NRG Potomac River, LLC
8301 Professional Place
Suite 230
Landover, MD 20785

October 23, 2015

Via email delivery only

Mr. Alex Wardle
Virginia Department of Environmental Quality (DEQ)
Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

Re: Third Quarter 2015 CAP Implementation Monitoring Report
NRG Potomac River Generating Station
1400 North Royal Street
Alexandria, VA 22314
PC#2013-3154

Dear Mr. Wardle:

NRG Potomac River LLC (PRGS) is pleased to submit the Third Quarter 2015 CAP Implementation Monitoring Report (CMR).

The following activities were conducted during the Third Quarter of 2015:

- Weekly liquid level gauging and manual light non-aqueous phase liquid (LNAPL) bailing of select site monitoring wells;
- Two Enhanced Fluid Recovery (EFR) events were conducted on July 13 and August 21, 2015;
- Comprehensive gauging of all accessible site monitoring wells was conducted on August 4, 2015;
- Biostimulation headspace vapor monitoring of select site monitoring wells to measure the presence of volatile organic compounds (VOCs), oxygen, carbon dioxide, and methane took place on August 4 – 6, 2015;
- Routine quarterly sampling of groundwater from all accessible site monitoring wells for petroleum hydrocarbons and from select wells for biostimulation parameters took place on August 4 – 6, 2015;
- A transmissivity test was conducted on MW-05 on July 8, 2015;
- Soil samples were collected from select soil borings during the installation of seventeen new site wells between June 23 and July 7, 2015; and
- CAP implementation remedial system permitting and installation activities.

- Installation of seventeen total phase extraction (TPE), air sparge, and standard compliance/delineation monitoring wells;
- System procurement and installation coordination;
- CAP implementation permitting and coordination;
- Electrical power drop coordination and procurement;
- Dominion Power application for service; and
- Sanitary sewer discharge evaluation, coordination, and permitting.

If you have any questions or require additional information please contact me at (301)843-4439 or by email at timothy.klares@nrg.com. For any technical questions, if you prefer, you can contact our consultants at GES, Inc. directly.

Sincerely,

Tim Klares
Project Manager, NRG

Cc: J. Rodriguez, DOEE; K. Tran, City Of Alexandria, VA; E. Ferguson, NPS; P. McCallum, NPS

Groundwater
& Environmental Services, Inc.

3RD QUARTER CAP IMPLEMENTATION MONITORING REPORT

OCTOBER 2015

POTOMAC RIVER GENERATING STATION

1400 NORTH ROYAL STREET
ALEXANDRIA, VA

PC# 2013-3154

PREPARED FOR:
TIMOTHY KLARES
NRG POTOMAC RIVER LLC
25100 CHALK POINT ROAD
AQUASCO, MD 20608

SUBMITTED TO:
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE
13901 CROWN COURT
WOODBRIDGE, VA 22193-1453

PREPARED BY:
GROUNDWATER & ENVIRONMENTAL SERVICES, INC.
1350 BLAIR DRIVE, SUITE A
ODENTON, MD 21113

OCTOBER 30, 2015

SITE NAME:	Potomac River Generating Station
SITE LOCATION:	1400 North Royal Street, Alexandria, VA
VDEQ PC#	2013-3154
DATE OF REPORT:	October 30, 2015
LAND USE CLASSIFICATION:	Industrial
CURRENT PROPERTY OWNER:	NRG Potomac River LLC 8301 Professional Place, Suite 250 Landover, MD 20785
CONSULTANT:	Groundwater & Environmental Services, Inc. 1350 Blair Drive, Suite A Odenton, MD 21113 (800) 220-3606
RELEASE INFORMATION:	Release from two former 25,000 gallon Number 2 fuel oil Underground storage tanks

Prepared by:

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1.0 INTRODUCTION

Groundwater & Environmental Services, Inc. (GES) has prepared this 3rd Quarter 2015 CAP Implementation Monitoring Report (CMR) on behalf of NRG Potomac River LLC (NRG), documenting environmental monitoring and corrective action activities performed at the Potomac River Generating Station (PRGS), located at 1400 North Royal Street, Alexandria, VA (the site). Site activities were performed to address a subsurface petroleum release regulated by the Virginia Department of Environmental Quality (VDEQ) Northern Regional Office (NRO) under Pollution Complaint (PC) #2013-3154. The site is the location of a decommissioned power generating facility. A Site Location Map is provided as **Figure 1**, a Site Layout Map, depicting pertinent features of the site and adjacent areas, is provided as **Figure 2**, and a Site Map is provided as **Figure 3**.

Specifically, this summary report documents the following activities conducted during the 3rd Quarter of 2015:

- Weekly liquid level gauging and manual LNAPL bailing of select site monitoring wells to measure elevations of groundwater and light non-aqueous phase liquid (LNAPL) hydrocarbons, if present;
- Comprehensive gauging of all accessible site monitoring wells;
- Biostimulation headspace vapor monitoring of select site monitoring wells to measure the presence of volatile organic compounds (VOCs), oxygen, carbon dioxide, and methane;
- Routine quarterly sampling of groundwater from all accessible site monitoring wells for petroleum hydrocarbons and from select wells for biostimulation parameters; and
- CAP Implementation remedial system permitting and installation activities.

1.1 SITE HISTORY

The site was developed as a power generating facility in the 1940s. The first generating unit was constructed by 1949, and the last of the five units was brought online in 1954. The facility used Number 2 (No. 2) fuel oil to preheat its generating unit boilers and coal as its primary fuel to generate electricity. The No. 2 fuel oil was stored in two adjoining 25,000-gallon underground storage tanks (USTs) centrally located within the power plant complex, as shown on the Site Map, provided as **Figure 3**. On October 1, 2012, the coal power plant ceased operation.

PC #2013-3154 was opened by the VDEQ following the detection of petroleum hydrocarbons during closure activities associated with the two 25,000-gallon fuel oil USTs. The VDEQ requested that a Site Characterization Report (SCR) be prepared to characterize the extent of contamination at the site. URS Corporation (URS) submitted a Site Conceptual Model (SCM) on June 11, 2013, which included a discussion of the initial detection of petroleum hydrocarbons during the closures of the two No. 2 fuel oil USTs, as well as descriptions of the various subsurface utilities in the vicinity of the USTs.

The VDEQ subsequently requested the submittal of a Site Characterization Report Addendum (SCRA), as stated in a directive letter dated July 10, 2013. This SCRA was submitted on February 14, 2014, by URS and described the activities associated with a subsurface characterization of the site using laser-induced fluorescence (LIF), the advancement of soil borings for soil sampling at the site, and the installation of fourteen monitoring wells. The site history, recent field activities, laboratory analytical results, a preliminary risk assessment, and an assessment of remedial options were also discussed in the SCRA.

After review of the SCRA, on March 4, 2014, the VDEQ requested that a Corrective Action Plan (CAP) be developed for the site. GES and Geosyntec Consultants (Geosyntec) submitted Part I of a CAP, (CAP-I) summarizing the site characterization data and evaluation; presenting an updated SCM based on this data; and providing a presentation, assessment, and evaluation of the viable remedial technologies that can be employed, consistent with the CAP requirements. On March 17, 2014, the VDEQ approved CAP-I and requested continued quarterly groundwater monitoring. Subsequently, Part II of the CAP (CAP-II) was submitted to the VDEQ on December 23, 2014. CAP-II was approved by the VDEQ on March 17, 2015, and was assigned CAP tracking number 513.

1.2 SURROUNDING PROPERTIES

The surrounding properties in the immediate vicinity of the site are primarily residential and commercial, with some buildings used as office space. To the north, south, and west, the site is bordered by a mixture of condominium and office buildings. To the east, the site is bordered by the National Park Service's (NPS) Mt. Vernon Trail, beyond which lies the Potomac River.

2.0 SITE CHARACTERIZATION AND MONITORING ACTIVITIES

The 3rd Quarter 2015 scope of work was developed in coordination with the VDEQ as outlined in the June 18, 2015 Activity Authorization Form (AAF), which was approved by the VDEQ on June 22, 2015. The following site characterization and monitoring activities were conducted during this monitoring period:

- July, August, and September 2015:
  - Weekly gauging and LNAPL hand bailing of select monitoring wells; and
  - Enhanced Fluid Recovery (EFR) events on select wells containing greater than 0.5 feet of LNAPL on July 13, 2015, and August 21, 2015.
- June 23 – July 7, 2015:
  - Soil sampling of select soil borings during well installation activities.
- July 8, 2015
  - Transmissivity testing of MW-05.
- August 4 – 6, 2015:
  - Site-wide gauging, biostimulation headspace vapor monitoring, and collection of down-well field parameters of site monitoring wells.
- August 4 – 6, 2015:
  - Gauging and groundwater sampling of all accessible site monitoring wells containing sufficient water for sampling and not containing a measureable thickness of LNAPL.

A Well Network Summary Table, including sampling parameters and well construction details, is included as **Table 1**.

2.1 WELL GAUGING AND LNAPL BAILING

An oil-water interface probe capable of measuring groundwater and LNAPL to 0.01 feet was used to gauge the site monitoring wells. During the 3rd Quarter, all site monitoring wells were gauged during a comprehensive gauging event prior groundwater sampling; select, accessible wells that historically exhibited measureable LNAPL or elevated dissolved phase hydrocarbon concentrations were also gauged on a weekly basis. Gauging events conducted during the 3rd Quarter are summarized below:

- Gauging of select wells weekly:
  - July 1, 2015
  - July 8, 2015
  - July 13, 2015
  - July 20, 2015
  - July 28, 2015
  - August 11, 2015

    - August 18, 2015
    - August 24, 2015
    - September 2, 2015
    - September 9, 2015
    - September 17, 2015
    - September 23, 2015
    - September 28, 2015
- Site-wide gauging of all wells:
    - August 4, 2015
- Sampling of all accessible wells:
    - August 4-6, 2015

The 3rd Quarter 2015 Groundwater Gauging Data Summary is presented as **Table 2**. LNAPL was detected in monitoring wells MW-01S, MW-05, MW-10S, MW-11, MW-25, MW-25S, MW-27, MW-51, MW-123S, RW-25S, RW-30S, and RW-117S during the 3rd Quarter 2015, with a maximum thickness of 3.75 feet in MW-05. Groundwater depths ranged from 1.65 feet below ground surface (bgs) in MW-105 to 29.82 feet bgs in MW-31 during the 3rd Quarter 2015, which is consistent with historical data from the site. Site-wide gauging was conducted on August 4, 2015, in accordance with the tidal cycle of the Potomac River. High tide occurred at 11:45, and low tide occurred at 18:45. Site wells were gauged as quickly as possible by multiple personnel and gauging was conducted bracketing the river's high tide. This approach was used to minimize the impact of tidal influence on groundwater elevation data. Two groundwater contour maps, representing shallow zone data and deep zone data, respectively, from the August 4, 2015 comprehensive gauging event are presented as **Figure 4** and **Figure 5**. The shallow zone groundwater contour map indicates that groundwater flow is variable with flow to the east, northeast, and southeast, though groundwater flow has historically occurred predominantly in the northeast direction. The deep zone groundwater contour map indicates that groundwater flow is variable with flow to the east, northeast, and southeast, though groundwater flow has historically occurred predominantly in the northeast direction. The hydraulic gradient at the site was calculated to be 0.0131 feet per foot in the shallow zone and 0.0264 feet per foot in the deep zone. The shallow zone hydraulic gradient was calculated between MW-100S and RW-30S; the deep zone hydraulic gradient was calculated between MW-14 and TW-02.

