



**PHASE II ENVIRONMENTAL SITE ASSESSMENT
OF
THE HYBLA VALLEY OFFICE BUILDING
(VA0085ZZ)**

**6801 TELEGRAPH ROAD
ALEXANDRIA, VA 22310**

Prepared for:

Kelly Holland
Facilities Management & Services Program Division
301 7th Street, S.W., Room 2080
Washington, DC 20407

Prepared By:

TTL-Arc Environmental JV, LLC

October 21, 2014

Contract No. GS-11P-12-DC-C-0008
PDN No. PJ4NA1834
Order No. GS-P-11-14-MA-0054
TTL-Arc Job No. 11199.38/292-3



October 27, 2014

TTL/Arc Environmental Project No. 11199.38/292-3

Ms. Kelly Holland
GSA Industrial Hygienist
Facilities Management & Services Program Division
301 7th Street, S.W., Room 2080
Washington, DC 20407

**Phase II Environmental Site Assessment
Hybla Valley Office Building
(VA0085ZZ)
6801 Telegraph Road
Alexandria, Virginia**

Dear Ms. Holland:

The final report for the Phase II Environmental Site Assessment (ESA) conducted for the (GSA) by TTL-Arc Environmental JV, LLC (TTL-Arc) for the above-referenced site is enclosed. This assessment was authorized by GSA's Order for Supplies and Services No. GS-P-11-14-MA-0054, dated August 15, 2014.

TTL-Arc appreciates the opportunity to provide GSA with our engineering, consulting, and testing services. If you have any questions, please contact Ms. Stacy Kahatapitiya at 410-659-9971.

Sincerely,

TTL-Arc Environmental JV, LLC

A handwritten signature in cursive script that reads 'Stacy Kahatapitiya'.

Stacy Kahatapitiya, CHMM, LEED GA
Project Manager

A handwritten signature in cursive script that reads 'Paul D. Chasco'.

Paul D. Chasco
Geologist

Enclosure



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1.0 INTRODUCTION

This report presents the methodologies and findings of a Phase II Environmental Site Assessment (ESA) conducted for the General Services Administration (GSA) by TTL-Arc Environmental JV, LLC (TTL-Arc) in September and October 2014 at the Hybla Valley Office Building (VA0085ZZ) located at 6801 Telegraph Road, Alexandria, Virginia (site). GSA retained TTL-Arc to perform this Phase II ESA in response to the findings of Recognized Environmental Conditions (RECs) identified in the Phase I ESA (Project Number 8742.68/347-2) completed by TTL-Arc on behalf of GSA in December 2013.

1.1 Purpose

The Phase II ESA was conducted to evaluate whether soil and/or groundwater at the site have been impacted by the following RECs identified in the Phase I ESA:

- The former presence of underground storage tanks (USTs) at the site with no record of removal or environmental sampling data.
- Staining in the floor of the generator room.

1.2 Site Location

The site is located on the eastern portion of an approximate 20.39 acre parcel. The site has an official address of 9678 Telegraph Road, Alexandria, Virginia. However, at the time of the Phase II ESA activities, the site used the address of 6801 Telegraph Road, Alexandria, Virginia.

1.3 Site Background

The site is approximately 11.4 acres in area and is occupied by one 106,229-square foot cross-shaped structure, a modular office building, two storage sheds, two guard shacks, two large asphalt paved parking lots, asphalt paved driveways and smaller parking areas around the main building, and landscaped lawn areas. Figure 2.0 depicts the current site features.

The site was undeveloped land with unimproved roads/trails from the 1880s through the mid-1950s. A portion of the main structure was constructed in 1958. A second building was present on the southeastern portion of the site in 1965 and was demolished by 1971. An addition was constructed to the main building in the late 1960s.

The site formerly utilized two underground storage tanks (USTs); one 4,000-gallon heating oil UST and one 12,000-gallon heating UST. Based on the information available during the Phase I ESA, the USTs have been removed from the ground; however, no closure documentation was provided or available for review.

Minor staining was observed within the mechanical room beneath a spigot of one of the ASTs, beneath one of the generators, and on the concrete pad underneath the equipment. The concrete floor appears to be in sound condition; however, several trenches and fuel lines were observed to be cut in the concrete floor in the vicinity of the generator, some of which may expose the soil. A strong petroleum odor and staining was observed near one of these cuts. Due to the trenches and cuts observed in the floor of the generator room, impacts to the subsurface from the observed surface releases may have occurred.

2.0 FIELD ACTIVITIES

Field activities performed at the site during the Phase II ESA included a geophysical survey, advancing four Geoprobe soil borings, field screening of soil samples, and collecting soil samples for laboratory analysis. Standard Occupational Safety and Health Administration health and safety procedures were followed during field activities to ensure the safety of field personnel. The field activities are described in this section.

2.1 Geophysical Investigation

On September 10, 2014, Grumman Exploration, Inc. (GEI) conducted a geophysical survey of the accessible areas surrounding the mechanical room where historical USTs would most likely have been located. The geophysical survey was conducted to locate former UST cavities and to assess the possible presence of abandoned heating oil USTs. GEI performed electromagnetic (EM) scans using a GSSI GEM-300 multi-frequency EM terrain conductivity profiling system to scan the survey areas. GEI also performed ground-penetrating radar (GPR) scans using a GSSI SIR-3000 GPR system with a 400-megahertz antenna in targeted areas based on historical information, EM anomaly locations, site access, and ground surface conditions. A copy of the geophysical investigation report completed by GEI is included in Appendix A.

The geophysical survey was limited by the presence of the modular offices, shallow clay, and thick re-enforced concrete. A former cavity was not identified in the southeast corner of the mechanical room. No geophysical anomalies were found in the accessible grass and driveway areas to the south and east of the mechanical room. However, multiple utility pipes, both active and inactive, were identified along the east and south sides of the mechanical room. These included a tank vent pipe, possible fill pipes and associated conduits visible along interior and exterior sides of the east wall of the mechanical room. The vent pipe was probed and was open to approximately 3 to 4 feet below the ground surface. Other pipes were observed to be concrete filled indicating the UST may have been filled in place.

A geophysical survey provides a cost-effective, non-intrusive technique to assess for the possible presence of USTs, but is subject to limitations including: the detection of deeply buried or small targets; the obstruction of dense or multi-layering reinforcing steel or conductive pavement; the presence of moist clay; and/or the absence of a dielectric contrast between the subsurface feature and the surrounding material. Geophysical surveys can be effective in identifying USTs, but cannot be considered conclusive regarding the absence of USTs.

2.2 Drilling and Associated Soil Sampling

TTL-Arc implemented a soil boring and sampling program to evaluate the potential impact to the soil and groundwater at the site from the RECs identified during the Phase I ESA. On October 1, 2014, Zebra Environmental Corporation (Zebra) advanced four soil borings (GP-

1 through GP-4) at the site using Geoprobe® Model 7822DT under the supervision of a TTL-Arc environmental professional. Soil borings were advanced in the following locations:

- One boring to the southeast of the mechanical room (GP-1).
- One boring to the south of the mechanical room (GP-2).
- One boring to the west of the mechanical room (GP-3).
- One boring to the southwest of the mechanical room (GP-4).

The approximate Phase II ESA soil boring locations are depicted on Figure 3.0.

Soil borings were attempted through the floor of the mechanical room, however, the concrete floor was greater than 18-inches thick and was not able to be core drilled to provide access to soils under the building.

The Geoprobe soil borings were advanced to maximum depths of approximately 20 feet below ground surface (bgs). Groundwater was encountered in each of the borings at depths ranging from 17 to 19 feet bgs.

The site stratigraphy encountered during the Phase II ESA soil borings generally consisted of surficial materials such as asphalt and associated sub-base, topsoil, or gravel to a depth of six inches, overlying silty clay ranging from 0 to 4 feet in thickness. Silty fine sand underlies the silty clay to a depth of least 20 feet bgs. Appendix B contains copies of the soil boring logs developed during the Phase II ESA drilling activities.

United States Environmental Protection Agency (USEPA) approved sampling procedures were followed to ensure sample integrity. Soil samples were collected continuously in five-foot increments from each Geoprobe boring within disposable acetate sleeves so that materials encountered could be collected, observed, and described in an undisturbed state. Sampling equipment was decontaminated prior to each sampling run utilizing a Liquinox soap and de-ionized water rinses to minimize the potential for sample cross contamination.

Soil samples collected from each boring were vertically split into two components: one for field screening and one for potential laboratory analysis. Samples for potential laboratory analysis were placed into laboratory-cleaned USEPA Protocol B sample containers fitted with Teflon-lined lids. The samples for field screening were placed into re-sealable plastic bags and screened on site using a MiniRAE photoionization detector (PID) to preliminarily assess the samples for the presence of volatile organic vapors. The PID was calibrated using 100 parts per million (ppm) isobutylene gas per the manufacturer's instructions. The PID screening was conducted following the accumulation of headspace vapors from each sample after it was placed within the re-sealable plastic bag.

PID readings up to 557 ppm were encountered in the silty fine sand layer at depths below 8 feet bgs. Petroleum odors were noted at and below the groundwater table in borings GP-1

through GP-3. Free product was encountered in boring GP-2 at the groundwater interface, approximately 17 feet bgs. The PID values are presented on the soil boring logs in Appendix B.

Based on field observations and professional judgment, one soil sample was submitted for laboratory analysis from each of the soil borings. In general, the soil samples selected for laboratory analysis were collected from the intervals above the water table that appeared most likely to contain petroleum impacts. The samples were generally collected from the interval just above the water table.

Groundwater samples were not able to be collected due to the presence of free product in one soil boring (GP-2) and insufficient water in the remaining soil borings.

3.0 ANALYTICAL RESULTS

This section presents a summary of the soil sample analytical data. The laboratory analyses were performed by ALS Group USA, Corp. (ALS) of Middleton, Pennsylvania, a Virginia accredited laboratory. A copy of the laboratory report is included as Appendix C.

