0	**Field Duplicates**			
13.1	Were field duplicates analyzed?	X		
13.2	**Aqueous**			
	Is any RPD greater than 50% where sample and duplicate are both greater than or equal to 5 times CRDL?			X
	Is any difference between sample and duplicate greater than CRDL where sample and/or duplicate is less than 5 times CRDL?			X
13.3	**Soil/Sediment**			
	Is any RPD (where sample and duplicate are both greater than 5 times CRDL): >100%?			X
	Is any difference between sample and duplicate (where sample and/or duplicate is less than 5x CRDL): >2x CRDL?			X
14.0	**Form VII (Laboratory Control Sample)**			
14.1	Was one LCS prepared and analyzed for:			
	each SDG?	X		
	each batch samples digested/distilled?	X		
	both AA and ICP when both are used for the same analyte?			X
14.2	**Aqueous LCS**			
	Is any LCS recovery:			
	less than 50%?		X	
	between 50% and 79%?		X	
	between 121% and 150%?		X	
	greater than 150%?		X	
14.3	**Solid LCS**			
	Is LCS "Found" value higher than the control limits on Form VII?		X	

Data Validation Checklist - Part D: Metals Analyses

No:	Parameter	YES	NO	N/A
	Is LCS "Found" value lower than the control limits on Form VII?		X	
15.0	**Form IX (ICP Serial Dilution)**			
15.1	Was serial dilution analysis performed for:			
	each SDG?	X		
	each matrix type?	X		
	each concentration range (i.e., low, medium, high)?	X		
15.2	Was field blank(s) used for Serial Dilution Analysis?		X	
15.3	Are results outside control limit flagged with an "E" on Form I's and Form IX when initial concentration on Form IX is equal to 50 times IDL or greater?	X		
15.4	Are any %difference values:			
	>10%	X		
	>/=100%		X	
16.0	**Furnace Atomic Absorbtion (AA) QC Analysis**			
16.1	Are duplicate injections present in furnace raw data for each sample analyzed by GFAA?			X
16.2	Do the duplicate injection readings agree within 20% Relative Standard Deviation (RSD) or Coefficient of Variation (CV) for concentration greater than CRDL?			X
16.3	Was a dilution analyzed for sample with analytical spike recovery less than 40%?			X
16.4	Is analytical spike recovery outside the control limits (85 - 115%) for any sample?			X
17.0	**Form VIII (Method of Standard Addition Results)**			
17.1	Present?			X
17.2	If no, is any Form I result coded with "S" or a "+"?			X
17.3	Is coefficient of correlation for MSA less than 0.990 for any sample?			X
17.4	Was MSA required for any sample but not performed?			X
17.5	Is coefficient of correlation for MSA less than 0.995?			X
17.6	Are MSA calculations outside the linear range of the calibration curve generated at the beginning of the analytical run?			X
17.7	Was proper Quantitation procedure followed correctly as outlined in the SOW on page E-23?			X
18.0	**Dissolved/Total or Inorganic/Total Analytes**			
18.1	Were any analyses performed for dissolved as well as total analytes on the same sample(s)?		X	
18.2	Were any analyses performed for inorganic as well as total (organic and inorganic) analytes on the same sample(s)?	X		
18.3	Is the concentration of any dissolved (or inorganic) analyte greater than its total concentration by more than 10%?		X	
18.4	Is the concentration of any dissolved (or inorganic) analyte greater than its total concentration by more than 50%?		X	

Data Validation Checklist - Part D: Metals Analyses

No:	Parameter	YES	NO	N/A
19.0	**Form I (Field Blank)**			
19.1	Is field blank concentration less than CRDL (or 2 x IDL when IDL>CRDL) for all parameters of associated aqueous and soil samples?	X		
19.2	If no, was field blank value already rejected due to other QC criteria?		X	
20.0	**Form X, XI, XII (Verification of Instrumental Parameters)**			
20.1	Is verification report present for:			
	Instrument Detection Limits (quarterly)?	X		
	ICP Interelement Correction Factors (annually)?	X		
	ICP Linear Ranges (quarterly)?	X		
21.0	**Form X (Instrument Detection Limits)**			
21.1	Are IDLs present for:			
	all the analytes?	X		
	all the instruments used?	X		
	For both AA and ICP when both are used for the same analyte?			X
21.2	Is IDL greater than CRDL for any analytes?		X	
21.3	If yes, is the concentration on Form I of the sample analyzed on the instrument whose IDL exceeds CRDL, greater than 5 x IDL?			X
22.0	**Form XI (Linear Ranges)**			
22.1	Was any sample result higher than the high linear range of ICP?	X		
22.2	Was any sample result higher than the highest calibration standard for non-ICP parameters?		X	
22.3	If yes for any of the above, was the sample diluted to obtain the result on Form I?	X		
23.0	**Percent Solids of Sediments**			
23.1	Are percent solids in sediment(s):			
	<50%?		X	
	<10%?		X	