2.2 EFR EVENTS

The VDEQ authorized the resumption of bi-weekly EFR events on July 2, 2015. The EFR events were conducted on select wells; EFR events are scheduled when weekly gauging events show the measured thickness of product in any well to be greater than 0.5 feet. EFR events conducted during the 3rd Quarter and volumes of groundwater recovered during each event are summarized below:

- EFR events conducted on select wells:
    - July 13, 2015
        - MW-05 – 73 gallons
        - MW-25S – 52 gallons
        - MW-25 – 220 gallons

        - MW-51 – 96 gallons
    - August 21, 2015
        - MW-05 – 77 gallons

During the July 13, 2015, and August 21, 2015, EFR events, air samples were collected from the exhaust stack of the vacuum truck, and groundwater samples were collected from each well immediately following the removal of the drop tube. The samples were collected directly in laboratory provided bottleware, packaged on ice, and transported under proper chain of custody to Eurofins Lancaster Laboratories of Lancaster, PA (Lancaster Labs). These samples were used to determine the hydrocarbon recovery attained during the EFR event. The total hydrocarbon recovery is detailed below:

- Hydrocarbon recovery during EFR events:
    - July 13, 2015
        - MW-05 – 0.06 pounds
        - MW-25S – 2.63 pounds
        - MW-25 – 0.18 pounds
        - MW-51 – 0.01 pounds
    - August 21, 2015
        - MW-05 – 0.09 pounds

Detailed EFR event data from these events are presented as **Table 3**, and the complete laboratory and chain of custody documentation for the air samples is presented as **Attachment B**.

2.3 HEADSPACE VAPOR MONITORING

Monitoring well biostimulation vapor headspace analysis was conducted at select monitoring wells during the August 4, 2015, comprehensive gauging event using a photoionization detector (PID) and a GEM 2000 landfill gas meter. The PID is fitted with a 10.6 electron volt bulb and was calibrated using a factory-supplied calibration gas standard (100 parts per million [ppm] isobutylene) prior to each field use.

To obtain reproducible and stable readings, a vapor monitoring well cap was inserted securely into the well, and the PID and landfill gas meter were used to record VOC, oxygen, carbon dioxide, and methane concentrations. This arrangement allows for the withdrawal of air from the well through the PID and landfill gas meter pumps while minimizing the exchange of ambient air. The PID and landfill gas meter responses were recorded in the field book after the stabilization period.

Detailed PID and landfill gas meter response data is presented in **Table 4**.

2.4 GROUNDWATER SAMPLING

On August 4-6, 2015, groundwater samples were collected from 32 monitoring and recovery wells using disposable bailers and six monitoring wells (TW-02, TW-03, TW-04, TW-05, TW-06, and TW-07) using a peristaltic pump and dedicated polyethylene tubing. Samples were subsequently collected from two additional wells (MW-16S and TW-14) for standard quarterly parameters during the 3rd Quarter 2015. MW-16S was sampled utilizing a disposable bailer, and TW-14 was sampled using a peristaltic pump and dedicated polyethylene tubing. MW-109S, MW-109, MW-110S, MW-110, MW-111, MW-112S, MW-

112, MW-113, and MW-114 were not sampled, as their locations in the basement of the plant were inaccessible to GES personnel due to hazardous environmental conditions. MW-01S, MW-10S, MW-25S, MW-25, and MW-51 were not sampled during the 3rd Quarter 2015 sampling event, as the wells contained measurable thicknesses of LNAPL. RW-25S and MW-108 were not sampled, as the wells were dry. TW-14 was not sampled during the 3rd Quarter 2015 sampling event, as the well contained an insufficient volume of water to obtain a sample; it was later sampled on August 11, 2015. MW-16S was not sampled during the quarterly sampling event and was later sampled on September 9, 2015. TW-12S was not sampled during the 3rd Quarter 2015, as the well contained an insufficient volume of water to obtain a sample.

Each monitoring well was gauged prior to purging and sampling, and gauging data is presented in **Table 2**. Prior to the collection of groundwater samples, a minimum of three well volumes of water was purged from each monitoring well using purge bailers or a peristaltic pump and dedicated polyethylene tubing. Purge bailers were decontaminated prior to purging each well. Select wells containing minimal volumes of water were not purged, and grab samples were immediately collected. Purge water was containerized in 55-gallon drums and stored onsite for future offsite transportation and disposal. A total of 403 gallons of purge water and well development water from the 2nd Quarter 2015 sampling event, the 3rd Quarter 2015 well installation activities, and the July 13, 2015 EFR event was transported by Triumvirate Environmental, Inc. (Triumvirate) to their offsite disposal facility located in Baltimore, Maryland on July 13, 2015. A total of 169 gallons of purge water from the 3rd Quarter 2015 sampling event and August 21, 2015 EFR event was transported by Triumvirate to their offsite disposal facility located in Baltimore, Maryland on the August 21, 2015. Purge water waste manifests are included as **Attachment A**. Groundwater samples were collected directly in laboratory provided bottleware, packaged on ice in coolers, and transported under proper chain of custody to Lancaster Labs. Samples were requested to be analyzed for the following:

- Standard quarterly parameters – all wells
  - Total Petroleum Hydrocarbons – Diesel Range Organics (TPH-DRO)
- Biostimulation parameters – select wells
  - Alkalinity
  - Nitrate (NO_3^{1-})
  - Nitrite (NO_2^{1-})
  - Manganese (Mn^{2+})
  - Ferrous Iron (Fe^{2+})
  - Sulfate (SO_4^{2-})
  - Methane

Historical Groundwater Analytical Data is summarized in **Table 5** and is discussed further in **Section 2.5**.

In addition to the sampling detailed above, twelve wells (MW-11, MW-14, MW-31, MW-33, MW-51S, MW-70, MW-72S, MW-72, MW-106, TW-03, TW-05, and TW-07) were sampled for biostimulation parameters. These biostimulation parameters are useful indicators of the presence and rate of biodegradation. Historical Groundwater Biostimulation Analytical Data is provided as **Table 6**.

The complete laboratory report and chain of custody documentation for the groundwater sampling event is presented as **Attachment B.**

2.5 GROUNDWATER ANALYTICAL FINDINGS

During the 3rd Quarter 2015, 40 wells were sampled for standard quarterly parameters. Two TPH-DRO contour maps, representing shallow zone data and deep zone data, respectively, from the 3rd Quarter 2015, sampling event are presented as **Figure 6** and **Figure 7**. The results from the collection and analysis of groundwater samples from site monitoring wells sampled during the 3rd Quarter 2015 are presented below:

- TPH-DRO was detected in 30 of the 40 monitoring wells, with a maximum concentration of 14,000 micrograms per liter (µg/L) recorded in MW-08S.

Biostimulation data and field parameters were taken from select wells within the shallow and deep zone aquifers in order to evaluate the natural attenuation potential of the aquifers and to determine the dominant terminal electron accepting process. Historical Groundwater Biostimulation Analytical Data Summary is presented as **Table 6,** and Historical Groundwater Field Parameters Data Summary is presented as **Table 4.**

The following chart details the anticipated changes in groundwater chemistry in order of reaction preference during various stages of biodegradation from aerobic to highly anaerobic conditions. Increased concentrations of alkalinity, nitrite, dissolved manganese, ferrous iron, and methane and decreased concentrations of oxidation reduction potential (ORP), dissolved oxygen (DO), nitrate, and sulfate are indicators of anaerobic activity.

Time →

← Distance from Source

	Aerobic Respiration	Nitrate Reduction	Manganese Reduction	Ferric Iron Reduction	Sulfate Reduction	Methan-ogenesis
	Aerobic	Anaerobic				
Electron Acceptor	O_2	NO_3^-	Mn^{4+}	Fe^{3+} (solid)	SO_4^{2-}	CO_2
Metabolic By-Product	CO_2	N_2, CO_2	Mn^{2+}	Fe^{2+} (dissolved)	H_2S	CH_4 (methane)
Expected Relationship with High BTEX	$O_2 \downarrow$	$NO_3^- \downarrow$	$Mn^{2+} \uparrow$	$Fe^{2+} \uparrow$	$SO_4^{2-} \downarrow$	$CH_4 \uparrow$

The observed concentrations of DO, ORP, carbonate alkalinity, nitrate nitrogen, nitrite nitrogen, manganese, ferrous iron, sulfate as SO_4^{2-}, and methane provide supporting evidence that anaerobic degradation is occurring within the dissolved hydrocarbon plume and that aerobic conditions exist outside

of the plume for both the shallow and deep zone aquifers. Based on a review of the biostimulation data and the field parameters, the following observations have been made:

- The groundwater quality data from monitoring wells MW-112S (shallow zone aquifer) and MW-114 (deep zone aquifer) are considered to be representative of background conditions due to the historical relative absence of dissolved-phase hydrocarbons in these wells and aerobic conditions within these wells.
- Monitoring wells MW-70 and MW-30 show low levels of contamination and are upgradient and side-gradient, respectively of the main body of the plume and therefore, are not included in the analysis.
- DO concentrations indicate an anaerobic environment within the dissolved hydrocarbon plume within both the shallow and deep zone aquifers. DO concentrations from ten of the 12 shallow zone aquifer wells and all 17 of the deep zone aquifer wells were less than 1.00 milligram per liter (mg/L), which indicates an anaerobic environment within the dissolved-phase hydrocarbon plume. DO concentrations in the background wells were greater than 1.00 mg/L, which indicates an aerobic environment outside of the dissolved-phase hydrocarbon plume.
- ORP values are decreased from background conditions in both the shallow and deep aquifer zones. ORP values from all 12 of the shallow zone aquifer wells were negative during the August 2015 sampling event, which indicates that the shallow zone aquifer is in a reducing condition. ORP values from ten of the 17 deep zone aquifer wells were negative during the August 2015 sampling event, which indicates that the deep zone aquifer is in a mixed oxidizing and reducing condition.
- Alkalinity concentrations were elevated as compared to background conditions in all five of the shallow zone aquifer wells, which indicates increased biological activity in these wells. Alkalinity concentrations were elevated as compared to background conditions in four of the eight deep zone aquifer wells. This suggests that biological activity in the deep zone aquifer wells is slightly increased as compared to background conditions.
- Nitrate and nitrite concentrations indicate that nitrate reduction is complete within both the shallow and deep aquifer zones. Nitrate concentrations in all five of the shallow zone aquifer wells are decreased from background conditions, and nitrite concentrations in four of the five shallow zone aquifer wells are increased from background conditions. Nitrate concentrations in all eight of the deep zone aquifer wells are decreased from background conditions, though an increase in nitrite concentrations from background conditions is only seen in one of the eight wells.
- Dissolved manganese concentrations indicate that manganese reduction is complete within both the shallow and deep zone aquifers. Dissolved manganese concentrations in all three of the shallow zone aquifer wells (two wells have not been sampled for dissolved manganese) and all eight of the deep zone aquifer wells are increased from background conditions.
- Ferrous iron concentrations indicate that ferric iron reduction is complete or nearly complete within both the shallow and deep zone aquifers. Ferrous iron concentrations in all five of the

shallow zone aquifer wells and all eight of the deep zone aquifer wells are increased from background conditions.