The soil samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) using USEPA Method 8260, polynuclear aromatic hydrocarbons (PAHs) using USEPA Method 8270, and total petroleum hydrocarbons (TPH) gasoline-range organics (GRO) and diesel-range organics (DRO) using USEPA Method 8015.

The soil sample analytical data are summarized in Table 1.0. The reported analyte concentrations in the soil samples were compared to the USEPA Regional Screening Levels (RSLs) for residential and industrial land use. RSLs for carcinogenic ($1.0E+6$ screening level), non-carcinogenic (hazard index of 0.1), and soil leaching to groundwater pathways are provided in Table 1.0. The analytical results indicate the following:

- Ethylbenzene and xylenes were detected in GP-1 and GP-2 at concentrations that exceed the risk-based protection of groundwater, but below the maximum contaminant level (MCL) based protection of groundwater value. No other BTEX constituents were detected in the soil samples.
- Nine PAH constituents were detected in three of the four soil samples. The concentrations of fluorene (GP-1 and GP-2) and naphthalene (GP-1 through GP-3) exceed the risk-based protection of groundwater and naphthalene exceeds the residential carcinogenic screening level. None of the PAHs were detected in excess of the RSLs.
- TPH-GRO exceed the RSLs for residential, industrial and the protection of groundwater in all four submitted soil samples and TPH-DRO exceed the respective RSLs for residential, industrial and the protection of groundwater in three of the four soil samples. In addition, the concentrations of TPH exceed the Virginia reporting requirement of 100,000 micrograms per kilogram ($\mu\text{g}/\text{kg}$, parts per billion equivalent).

4.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This section provides a summary of the findings and conclusions of the Phase II ESA investigation and associated recommendations.

4.1 Summary

The findings of the Phase II ESA are summarized as follows:

- The geophysical survey was limited by the presence of the modular offices, shallow clay, and thick re-enforced concrete. The geophysical survey did not identify any anomalies indicative of abandoned USTs at the site. However, multiple utility pipes, both active and inactive, were identified along the east and south sides of the mechanical room. Visible piping included a tank vent pipe, possible fill pipes and associated conduits are visible along interior and exterior sides of the east wall of the mechanical room.
- The site stratigraphy encountered during the Phase II ESA soil borings generally consisted of surficial materials such as asphalt and associated sub-base, topsoil or gravel to a depth of six inches, overlying silty clay ranging from 0 to 4 feet in thickness. Silty fine sand underlies the silty clay to a depth of least 20 feet bgs.
- PID readings up to 557 ppm were encountered in the silty fine sand layer at depths below 8 feet bgs. Petroleum odors were noted at and below the groundwater table in GP-1 through GP-3. Free product was encountered in boring GP-2 at the groundwater interface, approximately 17 feet bgs.
- Ethylbenzene and xylenes were detected in GP-1 and GP-2 at concentrations that exceed the risk-based protection of groundwater, but below the MCL based protection of groundwater value. No other BTEX constituents were detected in the soil samples.
- Nine PAH constituents were detected in three of the four soil samples. The concentrations of fluorene (GP-1 and GP-2) and naphthalene (GP-1 through GP-3) exceed the risk-based protection of groundwater and naphthalene exceeds the residential carcinogenic screening level. None of the PAHs were detected in excess of the RSLs.
- TPH-GRO exceed the RSLs for residential, industrial and the protection of groundwater in all four submitted soil samples and TPH-DRO exceed the respective RSLs for residential, industrial and the protection of groundwater in three of the four soil samples. In addition, the concentrations of TPH exceed the Virginia reporting requirement of 100,000 ug/kg.
- Groundwater samples were not able to be collected due to the presence of free product in one soil boring (GP-2) and insufficient water in the remaining soil borings.

4.2 Conclusions and Recommendations

The geophysical survey did not identify any probable abandoned USTs at the site. However, the geophysical survey was limited by a modular office building, shallow clays and thick re-enforced concrete. Based on field observations, including a vent pipe and product lines filled with flowable fill, it is possible one of the former USTs was abandoned in place and filled with flowable fill.

Ethylbenzene, xylenes, fluorene, naphthalene, TPH-GRO and TPH-DRO exceeded one or more of the RSLs at the site. In addition the TPH concentrations were above the reporting requirement for the Commonwealth of Virginia.

Free product was discovered in boring GP-2. Upon discovery, free product is required to be reported to the Virginia Department of Environmental Quality upon discovery for former heating oil USTs.

Based on the presence of free product and the analytical results, the Virginia Department of Environmental Quality should be notified. The presence of free product should be addressed per the Virginia Department of Environmental Quality Storage Tank Program requirements.

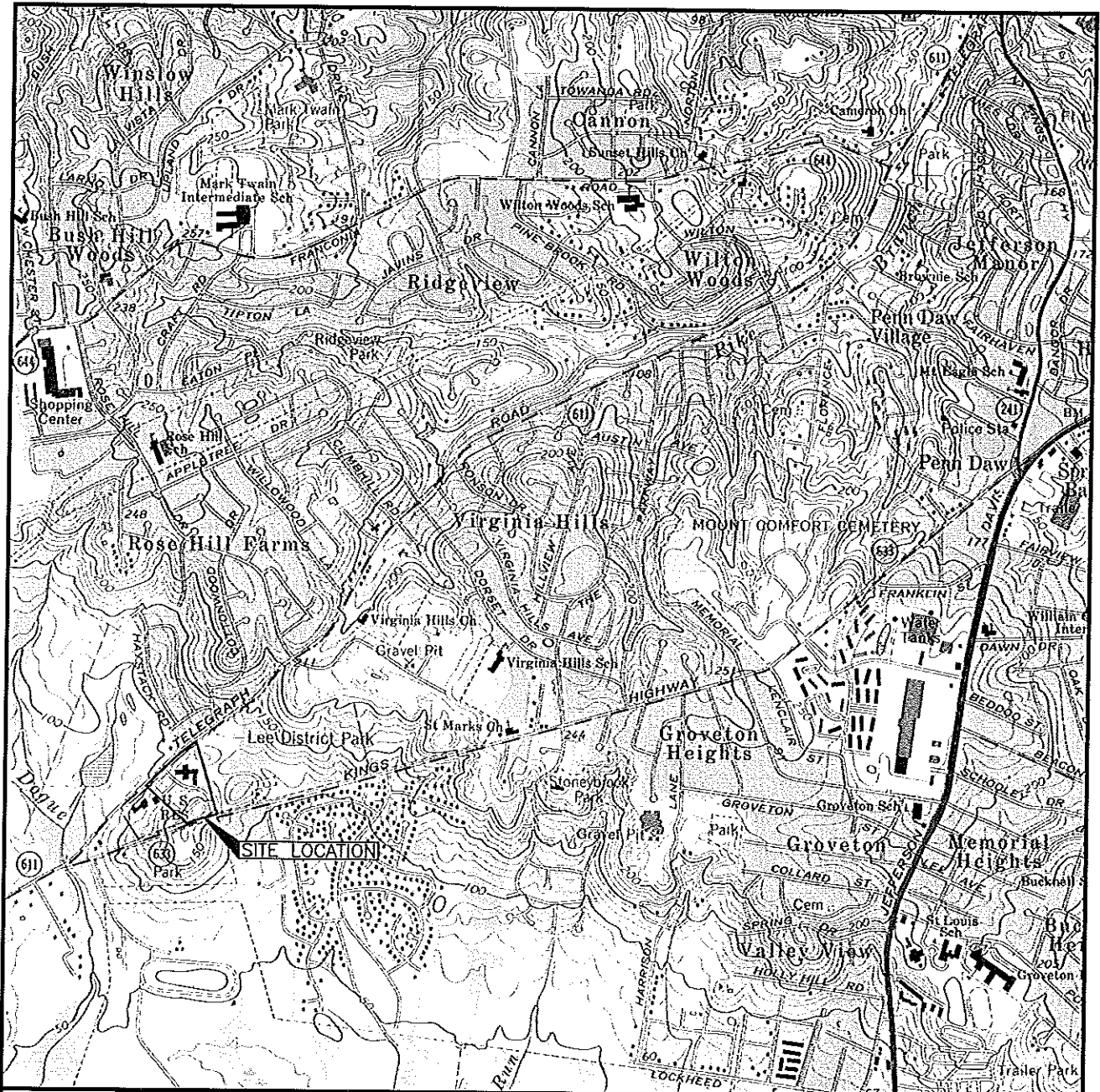
TABLE

Table 1.0
Soil Analytical Results
Hybla Valley Office Building
(VA0085ZZ)
6801 Telegraph Road
Alexandria, Virginia

Analyte	GP-1		GP-2		GP-3		GP-4		Regional Screening Levels - May 2014				Risk-Based Protection of Groundwater	Protection of Groundwater based on Maximum Contaminant Level
	15 - 17		15 - 17		15 - 17		15 - 17		Residential		Industrial			
	1-Oct-14	1-Oct-14	1-Oct-14	1-Oct-14	1-Oct-14	1-Oct-14	1-Oct-14	1-Oct-14	Carcinogenic Screening Level (1.0E-6)	Noncarcinogenic Screening Level (Hazard Index = 0.1)	Carcinogenic Screening Level (1.0E-6)	Noncarcinogenic Screening Level (Hazard Index = 0.1)		
VOCs (Method 8260)														
Benzene	< 42.6	< 1.2	< 1.3	< 1.1	1,200	8,200	5,100	42,000	0.23					2.6
Toluene	< 42.6	< 1.2	< 1.3	< 1.1	N/A	490,000	N/A	4,700,000	76					690
Ethylbenzene	384	30.7	< 1.3	< 1.1	5,800	340,000	25,000	2,000,000	1.7					780
Total Xylenes	2,380	99.3	< 3.8	< 3.3	N/A	58,000	N/A	250,000	19					9,800
PAHs (Method 8270)														
Acenaphthene	262	361	< 4.0	< 4.1	N/A	350,000	N/A	4,500,000	550					N/A
Acenaphthylene	235	316	< 4.0	< 4.1	N/A	N/A	N/A	N/A	N/A					N/A
Anthracene	20.5	25.5	< 4.0	< 4.1	N/A	1,700,000	N/A	23,000,000	5,800					N/A
Chrysene	< 3.9	< 4.0	4.1	< 4.1	15,000	N/A	290,000	N/A	120					N/A
Fluoranthene	< 3.9	< 4.0	8.7	< 4.1	N/A	230,000	N/A	3,000,000	890					N/A
Fluorene	400	601	13.3	< 4.1	N/A	230,000	N/A	3,000,000	54					N/A
Naphthalene	7,960	12,300	88.7	< 4.1	3,800	13,000	17,000	59,000	0.54					N/A
Phenanthrene	309	454	16.4	< 4.1	N/A	N/A	N/A	N/A	N/A					N/A
Pyrene	11.6	14.6	6.7	< 4.1	N/A	170,000	N/A	2,300,000	1,300					N/A
All other PAHs	BDL	BDL	BDL	BDL	Varies	Varies	Varies	Varies	Varies					Varies
TPH (Method 8015)														
TPH-GRO	196,000	450,000	73,300	22,700	N/A	8,200*	N/A	42,000*	1.7					N/A
TPH-DRO	4,570,000	6,540,000	122,000	< 13,000	N/A	11,000**	N/A	60,000**	2.3**					N/A