- Sulfate as SO_4^{2-} concentrations indicate that sulfate reduction is occurring within both the shallow and deep zone aquifers. Sulfate as SO_4^{2-} concentrations in three of the five shallow zone aquifer wells are decreased from background conditions, which indicate that sulfate reduction is currently occurring within the shallow zone aquifer. Sulfate as SO_4^{2-} concentrations in all eight of the deep zone aquifer wells are significantly increased from background conditions. The biostimulation data indicates that sulfate reduction is likely occurring and a source of sulfate is possibly present within deep zone aquifer.
- Methane concentrations indicate that methanogenesis is occurring within both the shallow and deep zone aquifers. Methane concentrations in all five of the shallow zone aquifer wells and all eight of the deep zone aquifer wells are increased above background conditions.

Overall, the biostimulation data and field parameters indicate that an active microbial population is present at the site and that the dissolved-phase hydrocarbons within the shallow and deep zone aquifers are currently being reduced through sulfate reduction and methanogenesis.

2.6 SOIL SAMPLING

Between June 23, 2015, and July 7, 2015, soil samples were collected from select soil borings during the installation of 17 new site wells, as detailed in **Section 3.2**. One soil sample was collected per boring from 11 soil borings. Each sample was collected from the depth of greatest contamination within the boring, as determined by PID readings. In the absence of evidence of contamination indicated by PID readings, the sample was collected just above the clay confining layer present in most borings at the site. Soil samples were collected directly in laboratory provided bottleware, packaged on ice in coolers, and transported under proper chain of custody to Lancaster Labs. Samples were requested to be analyzed for the site constituents of concern (COCs):

- TPH-DRO
- Benzene, toluene, ethylbenzene, and xylenes (BTEX)
- Naphthalene

Soil Analytical Data from the 2nd and 3rd Quarters 2015 is summarized in **Table 7** and is discussed further in **Section 2.7**.

2.7 SOIL ANALYTICAL FINDINGS

During the 3rd Quarter 2015, 11 soil borings were sampled for site COCs. The results from the collection and analysis of soil samples from onsite monitoring wells sampled during the 3rd Quarter 2015 are presented below:

- TPH-DRO was detected in all of the 11 soil borings, with a maximum concentration of 5,200 mg/kg recorded in RW-116S;

- Benzene was detected in five of the 11 soil borings, with a maximum concentration of 84 µg/kg recorded in RW-116S;
- Toluene was not detected in any of the 11 soil borings;
- Ethylbenzene was detected in nine of the 11 soil borings, with a maximum concentration of 880 µg/kg recorded in RW-119S;
- Total Xylenes was detected in nine of the 11 soil borings, with a maximum concentration of 1,400 µg/kg recorded in MW-121; and
- Naphthalene was detected in all of the 11 soil borings, with a maximum concentration of 4,800 µg/kg recorded in MW-121.

2.8 LNAPL TRANSMISSIVITY TEST

An LNAPL baildown test was performed at monitoring well MW-05 on July 8, 2015, with fluid level gauging extended to July 9, 2015. Monitoring well MW-05 demonstrated 3.75 feet of LNAPL prior to the bailing event, which was a historically peak thickness in 66 monitoring events performed at the well since August 8, 2014. GES was instructed by the VDEQ to allow the well to recharge with LNAPL over several successive gauging events without bailing prior to the test in order to allow the product to accumulate for the planned test. The corrected depth to water measured prior to the baildown was 24.21 feet from top of casing (TOC). The total depth of well MW-05 was measured at 32.15 feet from TOC. A measured fluid column of 8.4 feet existed in the well prior to baildown activities. During the MW-05 LNAPL baildown test, approximately 2.38 gallons (9 liters) of assumed No. 2 oil product was removed utilizing a multiple-disposable bailer withdraw with an observed recover period of 1,890 minutes. The multiple-bailer withdraw performed at the well reduced the thickness to 0.35 feet, or approximately 91% of the initial static product thickness. During the recovery period, depth to product and depth to water measurements were recorded. During recovery, the product thickness increased to 0.64 feet (17% of the original thickness) by the conclusion of the test (elapsed time 1,890 minutes). A field log sheet generated for the MW-05 LNAPL baildown test is included with the baildown analysis as **Attachment C**.

The LNAPL and groundwater recovery data collected from the MW-05 baildown test was evaluated using a modified Bouwer-Rice analysis (Lundy and Zimmerman 1996; ES&T, 2002). A printout of baildown test inputs, analysis, and output using proprietary software is provided in **Attachment C**. Fluid property values, including specific gravity and viscosity, used for MW-05 LNAPL recovery analysis were previously determined from LNAPL and groundwater samples collected from the well on September 19, 2015.

The table below provides a summary of the baildown test results for the LNAPL-bearing zone at well MW-05. The LNAPL transmissivity, hydraulic conductivity, residual water saturation, van Genuchten-alpha, and van Genuchten-n values were determined by calculating the Bouwer & Rice LNAPL conductivity using parametric analysis and limiting the solution with two national databases for hydraulic and capillary properties. The parameter values are consistent with either the Carsel and Parrish (1988) database for agricultural soils or the API (2004) database for geologic media (Lundy, 2006).

Summary of Baildown Test Results MW-05

Hydraulic/Capillary Parameters	**Carsel & Parrish Database**	**API Database**
LNAPL Conductivity (ft/day):	8.76E-04	8.86E-04
LNAPL Transmissivity (ft^2/day):	**4.93E-03**	**4.98E-03**
Groundwater Hydraulic Conductivity (ft/day):	6.51E-02	1.49E-01
Residual Water Saturation:	0.66	0.28
van Genuchten - *alpha* (1/ft):	0.47	0.31
van Genuchten – *n* (dimensionless):	1.92	1.90

In summary, the LNAPL transmissivity values determined from the product baildown test performed at MW-05, via the two solution methods presented in **Attachment C** and summarized in the previous table, provide a LNAPL transmissivity value of 4.93E-03 $feet^2$/ day. This LNAPL transmissivity value falls below the lower threshold for LNAPL transmissivity as recommended by the Interstate Technology & Regulatory Council (ITRC) guidelines for assessing practical LNAPL recoverability. ITRC guidelines published in 2009 note that practical recovery begins in a range of LNAPL transmissivity from 0.1 to 0.8 $feet^2$/day. (For comparison, an LNAPL transmissivity analysis conducted at MW-05 on September 19, 2014 yielded a LNAPL transmissivity value of 9.72E-02 $feet^2$/day.) Based on the LNAPL transmissivity value calculated from the MW-05 baildown test this period and the ITRC guidance on practical LNAPL recovery, LNAPL does not appear to be mobile in the formation local to MW-05, and future product recovery from the well is anticipated to be low.

3.0 REMEDIATION SYSTEM INSTALLATION ACTIVITIES

Remediation system installation activities performed during the 3rd Quarter 2015 in accordance with the CAP-II, which was approved by the VDEQ on March 17, 2015, include:

- Installation of 17 total phase extraction (TPE), air sparge, and standard compliance/delineation monitoring wells onsite;
- System procurement and installation coordination;
- CAP implementation permitting and coordination;

- Electrical power drop coordination and procurement;
- Dominion Power application for service; and
- Sanitary sewer discharge evaluation, coordination, and permitting;

3.1 NATIONAL PARK SERVICE COORDINATION

On May 6, 2015, NRG and GES attended a meeting with the NPS. The purpose of the meeting was to discuss the NPS property Scope of Work (SOW) required to implement the approved CAP and to review the process of obtaining a Special Use Permit for this work. NPS approved of the general SOW, provided guidance on the application submittal, and noted that a permit would not be issued until a formal review has been completed. While discussing the application requirements, additional information was requested including traffic control and a vegetation inventory.

The application was submitted last quarter, and the NPS sent feedback on September 10, 2015. On September 11, 2015, GES provided responses to all questions, and the application is currently under review. Additional comments were received from the NPS on October 6, 2015, and GES provided responses the same day. Further details regarding the permit progress and the separation of the onsite and offsite work are discussed below.

3.2 ONSITE WELL INSTALLATIONS

Between June 22, 2015, and July 8, 2015, 17 Total Phase Extraction (TPE), Standard Compliance/Delineation Monitoring, and Air Sparge wells were installed as proposed in the December 23, 2014 CAP with minor modifications due to surface and subsurface interferences. The newly installed wells include:

- Standard Compliance/Delineation Monitoring Wells (compliance wells)
    - Two additional deep zone monitoring wells (MW-121 and MW-122)
    - One additional shallow zone monitoring well (MW-123S)
- TPE Wells
    - Eight shallow zone TPE wells (RW-05S, RW-25S, RW-28S, RW-30S, RW-116S, RW-117S, RW-118S, and RW-119S)

- Air Sparge Wells
    - Six deep zone sparge points (SP-03, SP-04, SP-05, SP-06, SP-07, and SP-08)

Variations to the TPE and compliance well network proposed in CAP-II are listed below:

- Compliance wells MW-120 and MW-123 could not be installed due to auger refusal at the proposed locations. Due to the presence of aboveground features and subsurface utilities, no alternate locations for the wells were identified. As a result, only three compliance wells (MW-121, MW-122, and MW-123S) were successfully installed.

- Over drilling of existing site wells for conversion to TPE wells was unsuccessful. Therefore, several variations from the well network proposed in CAP-II were made:

    - MW-10S was left in place and will be converted to a TPE well;

- MW-25S was left in place and RW-25S was installed in the immediate vicinity for use as a TPE well;
- MW-30S was properly abandoned due to an unsuccessful attempt to over drill the well, and RW-30S was installed in the immediate vicinity to be used as a TPE well;
- MW-51S was left in place, and the newly installed MW-123S will be converted to a TPE well; and
- MW-72S was left in place and will be converted to a TPE well.

- Piping in the vicinity of RW-25S needed to be removed to allow access to the boring location. The pipes were saw-cut and removed, allowing access to the location.

- Overhead fluorescent lights in the workshop building needed to be removed prior to the installation of MW-123S and SP-05 due to overhead clearance issues. GES contracted C&L Contractors, Ltd. (C&L) to remove the overhead lights in the vicinity of MW-123S and SP-05 to provide overhead clearance for the drill rig to operate within the workshop building.

- SP-08 was installed outside of the plant building at the top of a steep, grass covered grade. To safely install the well, a safety railing at the top of the slope was installed.