1. All concentrations reported in micrograms per kilograms (ug/kg) which is equivalent to parts per billion (ppb).
2. N/A - not applicable for this pathway.
3. Shaded cells indicate concentration exceeds RSLs.
4. * Total petroleum hydrocarbon for aromatic low
5. ** Total petroleum hydrocarbon for aromatic medium
6. Only analytes detected are listed in the table above.

FIGURES



REFERENCE

USGS 7.5 MIN TOPOGRAPHIC QUADRANGLE
 ALEXANDRIA, VIRGINIA, WASHINGTON, D.C., MARYLAND
 DATED 1965, PHOTOREVISED 1979
 SCALE 1 : 24000

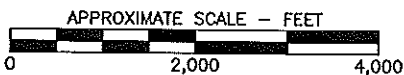
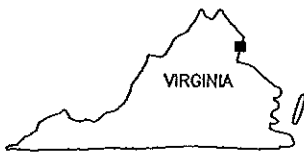


FIGURE 1.0
SITE LOCATION MAP
 PHASE II ENVIRONMENTAL SITE ASSESSMENT
 HYBLA VALLEY OFFICE BUILDING
 6801 TELEGRAPH ROAD
 ALEXANDRIA, VIRGINIA

PREPARED FOR
GSA
WASHINGTON, D.C.

DRAWN CLW/10-22-14

CHECKED

REVISED

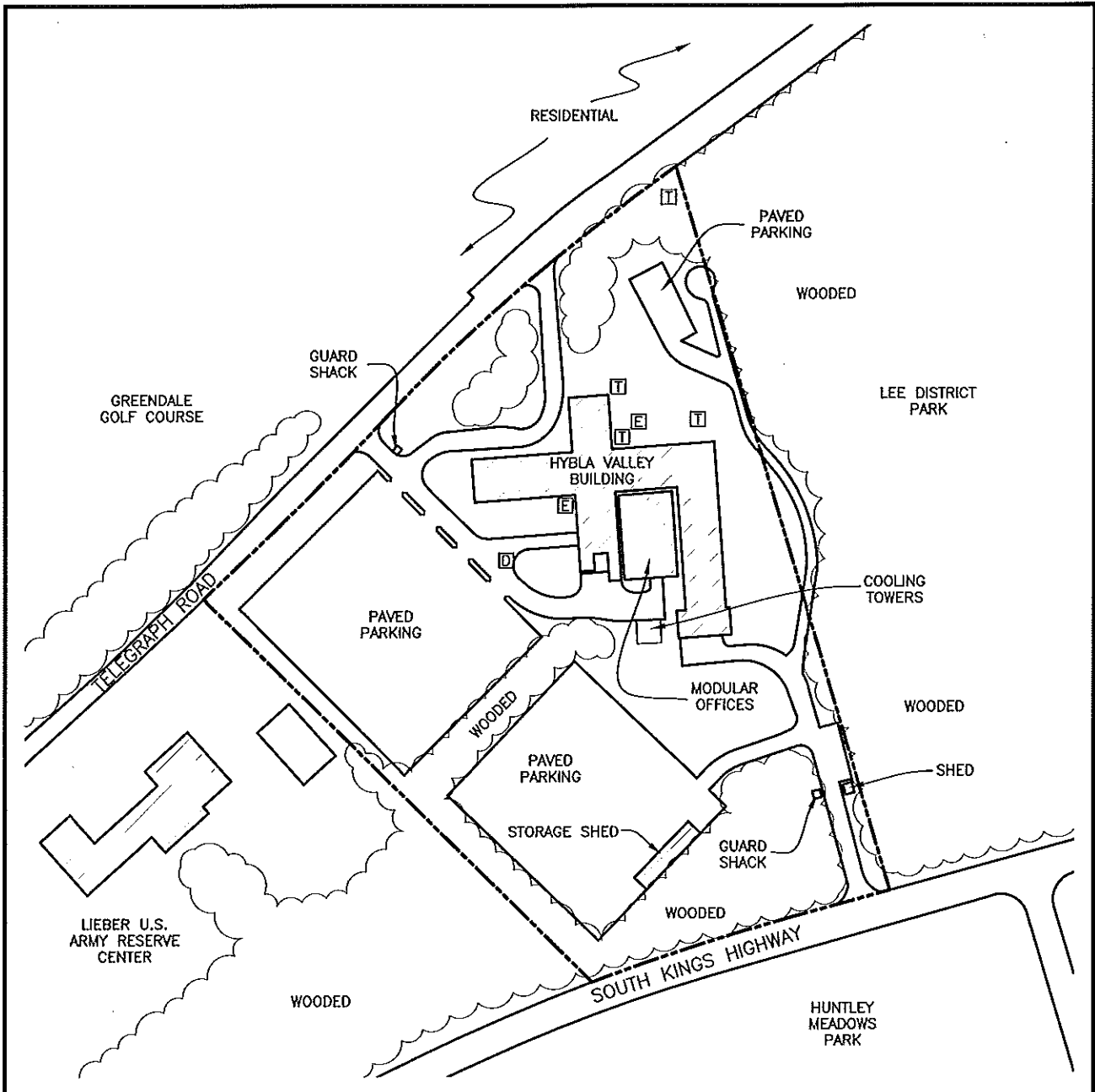
APPROVED

JOB NO. 11199.38

DRAWING NUMBER

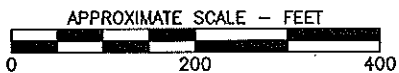
1119938-01E





LEGEND

- APPROXIMATE SITE BOUNDARY
- T PAD MOUNTED TRANSFORMER
- D DUMPSTER
- E EMERGENCY GENERATOR



**FIGURE 2.0
SITE LAYOUT**

PHASE II ENVIRONMENTAL SITE ASSESSMENT
HYBLA VALLEY OFFICE BUILDING
6801 TELEGRAPH ROAD
ALEXANDRIA, VIRGINIA

PREPARED FOR
GSA
WASHINGTON, D.C.

DRAWN CLW/10-22-14

CHECKED

REVISED

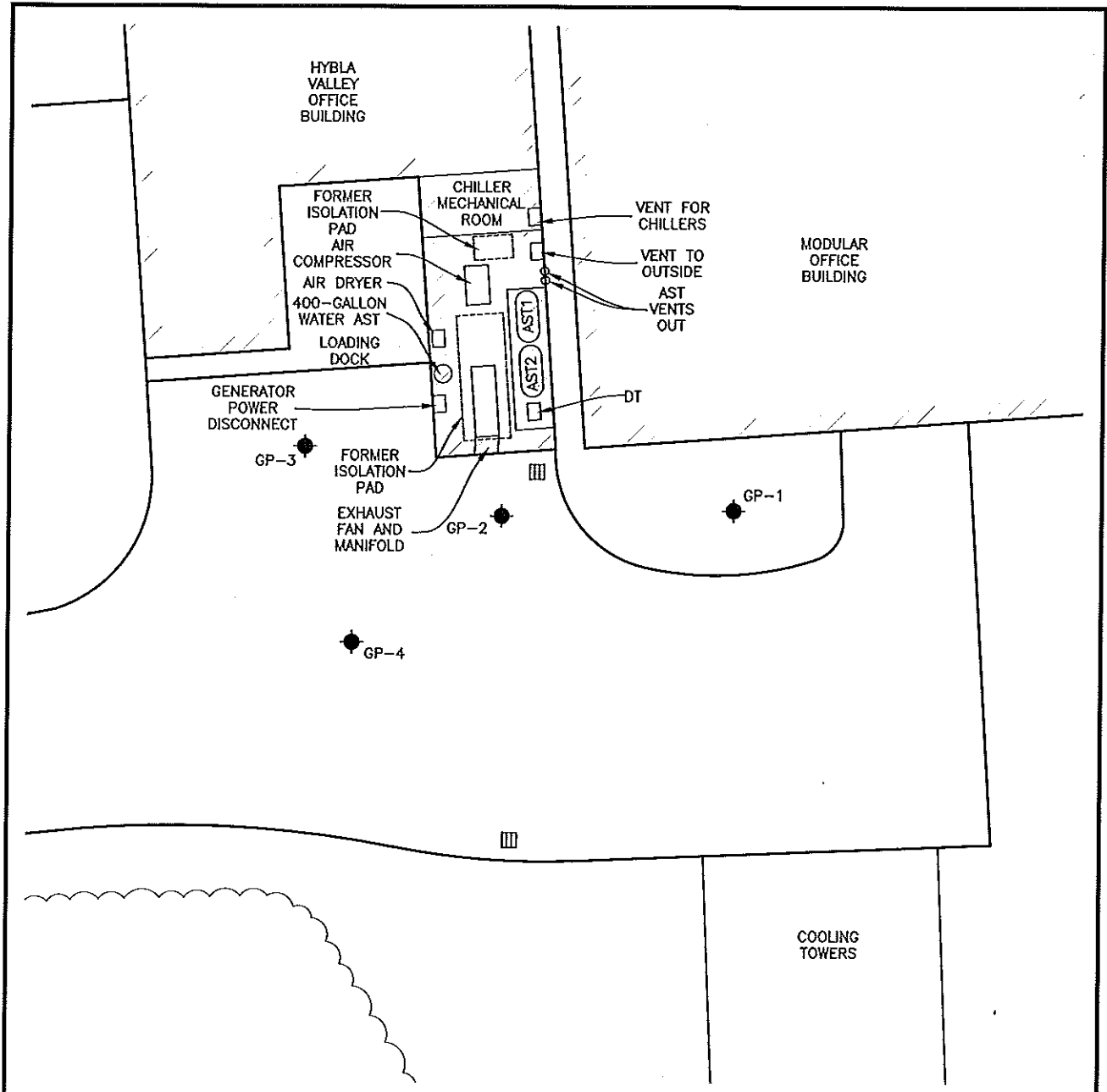
APPROVED

JOB NO. 11199.38

DRAWING NUMBER

1119938-02E





LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE SOIL BORING LOCATION
- ▤ STORM DRAIN