GES began installation activities on June 22, 2015. GES contracted Allied Well Drilling (Allied) of Honey Brook, PA to perform drilling and well installation activities under the supervision of GES personnel. Concrete removal occurred prior to hand-clearing in applicable well locations. All locations were hand-cleared to 6 feet bgs via an air lance and a vacuum excavation truck. Air excavation was used at all locations due to the presence of extensive subsurface utilities at the site. Utilities were found in several locations, which required relocating of select well installation locations.

Following concrete removal and air excavation, Allied utilized a Geoprobe 7822 DT tracked drill rig to install soil borings and wells. Allied utilized Direct Push Technology (DPT) for discrete soil sampling, and hollow-stem auger (HSA) drilling was used for well installations. Soil borings were discretely sampled and characterized according to well type as detailed below:

- Compliance wells were sampled and characterized from 15 feet bgs to terminal depth;
- TPE wells were sampled and characterized from 20 feet bgs to terminal depth; and
- Air Sparge wells were not sampled or characterized.

Sampling and characterization was conducted on compliance and TPE wells to accurately locate the screened interval and filter pack of the well. A clay layer is present throughout much of the site, which acts as a confining layer between the shallow zone and deep zone aquifers of the site. As per the CAP, GES installed the 17 new site wells such that the screened intervals and sand packs of the wells do not create preferential flow pathways between the shallow zone and deep zone aquifers. Compliance wells were installed in the deep zone, and the final depth of the compliance wells was determined such that the screened interval and filter pack of the well did not bisect the clay layer. TPE wells were installed in the shallow zone, and the final depth of each TPE well was determined such that the bottom of the screened interval was placed at the top of the clay layer. Complete soil boring and well installation logs are included as **Attachment D**. Photos of the soil boring and well installation activities are included as **Attachment E**. Well installation depths and screened intervals are included in **Table 1** and are summarized below:

Well ID	Well Diameter (in)	Total Depth (feet)	Screened Interval (feet)
MW-121	4	37	27-37
MW-122	4	37	27-37
MW-123S	4	25	21-25
RW-05S	4	26	21-26
RW-25S	4	25	20-25
RW-28S	4	27	22-27
RW-30S	4	29	24-29
RW-116S	4	26	21-26
RW-117S	4	25	20-25
RW-118S	4	25	20-25
RW-119S	4	26	21-26
SP-03	2	36	33-36
SP-04	2	36	33-36
SP-05	2	36	33-36
SP-06	2	36	33-36
SP-07	2	36	33-36
SP-08	2	36	33-36

Upon completion of the well installations, each well was developed to the best extent practicable. During development, compliance wells, TPE wells, and air sparge wells which contained water were pumped until no visible suspended solids were detected in the purge stream. Development water was temporarily stored in 55-gallon steel drums and ultimately pumped-out by a qualified waste disposal contractor, as discussed in **Section 2.4**. 14.14 tons of soil waste associated with drilling and well installation activities was transported by Cheetah Services on July 8, 2015, to Clean Earth of Greater Washington, LLC's (Clean Earth) facility located in Landover, Maryland. 0.77 tons of soil waste associated with drilling and well installation activities was transported by Cheetah Services on July 14, 2015, to Clean Earth's facility located in Landover, Maryland. Soil waste manifests are included as **Attachment A**.

3.3 OFFSITE AIR SPARGE WELL INSTALLATIONS

As discussed above in **Section 3.1**, the offsite air sparge well network installation will be conducted once a Special Use Permit is obtained from the NPS.

3.4 REMEDIAL SYSTEM DESIGN AND PROCUREMENT

During the 2nd Quarter, GES completed system design and procurement packages for competitive bidding between three system vendors. The three bid process was completed, and Product Recovery Management,

Inc. (PRM) was chosen to construct the remediation system. On June 26, 2015, PRM was approved to proceed with their remediation system design package and begin construction of the remediation system following GES approval of the design package. The remediation system was delivered on October 15, 2015.

3.5 REMEDIAL SYSTEM INSTALLATION

GES has selected Odyssey Environmental Services (Odyssey) to install system piping. Odyssey began installation of system piping on September 28, 2015, and is expected to be completed in October 2015. In addition to installing system piping to the onsite TPE, pump and treat (P&T), and air sparge wells, Air Sparge system piping will be installed to the edge of NRG property during the initial remediation system installation in preparation for the future offsite air sparge network that will be installed on the NPS property alongside the Mt. Vernon trail.

3.6 BULK HEAD WALL SEEP SEALING

A total of six seep areas were identified in the steel bulkhead wall along the Potomac River. A request for proposal (RFP) will be sent to qualified marine contractors, and a determination will be made based on price and availability. Generally, the seeps will be sealed by grinding and welding additional steel plates onto the existing sheet piling. This work will be performed in conjunction with the offsite well installation which is pending NPS approval.

3.7 PERMIT SUMMARY

Special Use Permit	Required for: Offsite air sparge well installation and remediation system piping on the Mt. Vernon Trail and bulk head seep sealing Issued by: National Parks Service Progress: A permit application was submitted on June 2, 2015. On June 15, 2015, GES and NPS personnel completed a vegetation inventory; documentation of the inventory was submitted for inclusion with the permit review on June 16, 2015. NPS questions were received on September 10, 2015, and all answers were provided on September 11, 2015. Additional comments were received from the NPS on October 6, 2015, and responses were provided to the NPS on the same day. NPS review on the permit application is ongoing.
Building Permit (2):	Required for: Pre-fabricated systems/enclosures (Building Plan OR Existing Commercial Tenant Improvement OR Industrialized Building/Construction Trailer). Issued by: The City of Alexandria, Permit Center Progress: Building Permit BLD2015-01702 has been approved, effective 9/18/2015 – 3/18/2016.
Certificate of Occupancy (2):	Required for: Authorization to occupy building Issued by: The City of Alexandria, Department of Code Administration

Progress: The City of Alexandria confirmed that no Certificate of Occupancy is required.

Letter of Authorization:

Required for: Sanitary sewer discharges less than 25,000 gallons per day with low risk of negatively impacting the sanitary sewer system.
Issued by: Fairfax County Industrial Waste Section, Alexandria Sanitation Authority/Alexandria Renewal Enterprises
Progress: On September 14, 2015, Alexandria Renewal Enterprises provided verbal approval pending receipt of trial start-up discharge results.

Electrical Permit:

Required for: Installation of a power drop to the site.
Issued by: The City of Alexandria
Progress: The City of Alexandria approved and issued the permit.

Power Service Application

Required for: Power service to the site.
Issued by: Dominion Power
Progress: An onsite meeting was held with a Dominion designer on July 30, 2015. Dominion approved the design on August 8, 2015, and the connection is in progress.

Air Permit

A Minor New Source Review permit will be required for the site if the uncontrolled emissions exceed 25 tons per year for VOCs for a new source. The specific emission units on the remediation system are the Tandem Eurus MB4506 and the MB4509 Rotary Lobe Blowers, which are located in series. The discharge vapor will contain hydrocarbons that are volatilized off of the impacted soil. The total hydrocarbon mass estimate for TPH-DRO within the soil was determined to be 24,444 kilograms (53,890 pounds). The estimated system operation duration is 22 months. While not all of the soil mass will volatilize or be remediation by the remediation system, the total hydrocarbon soil mass was used in calculated the maximum projected uncontrolled emission rate:

Emission rate = (53,890 pounds x 12 months per year) / (22 months x 2,000 pounds) = 14.70 tons per year

Because the uncontrolled emissions are projected to be less than 25 tons per year, a Minor New Source Review permit is not required.

3.8 ADDITIONAL SITE ACTIVITIES SUMMARY

- On July 30, 2015, GES personnel conducted a meeting onsite with C&L and Dominion Power to apply for power service to the site.
- On July 30 and 31, 2015, GES performed a sewer line test to confirm feasibility of connecting and discharging to the existing onsite sewer line.
- On August 14, 2015, GES personnel met with employees of the City of Alexandria permit office to review requirements for permits issued by the City of Alexandria

- On August 19, 2015, GES personnel conducted a pre-bid meeting onsite with representatives from three system installation subcontractors to review and discuss system installation activities included in the system installation RFP.

3.9 FUTURE ACTIVITIES (4TH QUARTER 2015)

- Routine quarterly groundwater sampling for petroleum parameters;
- Monthly gauging and LNAPL hand bailing;
- CAP implementation permitting and coordination;
- Electrical power drop and power supply installation;
- Onsite system installation and field oversight;
- Sanitary sewer discharge connection and permitting;
- Offsite air sparge well installation, system installation, and bulkhead seep sealing;
- Onsite remedial system activation; and
- Submittal of quarterly CMRs.

3.10 UPDATED CAP IMPLEMENATION SCHEDULE

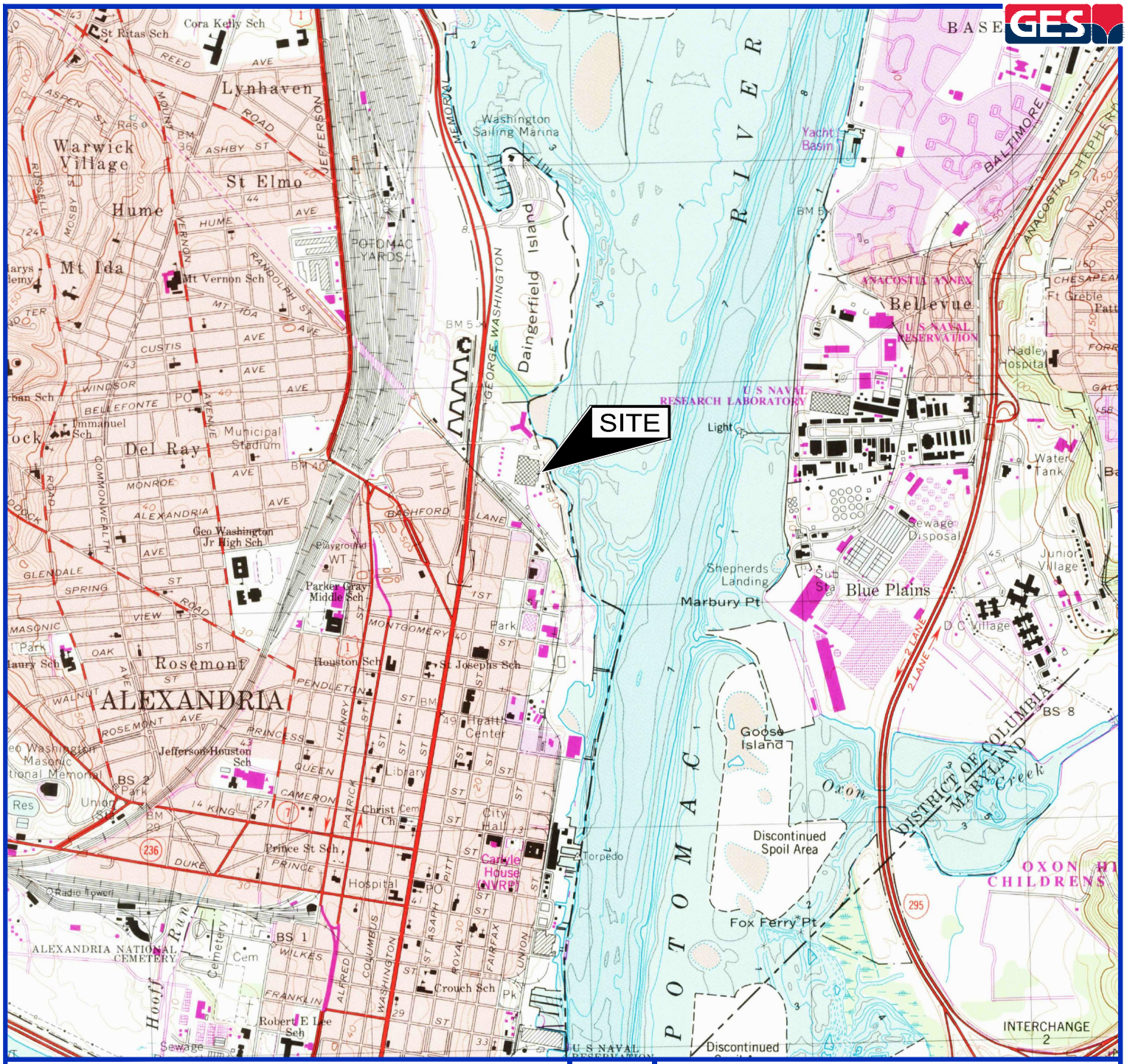
October 2015	- Onsite system piping installation
October 15, 2015	- Remedial system delivery
October 2015	- Electrical supply line installation
November 2015	- Dominion installation of power drop (estimated)
November 2015	- Final baseline groundwater sampling prior to system start-up
Nov/Dec 2015	- NPS permitting and planning for offsite system installation (estimated)
Late November 2015	- System testing and initial sanitary sewer discharge sampling
December 2015	- Sanitary sewer discharge permitting
December 2015	- Full onsite system activation
Dec 2015 / Jan 2016	- Offsite system installation and seep sealing
January 2016	- Groundwater sampling 4-5 weeks following onsite system activation.
1st Quarter 2016	- Offsite system activation (estimated)