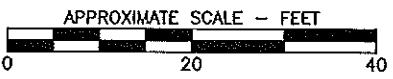
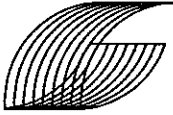


FIGURE 3.0
SOIL BORING LOCATION MAP
 PHASE II ENVIRONMENTAL SITE ASSESSMENT
 HYBLA VALLEY OFFICE BUILDING
 6801 TELEGRAPH ROAD
 ALEXANDRIA, VIRGINIA

PREPARED FOR
GSA
 WASHINGTON, D.C.

DRAWN	CLW/10-22-14	CHECKED
REVISED		APPROVED
JOB NO.	11199.38	
DRAWING NUMBER	1119938-03E	

APPENDIX A
GEOPHYSICAL SURVEY REPORT



Grumman Exploration, Inc.
2309 Dorset Road
Columbus, Ohio 43221
(614) 488-7860 tel; (614) 488-8945 fax

*Non-destructive Subsurface Exploration
Near-surface Geophysics*

September 23, 2014

Paul Chasco
TTL Associates, Inc.
1916 N. 12th St.
Toledo, Ohio 43603-2186

RE: Report of Geophysical Surveys at a Hybla Valley GSA Building (VA0085ZZ)
Property Located at 6900-6901 Telegraph Road in Alexandria, Virginia – GEI
Project No. 01-34062

Dear Paul:

Grumman Exploration, Inc. has completed the geophysical surveys using Ground-Penetrating Radar (GPR) and limited Electromagnetic (EM) Induction Profiling at the Hybla Valley GSA Building (VA0085ZZ) located on Telegraph Road in Alexandria, Virginia. This letter-report summarizes the results and interpretations regarding the geophysical surveys performed in a limited area at the site. No clear indication of a former underground storage tank (UST) was observed in the vicinity of former UST piping, although visual indications suggest that the former tank may remain on site and is concrete filled.

Project Description

According to information provided by TTL Associates, Inc., historical records indicates that a underground storage tank (UST) was located on the south side of the GSA building which is currently used as the Lieber Army Reserve Training Center. There is only limited documentation regarding the precise location, operation, continued presence, closure and/or removal of this UST at this facility. The former fuel oil tank is believed to have been located along the exterior wall near the southeast corner of the mechanical room at the facility. A tank vent pipe, possible fill pipes and associated conduits are visible along interior and exterior sides of the east wall of the mechanical room. The investigation area consisted of a narrow gravel aisle way between the mechanical room and a modular office space. The modular office occupies what was once a courtyard on the south side of the building. Other investigation areas included a portion of the driveway and parking lot south of the mechanical room and grassy areas to the east. Geophysical surveys using GPR and/or electromagnetic (EM) induction profiling survey were requested to non-destructively assess subsurface

conditions. The most significant complication was the limited working area - the gravel aisle way along the east side of the mechanical room was on the order of 6-ft wide and access was restricted by obstructions inside the mechanical room. Obstructions and known electrical interference sources included the mechanical room and modular office walls, former utility conduits and the limited working area. Figure 1 illustrates the site conditions and geophysical survey interpretations. Access to the narrow perimeter around the modular office space was restricted and the ground surface was covered. Various utility piping within the investigation area were marked by representatives of utility companies. An overview of GPR and its limitations is contained in Attachment A.

Field Procedures

Grumman Exploration, Inc. conducted a GPR survey on September 10, 2014 at the site in accessible areas in the vicinity of the mechanical room at the Hybla Valley GSA Building (VA0085ZZ) (7-11) as specified by a diagram provided by TTL Associates, Inc. Figure 1 illustrates the general site features. Because of the limited working space, a formal field survey grid was not established over the investigation area, and instead the GPR transect locations were referenced to fixed objects and structures on site.

The GPR system used was a GSSI SIR-3000 in conjunction with 270 and 400 MHz dipole antennae. The first field task involved equipment setup and the completion of several test scans to observe the GPR and EM instrument responses and to adjust the system and survey parameters. For the 270 MHz antenna (deep signal penetration), a distance wheel was used to acquire distance-based data at the density of approximately 10.0 GPR traces per foot (~1 trace every inch). The 400 MHz antenna was used in the limited access areas where the smaller antenna allowed better coverage. The time window used was 80 nanoseconds (ns) and band-pass filters were applied to reduce extraneous interference. Preliminary interpretations regarding the presence of excavations, pipes and anomalous buried structures and objects were made as the GPR data were acquired. The data were recorded electronically on an internal hard disk in the field and later transferred to a desktop PC computer and computer workstation for subsequent processing, display and analysis.

Although some of the significant GPR features were apparent on the raw GPR field records, supplemental data processing was performed to enhance the interpretation and presentation of these features. The data processing consisted of bandpass filtering and spatial filtering (f-k) to suppress horizontal banding (antenna coupling) within the GPR records. Reconnaissance-level EM conductivity scans were performed using a GSSI GEM-300 EM induction profiler. The EM scans were conducted over open and accessible portions of the driveway and grassy areas in locations away from known sources of electrical interference such as building walls and other above-ground metallic structures.



Results and Interpretations

Figure 1 presents the geophysical survey interpretations superimposed on a site diagram. No clear anomalous reflective responses over the hypothesized location of the former UST were observed on the GPR records along the east exterior wall of the mechanical room. No indication of deeper more chaotic GPR reflections, a common response for former UST excavations, was observed near the southeast corner of the mechanical room. No EM scans could be performed over this area.

No anomalous EM 'metal' (in-phase) responses were observed in the accessible grassy and driveway areas to the south and east of the mechanical room. Note that multiple utility pipes, both active and inactive, are located along the east and south sides of the mechanical room. These lines include electric, gas, water and sewer lines. The position of the gas and electric lines on the east side are not known and could not be determined given the limited working area. Based on notes within the mechanical room, it appears that an overhaul of the this room occurred around 1991, and at that time the gas, electric and fuel oil (UST) systems were closed and/or replaced. The visual evidence suggests that the former UST was filled with concrete and may remain in place.

A probe of the former tank vent pipe showed that the vent pipe was open to approximately 3-ft to 4-ft below the ground surface where it is believed that a bend in the piping is located. It is recommended that a miniature camera mounted 'pipe-snake' or probe of the vent pipe be performed to help verify the tank presence/absence and conditions at the end of the vent pipe. Although the GPR scans were inconclusive, the concrete filled tank piping and conduits in this area suggest that the former tank is concrete-filled, closed-in-place and possibly "closed-in-place" along the exterior of the east wall of the mechanical room. Further invasive exploration using soil drilling, hand-digging and/or test pits would be required to verify the possible presence and extent of the former tank. No anomalous reflective structures below the mechanical room floor were observed on the GPR records.

The overall GPR response observed during the survey showed moderate to strong signal attenuation effects. The strong signal attenuation effects suggest the presence of higher conductivity wet clay and silt in the shallow subsurface soil and fill, which is common in this region of Virginia. The lower signal attenuation effects below the mechanical room floor suggests greater amounts of sand and gravel subgrade below the floor slab. The GPR depth of exploration probably did not exceed 3-ft to 4-ft throughout the areas of investigation, and could be less in areas where higher amounts of wet silt and clay, reinforced concrete, or other complicating near-surface conditions or obstructions are present. The depth of exploration for the EM instrumentation is on the order of 15-ft to 20-ft.



Report of Geophysical Surveys -- Hybla Valley GSA Building (VA0085ZZ)
6900-6901 Telegraph Road, Alexandria, Virginia
TTL Associates, Inc.
September 23, 2014 Page 4

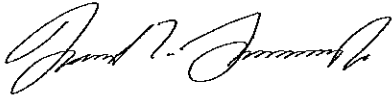
General Qualifications

The GPR data presented herein are interpreted. No warranty, certification, or statement of fact, either expressed or implied, regarding actual subsurface conditions within the surveyed area(s) is contained herein. If questions or uncertainties exist regarding the presence or absence of subsurface features, such as excavations, underground storage tanks, utility lines or other buried objects, based on the GPR data interpretations, supplemental invasive explorations, such as test pit excavations, borings, hand digging or other geophysical tests, should be conducted to document actual subsurface conditions. No interpretation of subsurface conditions can be made for areas not surveyed.

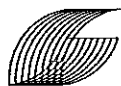
Grumman Exploration, Inc. has appreciated this opportunity to be of service again to TTL Associates, Inc. If you have any questions or comments regarding this report, please feel free to contact us.

Sincerely,

Grumman Exploration, Inc.