4.0 CONCLUSIONS

GES has completed this 3rd Quarter 2015 CMR for the Potomac River Generating Station, located at 1400 North Royal Street, Alexandria, Virginia. The following is a summary of pertinent findings from the 3rd Quarter 2015 monitoring and remedial activities conducted at the site:

- LNAPL was observed in twelve of the site monitoring wells (MW-01S, MW-05, MW-10S, MW-11, MW-25, MW-25S, MW-27, MW-51, MW-123S, RW-25S, RW-30S, and RW-117S);
- EFR events were performed on MW-05, MW-25S, MW-25, and MW-51 on July 13, 2015 and on MW-05 on August 21, 2015;
- Groundwater flow was variable with flow to the east, northeast, and southeast in both the shallow and deep zone aquifers, though groundwater flow has historically occurred predominantly in the northeastern direction, and the hydraulic gradient is consistent with historical observations;
- TPH-DRO was detected in 30 of the sampled 40 monitoring wells, with a maximum concentration of 14,000 µg/L in MW-08S;
- The analysis of biostimulation parameters indicated that an active microbial population is present at the site and that the dissolved-phase hydrocarbons within the shallow and deep zone aquifers are currently being reduced through sulfate reduction and methanogenesis;
- TPH-DRO, BTEX, and naphthalene were detected in samples taken from soil borings during well installation activities;
- A transmissivity test performed on MW-05 showed that LNAPL does not appear to be mobile in the formation local to MW-05, and future product recovery from this well is anticipated to be low;
- Seventeen TPE, air sparge, and compliance wells were installed at the site in association with remedial system installation activities;
- System installation and permitting activities are underway and will continue into the 4th Quarter 2015; and
- Additional site activities will take place during the 4th Quarter of 2015, including monthly gauging and bailing of LNAPL, quarterly groundwater sampling, CAP implementation permitting and coordinating, electrical power drop coordination and procurement, and system installation activities.

FIGURES



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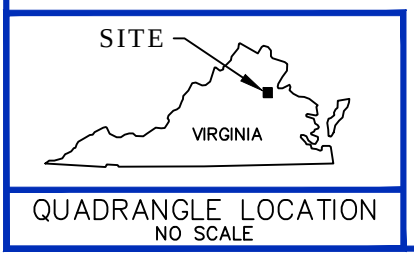
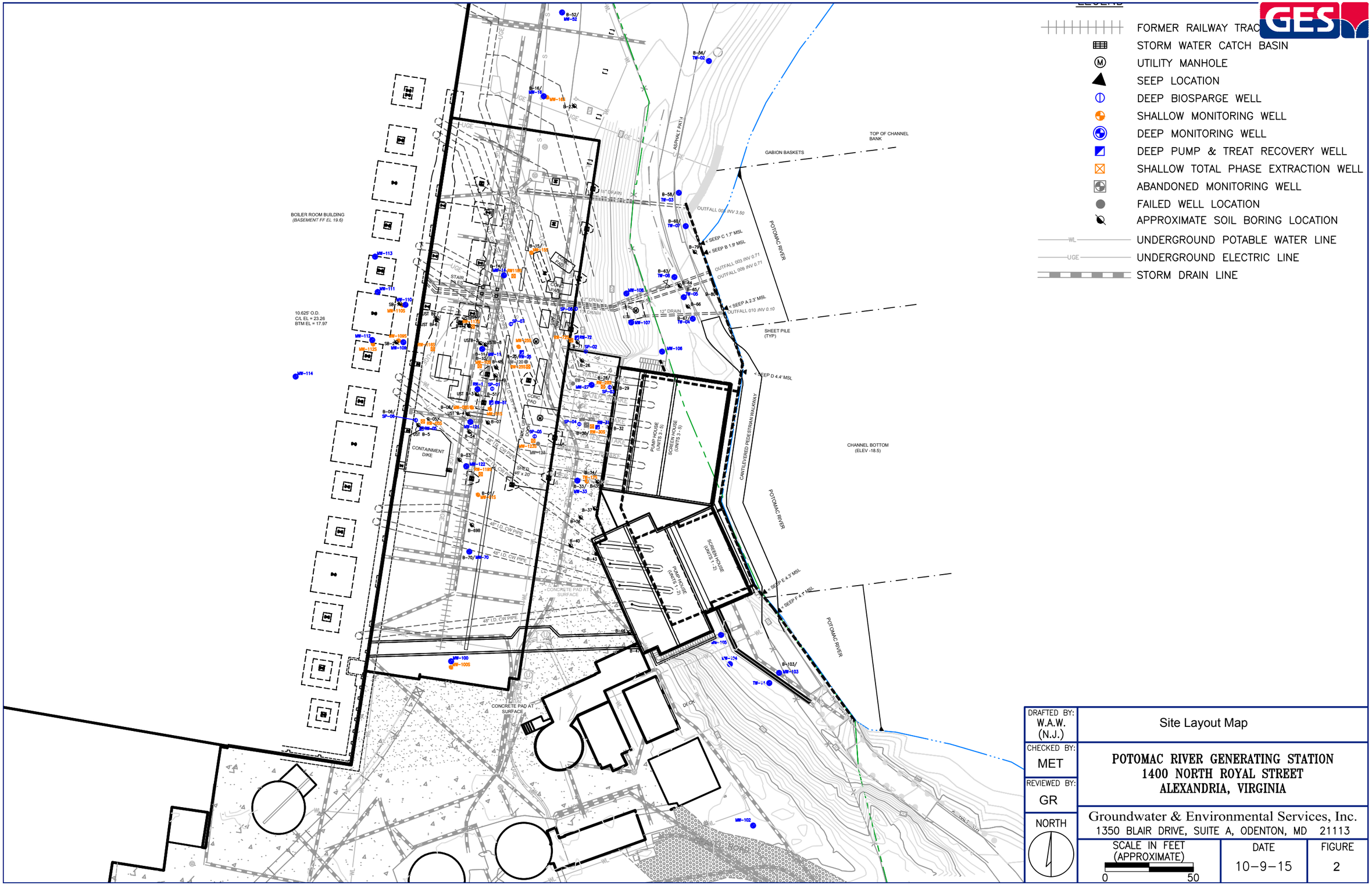


QUADRANGLE LOCATION
NO SCALE

DRAFTED BY: JW	SITE LOCATION MAP
CHECKED BY: NG	FORMER POTOMAC RIVER GENERATING STATION ALEXANDRIA, VIRGINIA
REVIEWED BY: AC	Groundwater & Environmental Services, Inc. 1350 BLAIR DR., SUITE A, CROFTON, MD 21113
NORTH	SCALE IN FEET: 0 – 1,000 / DATE: 7-17-15 / FIGURE: 1



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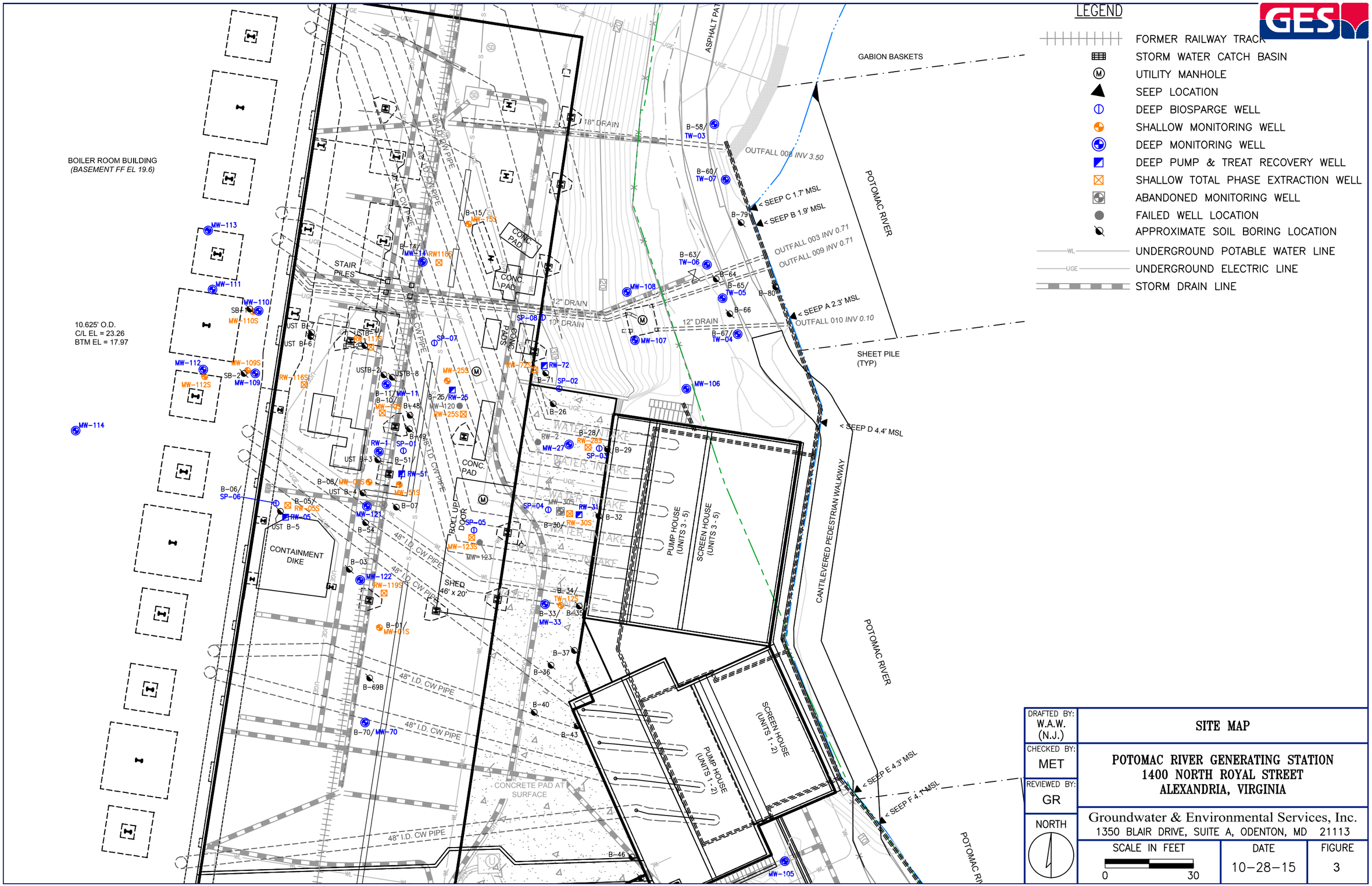