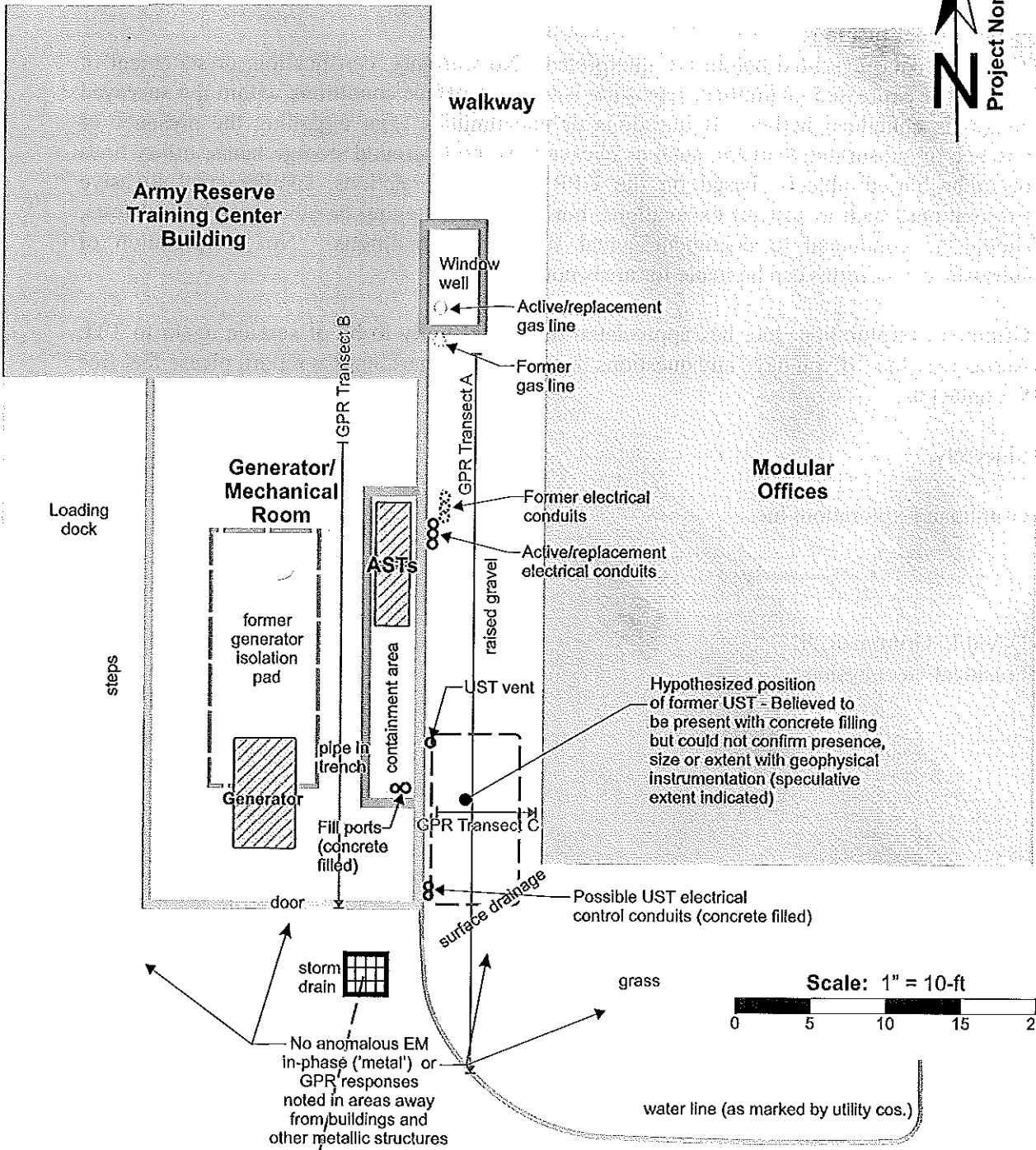


David L. Grumman, Jr.
President/Geophysicist



Grumman Exploration, Inc.

2309 Dorset Road, Columbus, Ohio 43221
(614) 488-7860 tel, (614) 488-8945 fax



Notes:
 GSSI SIR-3000GPR system w/ 270 MHz & 400 MHz antennae
 GSSI GEM-300 EM Induction Profiler
 Survey date: September 10, 2014
 Locations of site and interpreted features are approximate.


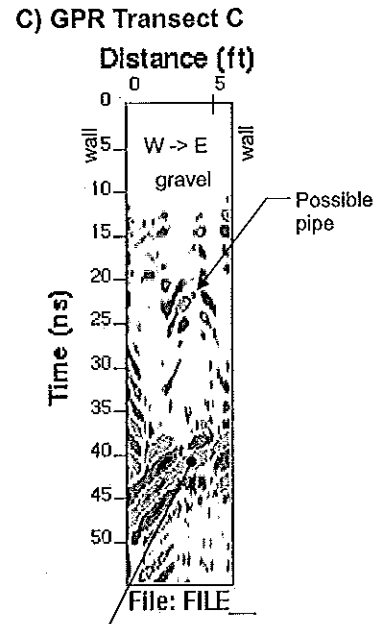
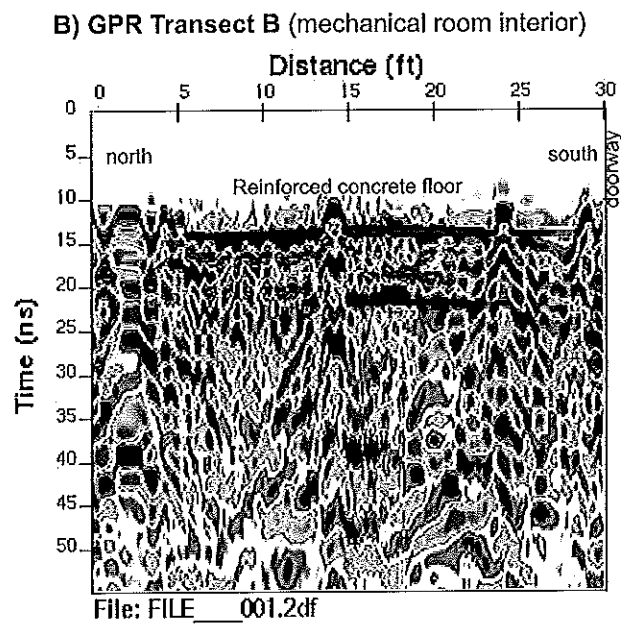
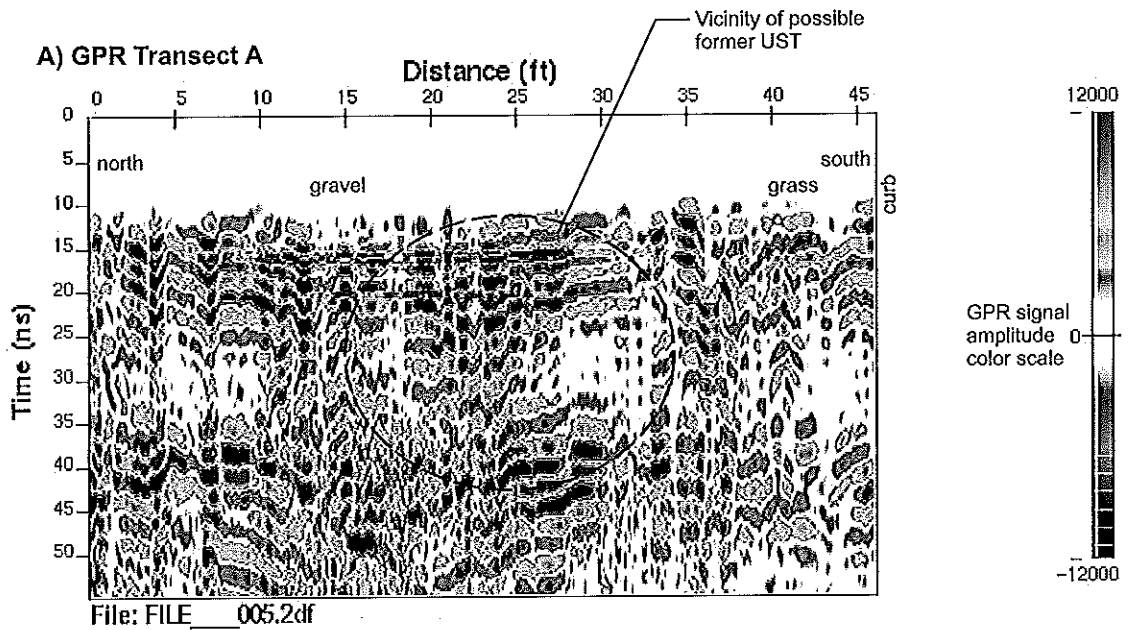
 Grumman Exploration, Inc. 2309 Dorset Road, Columbus, Ohio 43221 <i>Non-surface Geophysics, Non-destructive Subsurface Exploration</i>			
Project Summary of Geophysical Investigations			
Location Hybla Valley GSA, Telegraph Rd., Alexandria VA			
Client TTL Associates	By dlg	Date 9/15/14	
Project No. 01-34062	Checked	Scale 1" = ~10-ft	

Figure 1 Site Diagram and Interpretations



Notes:
 GSSI SIR-3000GPR system w/ 270 MHz & 400 MHz antennae
 512 samples/trace; ~ 10 traces/ft
 Survey date: September 10, 2014
 Refer to Figure 1 for GPR transect locations



Grumman Exploration, Inc.
 2309 Dorset Road, Columbus, Ohio 43221
Near-surface Geophysics, Non-destructive Surface Exploration

Project			Summary of Geophysical Investigations		
Location					
Hybla Valley GSA, Telegraph Rd., Alexandria VA					
Client		By		Date	
TTL Associates		dlg		9/15/14	
Project No.		Checked		Scale	
01-34062				as shown	

APPENDIX B
SOIL BORING LOGS



TTL Associates, Inc.
 1915 N 12th Street
 Toledo, Ohio 43624
 Telephone: 419-324-2222
 Fax: 419-241-1808

BORING NUMBER GP-1

PAGE 1 OF 1

CLIENT GSA PROJECT NAME Hybla Valley Building
 PROJECT NUMBER 11199.38 PROJECT LOCATION Alexandria, VA
 DRILLING CONTRACTOR Zebra Environmental Shane Steve RIG NO. _____ GROUND ELEVATION _____
 DRILLING METHOD Geoprobe GROUND WATER LEVELS:
 DATE STARTED 10/1/14 COMPLETED 10/1/14 ∇ AT TIME OF DRILLING 17.0 ft
 LOGGED BY Dave Steen CHECKED BY PDC AT END OF DRILLING ---
 NOTES _____ AFTER DRILLING ---

DEPTH (ft)	ELEVATION (ft)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	RECOVERY	SPT BLOWS	PID (Log Scale) (ppm)	WELL DIAGRAM
0							10 100 1000	
				Tan to brown SANDY CLAY, dry			3.5	
				Tan to brown SILTY SAND, moist, few clay	48		10.8	
5				Greenish gray mottled tan to brown SILTY FINE SAND, moist			57.5	
				3-inch clay seam	60		97.8	
10							201	
					54		223	
							254	
15							290	
					54		370	
				wet, petroleum odor			312	∇
				Sample collected from 17 to 19 feet			238	
20								

Bottom of hole at 20.0 feet.
 *Sample submitted for laboratory analysis.