DRAFTED BY: W.A.W. (N.J.)	SITE MAP
CHECKED BY: MET	POTOMAC RIVER GENERATING STATION 1400 NORTH ROYAL STREET ALEXANDRIA, VIRGINIA
REVIEWED BY: GR	Groundwater & Environmental Services, Inc. 1350 BLAIR DRIVE, SUITE A, ODENTON, MD 21113
NORTH	SCALE IN FEET: 0 – 30 / DATE: 10-28-15 / FIGURE: 3

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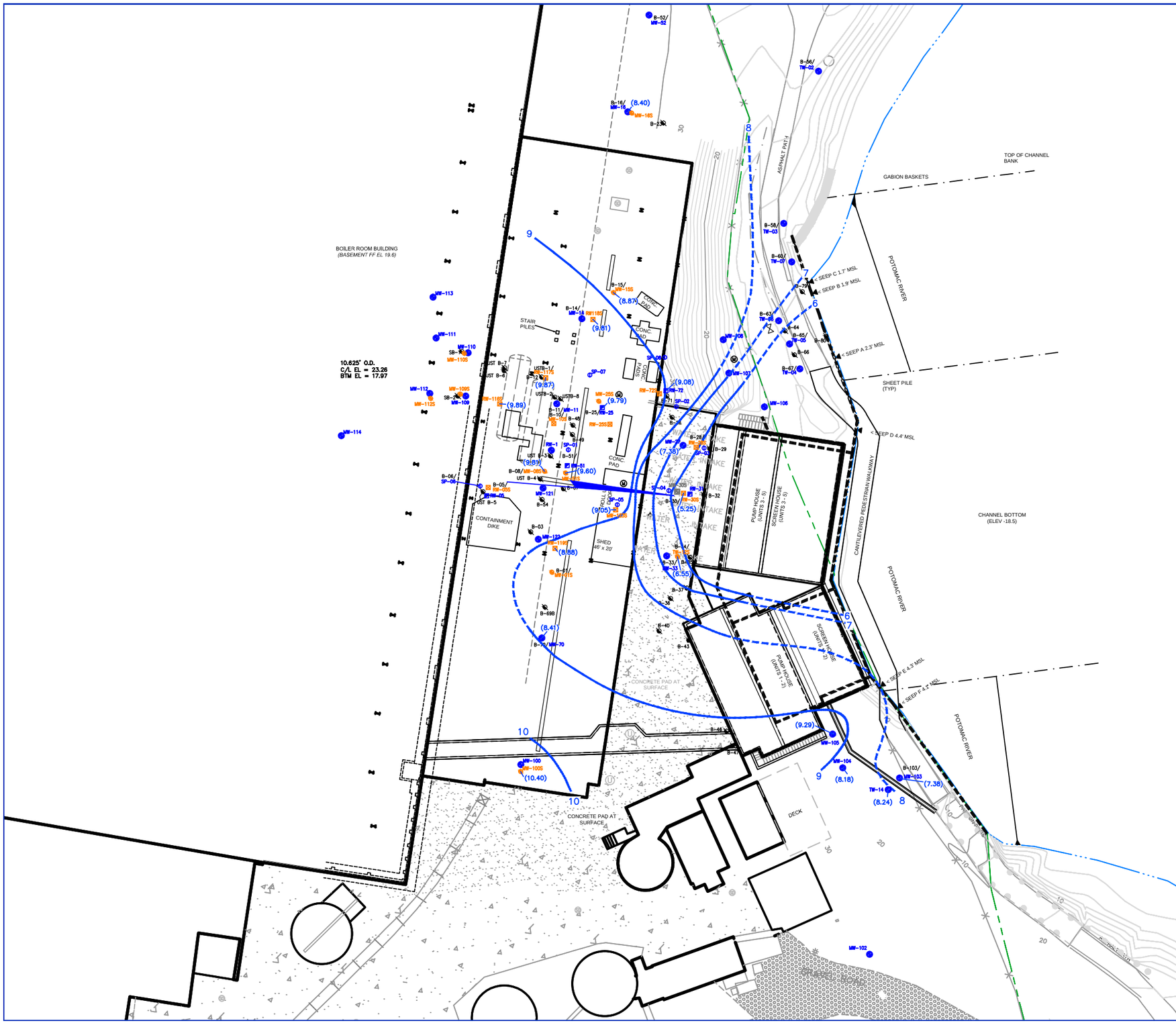
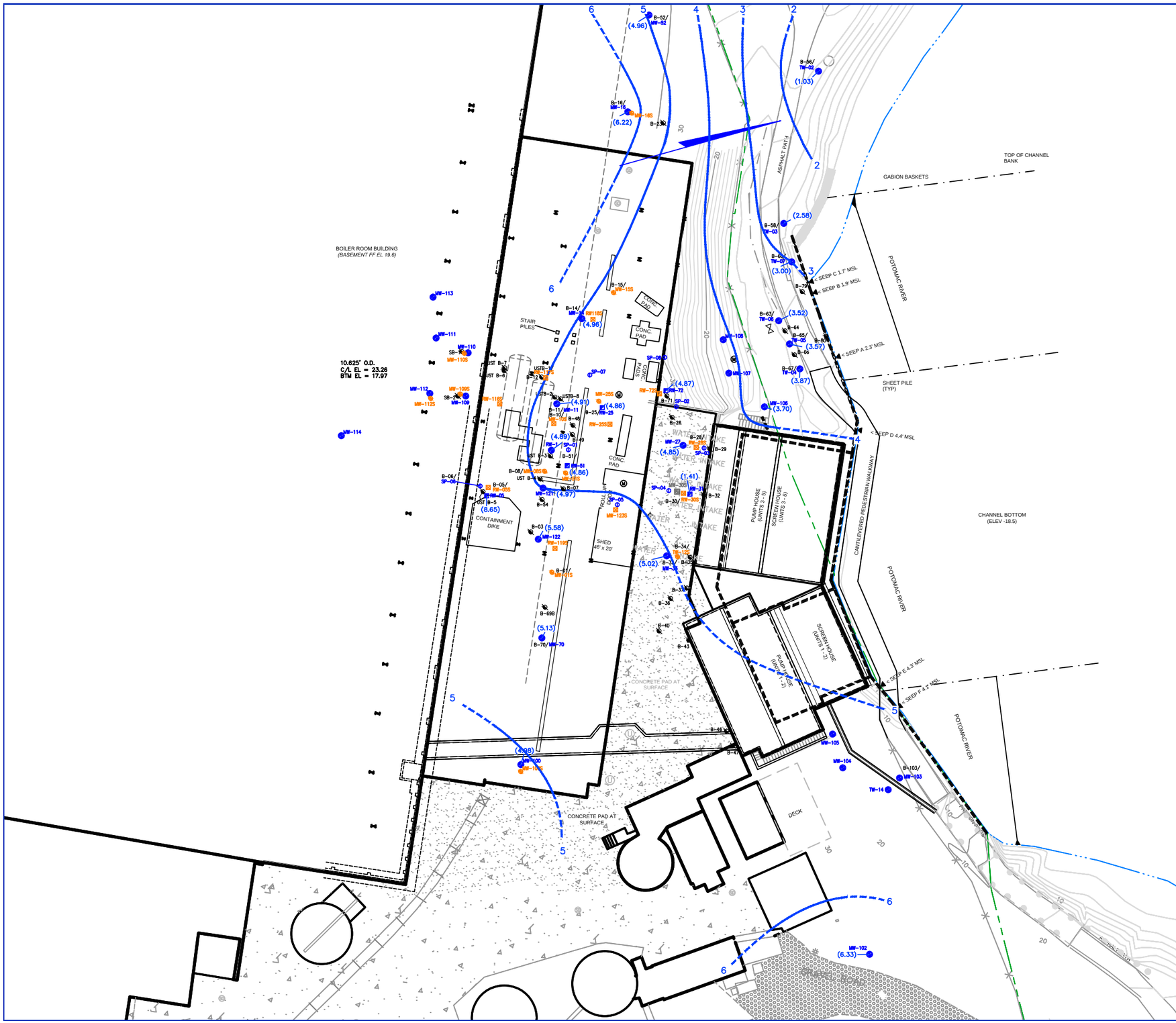


LEGEND

- FORMER RAILWAY TRACK
- STORM WATER CATCH BASIN
- UTILITY MANHOLE
- SEEP LOCATION
- DEEP BIOSPARGE WELL
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- DEEP PUMP & TREAT RECOVERY WELL
- SHALLOW TOTAL PHASE EXTRACTION WELL
- ABANDONED MONITORING WELL
- APPROXIMATE SOIL BORING LOCATION
- (1.73) MEASURED GROUNDWATER ELEVATION
- 2 GROUNDWATER ISOCONTOUR
- DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION

NOTES:
1. NG INDICATES NOT GAUGED
2. CONTOURS DASHED WHERE INFERRED

DRAFTED BY: J.C.W.	POTENTIOMETRIC SURFACE SHALLOW ZONE AQUIFER - 3RD QUARTER 2015
CHECKED BY: M.E.T.	POTOMAC RIVER GENERATING STATION 1400 NORTH ROYAL STREET ALEXANDRIA, VIRGINIA
REVIEWED BY: G.R.	Groundwater & Environmental Services, Inc. 1350 BLAIR DRIVE, SUITE A, ODENTON, MD 21113
NORTH	SCALE IN FEET: 0 – 50 / DATE: 10–22–15 / FIGURE: 4