TTL_ENVIRO_STANDARD_11199.38.GPJ TTL_DATA_TEMPL_GDT_10/21/14



TTL Associates, Inc.
 1915 N 12th Street
 Toledo, Ohio 43624
 Telephone: 419-324-2222
 Fax: 419-241-1808

BORING NUMBER GP-2

PAGE 1 OF 1

CLIENT GSA PROJECT NAME Hybla Valley Building
 PROJECT NUMBER 11199.38 PROJECT LOCATION Alexandria, VA
 DRILLING CONTRACTOR Zebra Environmental Shane Steve RIG NO. _____ GROUND ELEVATION _____
 DRILLING METHOD Geoprobe GROUND WATER LEVELS:
 DATE STARTED 10/1/14 COMPLETED 10/1/14 ∇ AT TIME OF DRILLING 17.0 ft
 LOGGED BY Dave Steen CHECKED BY PDC AT END OF DRILLING ---
 NOTES _____ AFTER DRILLING ---

DEPTH (ft)	ELEVATION (ft)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	RECOVERY	SPT BLOWS	PID (Log Scale) (ppm)			WELL DIAGRAM
							10	100	1000	
0				ASPHALT and base						
				Tan to brown CLAYEY SILT, moist	54		34.6			
				Grades to greenish gray SILTY SAND, moist, some clay, petroleum odor	54		51.8			
5							29.7			
				Tan to brown SILTY CLAY, moist, few sand	48				141	
				Greenish gray SILTY SAND, moist, strong petroleum odor					401	
10									437	
				Tan to brown SILTY CLAY, moist, few sand	48				407	
				Greenish gray SILTY SAND, moist, strong petroleum odor					338	
15				dark brown staining, free product, sample collected from 15 to 17 feet					557	
				wet	60					∇
				Tan to brown SILTY SAND, wet, few clay					334	
20										

Bottom of hole at 20.0 feet.
 *Sample submitted for laboratory analysis.

TTL_ENV/RO_STANDARD_11199.38.GPJ TTL DATA\MPL\GDT_10/21/14



TTL Associates, Inc.
 1915 N 12th Street
 Toledo, Ohio 43624
 Telephone: 419-324-2222
 Fax: 419-241-1808

BORING NUMBER GP-3

PAGE 1 OF 1

CLIENT GSA PROJECT NAME Hybla Valley Building
 PROJECT NUMBER 11199.38 PROJECT LOCATION Alexandria, VA
 DRILLING CONTRACTOR Zebra Environmental Shane Steve RIG NO. _____ GROUND ELEVATION _____
 DRILLING METHOD Geoprobe GROUND WATER LEVELS:
 DATE STARTED 10/1/14 COMPLETED 10/1/14 ∇ AT TIME OF DRILLING 17.5 ft
 LOGGED BY Dave Steen CHECKED BY PDC AT END OF DRILLING ---
 NOTES _____ AFTER DRILLING ---

DEPTH (ft)	ELEVATION (ft)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	RECOVERY	SPT BLOWS	PID (Log Scale) (ppm)			WELL DIAGRAM
							10	100	1000	
0				ASPHALT and base						
				Tan and brown mottled SILTY CLAY, moist	54			12.9		
				Tan and gray mottled SILTY CLAY, moist, few sand, petroleum odor				23.7		
5				Tan to brown SILTY SAND, moist, petroleum odor	54			52.1		
				Tan to brown mottled greenish gray SILTY SAND, moist, petroleum odor				191		
10				Greenish gray SILTY FINE SAND, moist, strong petroleum odor	54			291		
				Sample collected from 15 to 17 feet				275		
15				wet				230		
					54			384		
								268		∇
20				Tan and gray mottled SILTY CLAY, wet				262		

Bottom of hole at 20.0 feet.
 *Sample submitted for laboratory analysis.

TTL_ENVIRO_STANDARD_11199.38.GPJ_TTL_DATA\TTL_GDT_10/2/14



TTL Associates, Inc.
 1915 N 12th Street
 Toledo, Ohio 43624
 Telephone: 419-324-2222
 Fax: 419-241-1808

BORING NUMBER GP-4

PAGE 1 OF 1

CLIENT GSA PROJECT NAME Hybla Valley Building
 PROJECT NUMBER 11199.38 PROJECT LOCATION Alexandria, VA
 DRILLING CONTRACTOR Zebra Environmental Shane Steve RIG NO. _____ GROUND ELEVATION _____
 DRILLING METHOD Geoprobe GROUND WATER LEVELS:
 DATE STARTED 10/1/14 COMPLETED 10/1/14 ▽ AT TIME OF DRILLING 18.0 ft
 LOGGED BY Dave Steen CHECKED BY PDC AT END OF DRILLING --
 NOTES _____ AFTER DRILLING --

DEPTH (ft)	ELEVATION (ft)	SAMPLE NUMBER	GRAPHIC LOG	MATERIAL DESCRIPTION	RECOVERY	SPT BLOWS	PID (Log Scale) (ppm)			WELL DIAGRAM
							10	100	1000	
0				Gravel pave stone						
				Tan to brown SILTY CLAY, moist						
				Tan to brown with gray mottling SILTY FINE SAND, moist	54		3.8			
5							13.4			
				Tan to brown SILTY SAND, moist	60		26.8			
				Greenish gray SILTY SAND, moist, few clay			37.5			
10							27.9			
				Dark brown CLAY, moist, some organics (fibrist)	48		63.1			
15				Tan SILTY SAND, moist			70.0			
				Sample collected from 15 to 17 feet	54		110.0			
				Gray and tan mottled SILTY FINE SAND, wet			143.8			
20							88.7			▽
							64.5			

Bottom of hole at 20.0 feet.
 *Sample submitted for laboratory analysis.

TTL_ENVIRO_STANDARD_11199.38.GPJ TTL DATATMPL.GDT 10/21/14

APPENDIX C
LABORATORY ANALYTICAL REPORT

October 9, 2014

Mr. Paul Chasco
TTL Associates, Inc.
1915 North 12th Street
Toledo, OH 43604

Certificate of Analysis

Project Name: GSA Hybla Valley	Workorder: 2032395
Purchase Order:	Workorder ID: GSA Hybla Valley

Dear Mr. Chasco:

Enclosed are the analytical results for samples received by the laboratory on Thursday, October 2, 2014.

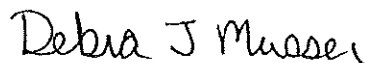
The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Debra J. Musser (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

Ms. Debra J. Musser
Project Coordinator

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

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SAMPLE SUMMARY

Workorder: 2032395 GSA Hybla Valley

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2032395001	GP-1 (15-17')	Solid	10/1/2014 13:15	10/2/2014 18:48	Collected by Client
2032395002	GP-2 (15-17')	Solid	10/1/2014 14:30	10/2/2014 18:48	Collected by Client
2032395003	GP-3 (15-17')	Solid	10/1/2014 16:41	10/2/2014 18:48	Collected by Client
2032395004	GP-4 (15-17')	Solid	10/1/2014 17:23	10/2/2014 18:48	Collected by Client
2032395005	GP-1 (15-17')	Solid	10/1/2014 13:15	10/2/2014 18:48	Collected by Client
2032395006	GP-2 (15-17')	Solid	10/1/2014 14:30	10/2/2014 18:48	Collected by Client
2032395007	GP-3 (15-17')	Solid	10/1/2014 16:41	10/2/2014 18:48	Collected by Client
2032395008	GP-4 (15-17')	Solid	10/1/2014 17:23	10/2/2014 18:48	Collected by Client

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SAMPLE SUMMARY

Workorder: 2032395 GSA Hybla Valley

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

PROJECT SUMMARY

Workorder: 2032395 GSA Hybla Valley

Sample Comments

Lab ID: 2032395001 **Sample ID:** GP-1 (15-17') **Sample Type:** SAMPLE

Not all target compounds could be quantitated in the 8270WSIM analysis due to interference with the detection of the internal standard peaks.
This sample was collected in a soil jar for the volatile analysis. The sample was prepared by Method 5035 after the 48-hour holding time.
This sample was analyzed at a dilution in the 8015 diesel range organics analysis due to the level of analyte detected. Reporting limits were adjusted accordingly. Surrogate recovery could not be evaluated as a result of the dilution.

Lab ID: 2032395002 **Sample ID:** GP-2 (15-17') **Sample Type:** SAMPLE

Not all target compounds could be quantitated in the 8270WSIM analysis due to interference with the detection of the internal standard peaks.
This sample was collected in a soil jar for the volatile analysis. The sample was prepared by Method 5035 after the 48-hour holding time.
This sample was analyzed at a dilution in the 8015 diesel range organics analysis due to the level of analyte detected. Reporting limits were adjusted accordingly. Surrogate recovery could not be evaluated as a result of the dilution.

Lab ID: 2032395003 **Sample ID:** GP-3 (15-17') **Sample Type:** SAMPLE

This sample was collected in a soil jar for the volatile analysis. The sample was prepared by Method 5035 after the 48-hour holding time.

Lab ID: 2032395004 **Sample ID:** GP-4 (15-17') **Sample Type:** SAMPLE

This sample was collected in a soil jar for the volatile analysis. The sample was prepared by Method 5035 after the 48-hour holding time.

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

Lab ID: 2032395001
Sample ID: GP-1 (15-17')

Date Collected: 10/1/2014 13:15 Matrix: Solid
Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
PETROLEUM HC's									
Diesel Range Organics C10-C28	4570		mg/kg	627	SW846 8015D	10/7/14 RMP	10/9/14 10:20	EGO	A
Gasoline Range Organics	196000		ug/kg	19400	SW846 8015D	10/3/14 DD	10/8/14 14:45	DD	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
a,a,a-Trifluorotoluene (S)	85		%	72 - 134	SW846 8015D	10/3/14 DD	10/8/14 14:45	DD	A1
SEMIVOLATILES									
Acenaphthene	262		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Acenaphthylene	235		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Anthracene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Benzo(a)anthracene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Benzo(a)pyrene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Benzo(b)fluoranthene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Benzo(g,h,i)perylene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Benzo(k)fluoranthene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Chrysene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Dibenzo(a,h)anthracene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Fluoranthene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Fluorene	400		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Indeno(1,2,3-cd)pyrene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Naphthalene	7960		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Phenanthrene	309		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Pyrene	ND		ug/kg	119	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	103		%	37 - 123	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
2-Fluorobiphenyl (S)	94.8		%	45 - 105	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
2-Fluorophenol (S)	80.3		%	35 - 104	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Nitrobenzene-d5 (S)	115	1	%	41 - 110	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Phenol-d5 (S)	82.7		%	40 - 100	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
Terphenyl-d14 (S)	86.4		%	38 - 113	SW846 8270D	10/7/14 GEC	10/8/14 11:16	CGS	A
SEMIVOLATILE SIM									
Anthracene	20.5		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Benzo(a)anthracene	ND		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Benzo(a)pyrene	ND		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Benzo(b)fluoranthene	ND		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Benzo(g,h,i)perylene	ND		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Benzo(k)fluoranthene	ND		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

Lab ID: 2032395001
Sample ID: GP-1 (15-17')

Date Collected: 10/1/2014 13:15 Matrix: Solid
Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
Chrysene	ND		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Dibenzo(a,h)anthracene	ND		ug/kg	2.7	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Fluoranthene	ND		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Indeno(1,2,3-cd)pyrene	ND		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Phenanthrene	271	E	ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
Pyrene	11.6		ug/kg	3.9	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
Fluoranthene-d10 (S)	96.9		%	50 - 150	8270 SIM	10/7/14 GEC	10/8/14 10:12	CGS	A
WET CHEMISTRY									
Moisture	16.5		%	0.1	S2540G-97		10/3/14 15:00	KED	A
Total Solids	83.5		%	0.1	S2540G-97		10/3/14 15:00	KED	A

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

Lab ID: 2032395002
Sample ID: GP-2 (15-17')

Date Collected: 10/1/2014 14:30 Matrix: Solid
Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
PETROLEUM HC's									
Diesel Range Organics C10-C28	6540		mg/kg	641	SW846 8015D	10/7/14 RMP	10/9/14 10:57	EGO	A
Gasoline Range Organics	450000		ug/kg	17800	SW846 8015D	10/3/14 DD	10/8/14 15:21	DD	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
a,a,a-Trifluorotoluene (S)	123		%	72 - 134	SW846 8015D	10/3/14 DD	10/8/14 15:21	DD	A1
SEMIVOLATILES									
Acenaphthene	361		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Acenaphthylene	316		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Anthracene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Benzo(a)anthracene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Benzo(a)pyrene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Benzo(b)fluoranthene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Benzo(g,h,i)perylene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Benzo(k)fluoranthene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Chrysene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Dibenzo(a,h)anthracene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Fluoranthene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Fluorene	601		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Indeno(1,2,3-cd)pyrene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Naphthalene	12300		ug/kg	242	SW846 8270D	10/7/14 GEC	10/8/14 19:53	CGS	A
Phenanthrene	454		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Pyrene	ND		ug/kg	121	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	114		%	37 - 123	SW846 8270D	10/7/14 GEC	10/8/14 19:53	CGS	A
2,4,6-Tribromophenol (S)	113		%	37 - 123	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
2-Fluorobiphenyl (S)	94.7		%	45 - 105	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
2-Fluorobiphenyl (S)	98.6		%	45 - 105	SW846 8270D	10/7/14 GEC	10/8/14 19:53	CGS	A
2-Fluorophenol (S)	89.7		%	35 - 104	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
2-Fluorophenol (S)	89.2		%	35 - 104	SW846 8270D	10/7/14 GEC	10/8/14 19:53	CGS	A
Nitrobenzene-d5 (S)	135	1	%	41 - 110	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Nitrobenzene-d5 (S)	140	2	%	41 - 110	SW846 8270D	10/7/14 GEC	10/8/14 19:53	CGS	A
Phenol-d5 (S)	88.7		%	40 - 100	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Phenol-d5 (S)	88.9		%	40 - 100	SW846 8270D	10/7/14 GEC	10/8/14 19:53	CGS	A
Terphenyl-d14 (S)	87.8		%	38 - 113	SW846 8270D	10/7/14 GEC	10/8/14 16:36	CGS	A
Terphenyl-d14 (S)	95.7		%	38 - 113	SW846 8270D	10/7/14 GEC	10/8/14 19:53	CGS	A
SEMIVOLATILE SIM									

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

Lab ID: **2032395002**
Sample ID: **GP-2 (15-17')**

Date Collected: 10/1/2014 14:30 Matrix: Solid
Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
Anthracene	25.5		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Benzo(a)anthracene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Benzo(a)pyrene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Benzo(b)fluoranthene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Benzo(g,h,i)perylene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Benzo(k)fluoranthene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Chrysene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Dibenzo(a,h)anthracene	ND		ug/kg	2.8	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Fluoranthene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Indeno(1,2,3-cd)pyrene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Phenanthrene	379	E	ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
Pyrene	14.6		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
Fluoranthene-d10 (S)	66.6		%	50 - 150	8270 SIM	10/7/14 GEC	10/8/14 15:23	CGS	A
WET CHEMISTRY									
Moisture	17.3		%	0.1	S2540G-97		10/3/14 15:00	KED	A
Total Solids	82.7		%	0.1	S2540G-97		10/3/14 15:00	KED	A

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

 Lab ID: 2032395003
 Sample ID: GP-3 (15-17')

 Date Collected: 10/1/2014 16:41 Matrix: Solid
 Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
PETROLEUM HC's									
Diesel Range Organics C10-C28	122		mg/kg	12.9	SW846 8015D	10/7/14 RMP	10/8/14 21:23	EGO	A
Gasoline Range Organics	73300		ug/kg	16300	SW846 8015D	10/3/14 DD	10/8/14 15:58	DD	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
a,a,a-Trifluorotoluene (S)	98.5		%	72 - 134	SW846 8015D	10/3/14 DD	10/8/14 15:58	DD	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
o-Terphenyl (S)	67.8		%	38 - 118	SW846 8015D	10/7/14 RMP	10/8/14 21:23	EGO	A
SEMIVOLATILES									
Acenaphthene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Acenaphthylene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Anthracene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Benzo(a)anthracene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Benzo(a)pyrene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Benzo(b)fluoranthene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Benzo(g,h,i)perylene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Benzo(k)fluoranthene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Chrysene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Dibenzo(a,h)anthracene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Fluoranthene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Fluorene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Indeno(1,2,3-cd)pyrene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Naphthalene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Phenanthrene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Pyrene	ND		ug/kg	120	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	103		%	37 - 123	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
2-Fluorobiphenyl (S)	93.5		%	45 - 105	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
2-Fluorophenol (S)	82.4		%	35 - 104	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Nitrobenzene-d5 (S)	90.2		%	41 - 110	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Phenol-d5 (S)	82.2		%	40 - 100	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
Terphenyl-d14 (S)	87.7		%	38 - 113	SW846 8270D	10/7/14 GEC	10/8/14 17:01	CGS	A
SEMIVOLATILE SIM									
Acenaphthene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Acenaphthylene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Anthracene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

Lab ID: 2032395003
Sample ID: GP-3 (15-17')

Date Collected: 10/1/2014 16:41 Matrix: Solid
Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
Benzo(a)anthracene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Benzo(a)pyrene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Benzo(b)fluoranthene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Benzo(g,h,i)perylene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Benzo(k)fluoranthene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Chrysene	4.1		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Dibenzo(a,h)anthracene	ND		ug/kg	2.8	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Fluoranthene	8.7		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Fluorene	13.3		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Indeno(1,2,3-cd)pyrene	ND		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Naphthalene	88.7		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Phenanthrene	16.4		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Pyrene	6.7		ug/kg	4.0	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Methylnaphthalene-d10 (S)	91.3		%	50 - 150	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
Fluoranthene-d10 (S)	89.4		%	50 - 150	8270 SIM	10/7/14 GEC	10/8/14 15:47	CGS	A
WET CHEMISTRY									
Moisture	18.4		%	0.1	S2540G-97		10/3/14 15:00	KED	A
Total Solids	81.6		%	0.1	S2540G-97		10/3/14 15:00	KED	A

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

 Lab ID: 2032395004
 Sample ID: GP-4 (15-17')