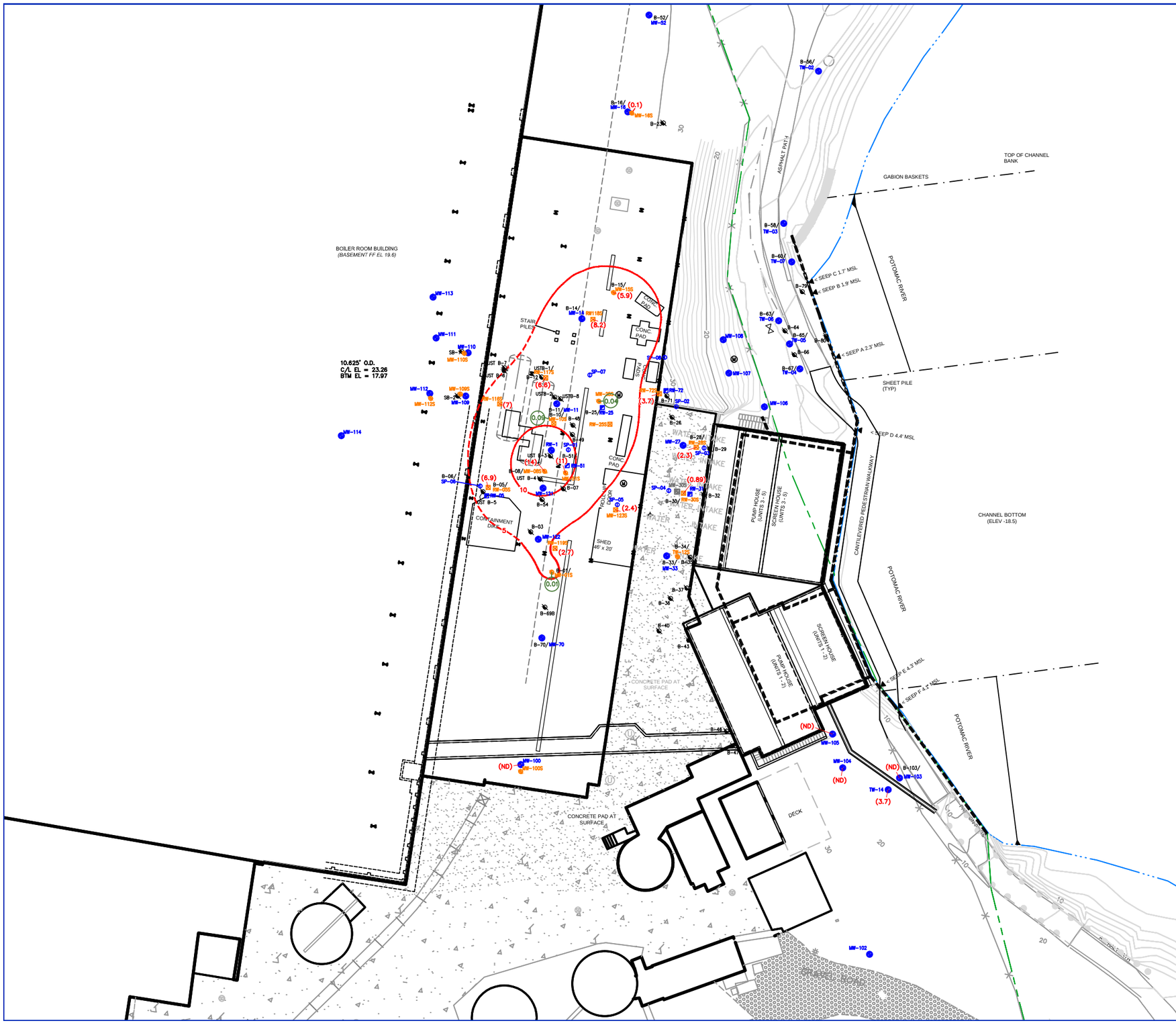
LEGEND

- FORMER RAILWAY TRACK
- STORM WATER CATCH BASIN
- UTILITY MANHOLE
- SEEP LOCATION
- DEEP BIOSPARGE WELL
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- DEEP PUMP & TREAT RECOVERY WELL
- SHALLOW TOTAL PHASE EXTRACTION WELL
- ABANDONED MONITORING WELL
- APPROXIMATE SOIL BORING LOCATION
- (1.73) MEASURED GROUNDWATER ELEVATION
- 2 GROUNDWATER ISOCONTOUR
- DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION

NOTES:

1. NG INDICATES NOT GAUGED
2. CONTOURS DASHED WHERE INFERRED
3. MW–107, RW–05, AND RW–31 WERE NOT USED TO GENERATE THE POTENTIOMETRIC SURFACE CONTOURS BECAUSE MW–107 IS INCONSISTENT WITH REGIONAL GROUNDWATER TRENDS, THE GROUNDWATER ELEVATION OF RW–05 IS NOT INDICATIVE OF THE DEEP ZONE AQUIFER ELEVATION, AND GROUNDWATER ELEVATION DATA FROM RW–31 APPEARS TO BE ANOMALOUS.

DRAFTED BY: J.C.W.	POTENTIOMETRIC SURFACE DEEP ZONE AQUIFER- 3RD QUARTER 2015
CHECKED BY: M.E.T.	POTOMAC RIVER GENERATING STATION 1400 NORTH ROYAL STREET ALEXANDRIA, VIRGINIA
REVIEWED BY: G.R.	Groundwater & Environmental Services, Inc. 1350 BLAIR DRIVE, SUITE A, ODENTON, MD 21113
NORTH	SCALE IN FEET 0 50 / DATE 10–22–15 / FIGURE 5

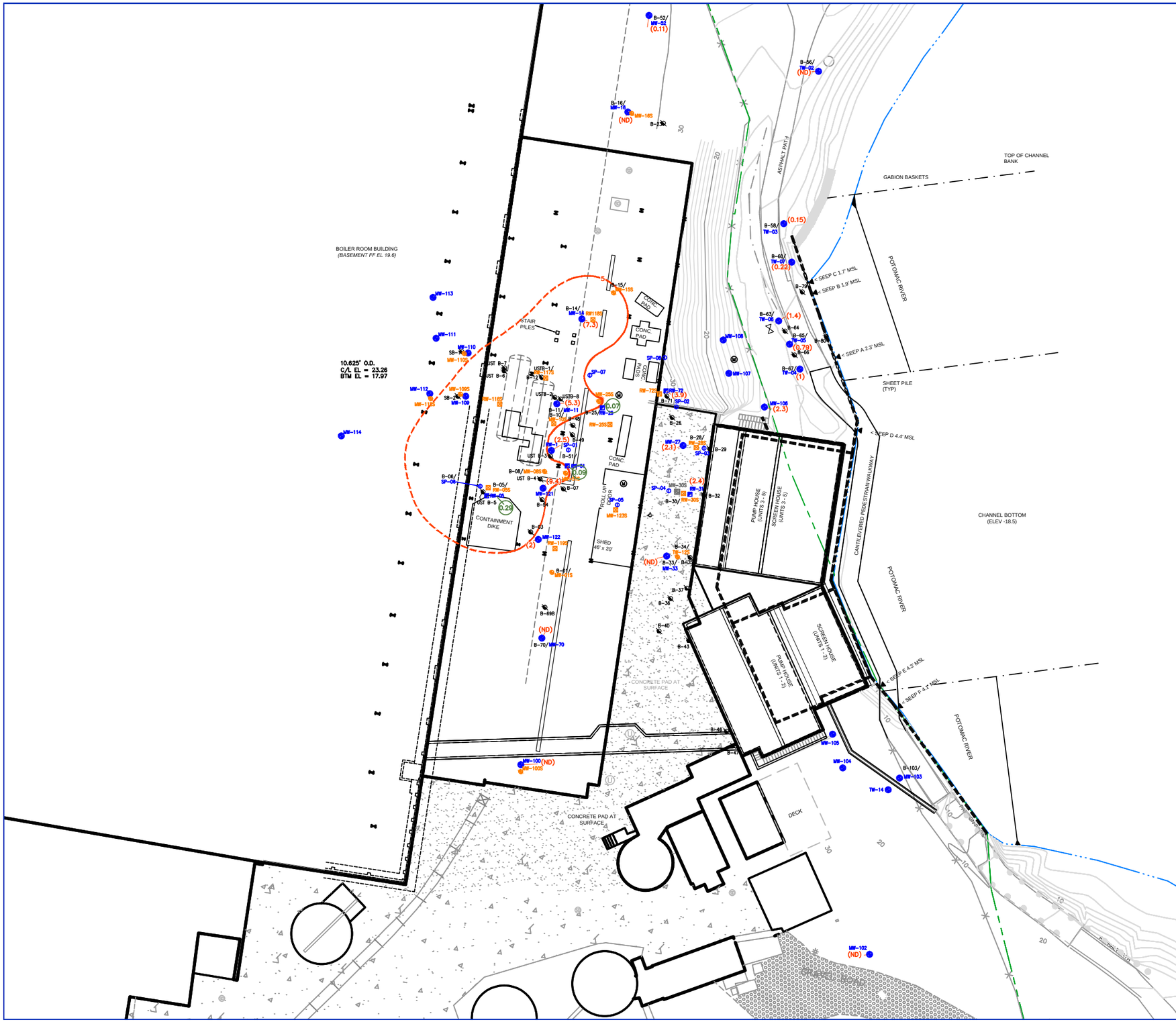


LEGEND

- FORMER RAILWAY TRACK
- STORM WATER CATCH BASIN
- UTILITY MANHOLE
- SEEP LOCATION
- DEEP BIOSPARGE WELL
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- DEEP PUMP & TREAT RECOVERY WELL
- SHALLOW TOTAL PHASE EXTRACTION WELL
- ABANDONED MONITORING WELL
- APPROXIMATE SOIL BORING LOCATION
- (0.18) MEASURED TPH–DRO CONCENTRATION
- 5 TPH–DRO CONCENTRATION ISOCONTOUR
- (0.06) LNAPL THICKNESS (ft)

NOTES:
1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER(MG/L)
2. ND INDICATES NON–DETECT
3. CONTOURS DASHED WHERE INFERRED

DRAFTED BY: J.C.W.	TPH-DRO CONCENTRATION CONTOURS SHALLOW ZONE AQUIFER - 3RD QUARTER 2015
CHECKED BY: M.E.T.	POTOMAC RIVER GENERATING STATION 1400 NORTH ROYAL STREET ALEXANDRIA, VIRGINIA
REVIEWED BY: G.R.	Groundwater & Environmental Services, Inc. 1350 BLAIR DRIVE, SUITE A, ODENTON, MD 21113
NORTH	SCALE IN FEET 0 50 / DATE 10–22–15 / FIGURE 6



LEGEND

- FORMER RAILWAY TRACK
- STORM WATER CATCH BASIN
- UTILITY MANHOLE
- SEEP LOCATION
- DEEP BIOSPARGE WELL
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- DEEP PUMP & TREAT RECOVERY WELL
- SHALLOW TOTAL PHASE EXTRACTION WELL
- ABANDONED MONITORING WELL
- APPROXIMATE SOIL BORING LOCATION