 Date Collected: 10/1/2014 17:23 Matrix: Solid
 Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
PETROLEUM HC's									
Diesel Range Organics C10-C28	ND		mg/kg	13.0	SW846 8015D	10/7/14 RMP	10/8/14 22:00	EGO	A
Gasoline Range Organics	22700		ug/kg	19800	SW846 8015D	10/3/14 DD	10/8/14 16:34	DD	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
a,a,a-Trifluorotoluene (S)	122		%	72 - 134	SW846 8015D	10/3/14 DD	10/8/14 16:34	DD	A1
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
o-Terphenyl (S)	58.7		%	38 - 118	SW846 8015D	10/7/14 RMP	10/8/14 22:00	EGO	A
SEMIVOLATILES									
Acenaphthene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Acenaphthylene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Anthracene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Benzo(a)anthracene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Benzo(a)pyrene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Benzo(b)fluoranthene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Benzo(g,h,i)perylene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Benzo(k)fluoranthene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Chrysene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Dibenzo(a,h)anthracene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Fluoranthene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Fluorene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Indeno(1,2,3-cd)pyrene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Naphthalene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Phenanthrene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Pyrene	ND		ug/kg	125	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2,4,6-Tribromophenol (S)	96.4		%	37 - 123	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
2-Fluorobiphenyl (S)	88.6		%	45 - 105	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
2-Fluorophenol (S)	81.5		%	35 - 104	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Nitrobenzene-d5 (S)	89.4		%	41 - 110	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Phenol-d5 (S)	81.4		%	40 - 100	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
Terphenyl-d14 (S)	82.5		%	38 - 113	SW846 8270D	10/7/14 GEC	10/8/14 12:05	CGS	A
SEMIVOLATILE SIM									
Acenaphthene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Acenaphthylene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Anthracene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

Lab ID: 2032395004
Sample ID: GP-4 (15-17')

Date Collected: 10/1/2014 17:23 Matrix: Solid
Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
Benzo(a)anthracene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Benzo(a)pyrene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Benzo(b)fluoranthene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Benzo(g,h,i)perylene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Benzo(k)fluoranthene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Chrysene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Dibenzo(a,h)anthracene	ND		ug/kg	2.9	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Fluoranthene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Fluorene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Indeno(1,2,3-cd)pyrene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Naphthalene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Phenanthrene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Pyrene	ND		ug/kg	4.1	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
2-Methylnaphthalene-d10 (S)	81.5		%	50 - 150	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
Fluoranthene-d10 (S)	82.7		%	50 - 150	8270 SIM	10/7/14 GEC	10/8/14 10:36	CGS	A
WET CHEMISTRY									
Moisture	19.9		%	0.1	S2540G-97		10/3/14 15:00	KED	A
Total Solids	80.1		%	0.1	S2540G-97		10/3/14 15:00	KED	A

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

Lab ID: 2032395005
 Sample ID: GP-1 (15-17')

Date Collected: 10/1/2014 13:15 Matrix: Solid
 Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/kg	42.6	SW846 8260B	10/1/14 JAH	10/8/14 18:58	DD	A
Ethylbenzene	384		ug/kg	42.6	SW846 8260B	10/1/14 JAH	10/8/14 18:58	DD	A
Toluene	ND		ug/kg	42.6	SW846 8260B	10/1/14 JAH	10/8/14 18:58	DD	A
Total Xylenes	2380		ug/kg	128	SW846 8260B	10/1/14 JAH	10/8/14 18:58	DD	A
Surrogate Recoveries									
1,2-Dichloroethane-d4 (S)	109		%	71 - 146	SW846 8260B	10/1/14 JAH	10/8/14 18:58	DD	A
4-Bromofluorobenzene (S)	112		%	46 - 138	SW846 8260B	10/1/14 JAH	10/8/14 18:58	DD	A
Dibromofluoromethane (S)	108		%	42 - 143	SW846 8260B	10/1/14 JAH	10/8/14 18:58	DD	A
Toluene-d8 (S)	110		%	54 - 141	SW846 8260B	10/1/14 JAH	10/8/14 18:58	DD	A
WET CHEMISTRY									
Moisture	16.5		%	0.1	S2540G-97		10/3/14 15:00	KED	C
Total Solids	83.5		%	0.1	S2540G-97		10/3/14 15:00	KED	C

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

 Lab ID: 2032395006
 Sample ID: GP-2 (15-17')

 Date Collected: 10/1/2014 14:30 Matrix: Solid
 Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/kg	1.2	SW846 8260B	10/1/14 TMP	10/6/14 17:33	TMP	B
Ethylbenzene	30.7		ug/kg	1.2	SW846 8260B	10/1/14 TMP	10/6/14 17:33	TMP	B
Toluene	ND		ug/kg	1.2	SW846 8260B	10/1/14 TMP	10/6/14 17:33	TMP	B
Total Xylenes	99.3		ug/kg	3.6	SW846 8260B	10/1/14 TMP	10/6/14 17:33	TMP	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	101		%	56 - 124	SW846 8260B	10/1/14 TMP	10/6/14 17:33	TMP	B
4-Bromofluorobenzene (S)	102		%	51 - 128	SW846 8260B	10/1/14 TMP	10/6/14 17:33	TMP	B
Dibromofluoromethane (S)	114		%	62 - 123	SW846 8260B	10/1/14 TMP	10/6/14 17:33	TMP	B
Toluene-d8 (S)	97.1		%	59 - 131	SW846 8260B	10/1/14 TMP	10/6/14 17:33	TMP	B
WET CHEMISTRY									
Moisture	17.3		%	0.1	S2540G-97		10/3/14 15:00	KED	B
Total Solids	82.7		%	0.1	S2540G-97		10/3/14 15:00	KED	B

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

Lab ID: 2032395007
 Sample ID: GP-3 (15-17')

Date Collected: 10/1/2014 16:41 Matrix: Solid
 Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND		ug/kg	1.3	SW846 8260B	10/1/14 TMP	10/6/14 16:23	TMP	B
Ethylbenzene	ND		ug/kg	1.3	SW846 8260B	10/1/14 TMP	10/6/14 16:23	TMP	B
Toluene	ND		ug/kg	1.3	SW846 8260B	10/1/14 TMP	10/6/14 16:23	TMP	B
Total Xylenes	ND		ug/kg	3.8	SW846 8260B	10/1/14 TMP	10/6/14 16:23	TMP	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	123		%	56 - 124	SW846 8260B	10/1/14 TMP	10/6/14 16:23	TMP	B
4-Bromofluorobenzene (S)	101		%	51 - 128	SW846 8260B	10/1/14 TMP	10/6/14 16:23	TMP	B
Dibromofluoromethane (S)	120		%	62 - 123	SW846 8260B	10/1/14 TMP	10/6/14 16:23	TMP	B
Toluene-d8 (S)	107		%	59 - 131	SW846 8260B	10/1/14 TMP	10/6/14 16:23	TMP	B
WET CHEMISTRY									
Moisture	18.4		%	0.1	S2540G-97		10/3/14 15:00	KED	B
Total Solids	81.6		%	0.1	S2540G-97		10/3/14 15:00	KED	B

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ANALYTICAL RESULTS

Workorder: 2032395 GSA Hybla Valley

Lab ID: 2032395008
 Sample ID: GP-4 (15-17')

Date Collected: 10/1/2014 17:23 Matrix: Solid
 Date Received: 10/2/2014 18:48

Parameters	Results	Flag	Units	RDL	Method	Prepared By	Analyzed	By	Cntr
VOLATILE ORGANICS									
Benzene	ND	1	ug/kg	1.1	SW846 8260B	10/1/14 TMP	10/6/14 17:10	TMP	B
Ethylbenzene	ND	3	ug/kg	1.1	SW846 8260B	10/1/14 TMP	10/6/14 17:10	TMP	B
Toluene	ND	2	ug/kg	1.1	SW846 8260B	10/1/14 TMP	10/6/14 17:10	TMP	B
Total Xylenes	ND	4	ug/kg	3.3	SW846 8260B	10/1/14 TMP	10/6/14 17:10	TMP	B
<i>Surrogate Recoveries</i>	<i>Results</i>	<i>Flag</i>	<i>Units</i>	<i>Limits</i>	<i>Method</i>	<i>Prepared By</i>	<i>Analyzed</i>	<i>By</i>	<i>Cntr</i>
1,2-Dichloroethane-d4 (S)	100		%	56 - 124	SW846 8260B	10/1/14 TMP	10/6/14 17:10	TMP	B
4-Bromofluorobenzene (S)	111		%	51 - 128	SW846 8260B	10/1/14 TMP	10/6/14 17:10	TMP	B
Dibromofluoromethane (S)	114		%	62 - 123	SW846 8260B	10/1/14 TMP	10/6/14 17:10	TMP	B
Toluene-d8 (S)	109		%	59 - 131	SW846 8260B	10/1/14 TMP	10/6/14 17:10	TMP	B
WET CHEMISTRY									
Moisture	19.9		%	0.1	S2540G-97		10/3/14 15:00	KED	B
Total Solids	80.1		%	0.1	S2540G-97		10/3/14 15:00	KED	B

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2032395001	1	GP-1 (15-17')	SW846 8270D	Nitrobenzene-d5
The surrogate Nitrobenzene-d5 for method SW846 8270D was outside of control limits. The % Recovery was reported as 115 and the control limits were 41 to 110. This result was reported at a dilution of 1.				
2032395001	E	GP-1 (15-17')	8270 SIM	Phenanthrene
Result reported exceeds instrument calibration				
2032395002	1	GP-2 (15-17')	SW846 8270D	Nitrobenzene-d5
The surrogate Nitrobenzene-d5 for method SW846 8270D was outside of control limits. The % Recovery was reported as 135 and the control limits were 41 to 110. This result was reported at a dilution of 1.				
2032395002	2	GP-2 (15-17')	SW846 8270D	Nitrobenzene-d5
The surrogate Nitrobenzene-d5 for method SW846 8270D was outside of control limits. The % Recovery was reported as 140 and the control limits were 41 to 110. This result was reported at a dilution of 2.				
2032395002	E	GP-2 (15-17')	8270 SIM	Phenanthrene
Result reported exceeds instrument calibration				
2032395008	1	GP-4 (15-17')	SW846 8260B	Benzene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Benzene. The % Recovery was reported as 66.4 and the control limits were 75 to 132.				
2032395008	2	GP-4 (15-17')	SW846 8260B	Toluene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Toluene. The % Recovery was reported as 64.8 and the control limits were 73 to 129.				
2032395008	3	GP-4 (15-17')	SW846 8260B	Ethylbenzene
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Ethylbenzene. The % Recovery was reported as 66.5 and the control limits were 73 to 133.				
2032395008	4	GP-4 (15-17')	SW846 8260B	Total Xylenes
The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Total Xylenes. The % Recovery was reported as 64 and the control limits were 73 to 130.				

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