(0.18) MEASURED TPH–DRO CONCENTRATION

5 TPH–DRO CONCENTRATION ISOCONTOUR

0.06 LNAPL THICKNESS (ft)

NOTES:
1. ALL CONCENTRATIONS ARE IN MILLIGRAMS PER LITER(MG/L)
2. ND INDICATES NON–DETECT
3. CONTOURS DASHED WHERE INFERRED

DRAFTED BY: J.C.W.	TPH-DRO CONCENTRATION CONTOURS DEEP ZONE AQUIFER - 3RD QUARTER 2015
CHECKED BY: M.E.T.	POTOMAC RIVER GENERATING STATION 1400 NORTH ROYAL STREET ALEXANDRIA, VIRGINIA
REVIEWED BY: G.R.	Groundwater & Environmental Services, Inc. 1350 BLAIR DRIVE, SUITE A, ODENTON, MD 21113
NORTH	SCALE IN FEET 0 50 / DATE 10–22–15 / FIGURE 7

TABLES

Table 1

WELL NETWORK SUMMARY TABLE

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Well type	Aquifer Zone Designation	Date Installed	Well Diameter (in)	Total Depth of Well from Ground Surface (ft)	Length of Casing (ft)	Length of Screen (ft)	3rd Quarter 2015 Gauging Schedule	3rd Quarter 2015 VDEQ Sampling Parameters	Notes
MW-01S	MW	Shallow	7/29/2014	4	27	17	10	Weekly	TPH-DRO and biostimulation Parameters	
MW-05 / RW-05	P&T	Deep	8/1/2014	4	35	25	10	Weekly	TPH-DRO	
MW-08S	MW	Shallow	7/23/2014	4	25	15	10	Weekly	TPH-DRO	
MW-10S	MW	Shallow	7/28/2014	4	27	17	10	Weekly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	
MW-11	MW	Deep	7/24/2014	4	35	25	10	Quarterly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	
MW-14	MW	Deep	7/29/2014	4	38.5	28.5	10	Quarterly	TPH-DRO and biostimulation Parameters	
MW-15S	MW	Shallow	7/31/2014	4	26	16	10	Quarterly	TPH-DRO	
MW-16S	MW	Shallow	8/13/2014	2	25	15	10	Quarterly	TPH-DRO	
MW-16	MW	Deep	8/14/2014	2	36	26	10	Quarterly	TPH-DRO	
MW-25S	MW	Shallow	8/5/2014	4	26	16	10	Weekly	TPH-DRO	

Table 1

WELL NETWORK SUMMARY TABLE

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Well type	Aquifer Zone Designation	Date Installed	Well Diameter (in)	Total Depth of Well from Ground Surface (ft)	Length of Casing (ft)	Length of Screen (ft)	3rd Quarter 2015 Gauging Schedule	3rd Quarter 2015 VDEQ Sampling Parameters	Notes
MW-25 / RW-25	P&T	Deep	7/24/2014	4	35	25	10	Weekly	TPH-DRO	
MW-27	MW	Deep	7/21/2014	4	35	25	10	Weekly	TPH-DRO and VDEQ Annual Parameters	
MW-30S	MW	Shallow	8/7/2014	4	26	16	10	NA	NA	Abandoned 6/23/15 and replaced by RW-30S
MW-31 / RW-31	P&T	Deep	8/5/2014	4	36	26	10	Weekly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	
MW-33	MW	Deep	8/5/2014	4	35	25	10	Quarterly	TPH-DRO and biostimulation Parameters	
MW-51S	MW	Shallow	8/6/2014	4	25.5	15.5	10	Weekly	TPH-DRO and biostimulation Parameters	
MW-51 / RW-51	P&T	Deep	7/22/2014	4	37	27	10	Weekly	TPH-DRO	
MW-52	MW	Deep	8/14/2014	2	36	26	10	Quarterly	TPH-DRO	
MW-70	MW	Deep	8/13/2014	2	36	26	10	Quarterly	TPH-DRO and biostimulation Parameters	
MW-72S	MW	Shallow	8/7/2014	4	25	15	10	Quarterly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	

Table 1

WELL NETWORK SUMMARY TABLE

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Well type	Aquifer Zone Designation	Date Installed	Well Diameter (in)	Total Depth of Well from Ground Surface (ft)	Length of Casing (ft)	Length of Screen (ft)	3rd Quarter 2015 Gauging Schedule	3rd Quarter 2015 VDEQ Sampling Parameters	Notes
MW-72 / RW-72	P&T	Deep	7/30/2014	4	35	25	10	Quarterly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	
MW-100S	MW	Shallow	8/12/2014	2	24.5	14.5	10	Quarterly	TPH-DRO	
MW-100	MW	Deep	8/12/2014	2	37.5	27.5	10	Quarterly	TPH-DRO	
MW-102	MW	Deep	8/11/2014	2	37	27	10	Quarterly	TPH-DRO	
MW-103	MW	Shallow	7/23/2014	2	15	5	10	Quarterly	TPH-DRO	
MW-104	MW	Shallow	7/24/2014	2	12	2	10	Quarterly	TPH-DRO	
MW-105	MW	Shallow	7/24/2014	2	10	1	9	Quarterly	TPH-DRO	
MW-106	MW	Deep	7/22/2014	2	10	3	7	Quarterly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	
MW-107	MW	Deep	7/22/2014	2	11	3	8	Quarterly	TPH-DRO	
MW-108	MW	Deep	7/23/2014	2	10	4	6	Quarterly	TPH-DRO	

Table 1

WELL NETWORK SUMMARY TABLE

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Well type	Aquifer Zone Designation	Date Installed	Well Diameter (in)	Total Depth of Well from Ground Surface (ft)	Length of Casing (ft)	Length of Screen (ft)	3rd Quarter 2015 Gauging Schedule	3rd Quarter 2015 VDEQ Sampling Parameters	Notes
MW-109S	MW	Shallow	8/20/2014	4	13.5	3.5	10	Quarterly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	Discontinued weekly gauging due to asbestos within station basement
MW-109	MW	Deep	8/19/2014	4	24	14	10	Quarterly	TPH-DRO	
MW-110S	MW	Shallow	8/20/2014	4	13	3	10	Quarterly	TPH-DRO	
MW-110	MW	Deep	8/20/2014	4	24	14	10	Quarterly	TPH-DRO	
MW-111	MW	Deep	8/18/2014	2	22	12	10	Quarterly	TPH-DRO	
MW-112S	MW	Shallow	8/12/2014	4	13	3	10	Quarterly	TPH-DRO and biostimulation Parameters	
MW-112	MW	Deep	8/12/2014	4	24	14	10	Quarterly	TPH-DRO	
MW-113	MW	Deep	8/19/2014	2	23	13	10	Quarterly	TPH-DRO	
MW-114	MW	Deep	8/21/2014	2	23	13	10	Quarterly	TPH-DRO and biostimulation Parameters	
MW-121	MW	Deep	7/2/2015	4	37	27	10	Weekly	TPH-DRO	
MW-122	MW	Deep	6/24/2015	4	37	27	10	Weekly	TPH-DRO	

Table 1

WELL NETWORK SUMMARY TABLE

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Well type	Aquifer Zone Designation	Date Installed	Well Diameter (in)	Total Depth of Well from Ground Surface (ft)	Length of Casing (ft)	Length of Screen (ft)	3rd Quarter 2015 Gauging Schedule	3rd Quarter 2015 VDEQ Sampling Parameters	Notes
MW-123S	MW	Shallow	7/7/2015	4	25	21	4	Weekly	TPH-DRO	
TW-02	MW	Deep	12/12/2013	1	24	14	10	Quarterly	TPH-DRO	
TW-03	MW	Deep	12/12/2013	1	15	5	10	Quarterly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	
TW-04	MW	Deep	12/13/2013	1	15	5	10	Weekly	TPH-DRO	
TW-05	MW	Deep	12/13/2013	1	10	0	10	Weekly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	
TW-06	MW	Deep	12/13/2013	1	15	5	10	Weekly	TPH-DRO	
TW-07	MW	Deep	12/13/2013	1	15	5	10	Quarterly	TPH-DRO, biostimulation Parameters, and VDEQ Annual Parameters	
TW-12S	MW	Shallow	12/18/2013	1	25	15	10	Quarterly	TPH-DRO	
TW-14	MW	Shallow	1/15/2014	1	5.5	0.5	5	Quarterly	TPH-DRO	
RW-1	MW	Deep	10/2/2014	4	41	26	15	Quarterly	TPH-DRO	

Table 1

WELL NETWORK SUMMARY TABLE

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Well type	Aquifer Zone Designation	Date Installed	Well Diameter (in)	Total Depth of Well from Ground Surface (ft)	Length of Casing (ft)	Length of Screen (ft)	3rd Quarter 2015 Gauging Schedule	3rd Quarter 2015 VDEQ Sampling Parameters	Notes
RW-05S	TPE	Shallow	6/29/2015	4	26	21	5	Weekly	TPH-DRO	
RW-25S	TPE	Shallow	7/7/2015	4	25	20	5	Weekly	TPH-DRO	
RW-28S	TPE	Shallow	7/6/2015	4	27	22	5	Weekly	TPH-DRO	
RW-30S	TPE	Shallow	6/23/2015	4	29	24	5	Weekly	TPH-DRO	
RW-116S	TPE	Shallow	6/26/2015	4	26	21	5	Weekly	TPH-DRO	
RW-117S	TPE	Shallow	6/23/2015	4	25	20	5	Weekly	TPH-DRO	
RW-118S	TPE	Shallow	6/25/2015	4	25	20	5	Weekly	TPH-DRO	
RW-119S	TPE	Shallow	6/29/2015	4	26	21	5	Weekly	TPH-DRO	
SP-01	SP	Deep	10/2/2014	2	35	32	3	NA	NA	
SP-02	SP	Deep	9/30/2014	2	36	33	3	NA	NA	
SP-03	SP	Deep	6/30/2015	2	36	33	3	NA	NA	

Table 1

WELL NETWORK SUMMARY TABLE

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Well type	Aquifer Zone Designation	Date Installed	Well Diameter (in)	Total Depth of Well from Ground Surface (ft)	Length of Casing (ft)	Length of Screen (ft)	3rd Quarter 2015 Gauging Schedule	3rd Quarter 2015 VDEQ Sampling Parameters	Notes
SP-04	SP	Deep	7/1/2015	2	36	33	3	NA	NA	
SP-05	SP	Deep	7/8/2015	2	36	33	3	NA	NA	
SP-06	SP	Deep	6/30/2015	2	36	33	3	NA	NA	
SP-07	SP	Deep	6/25/2015	2	36	33	3	NA	NA	
SP-08	SP	Deep	7/8/2015	2	36	33	3	NA	NA	

Notes:

- = Not available
ft = Feet
in = Inches
NA = Not applicable
MW = Monitoring Well
TPE = Total Phase Extraction Wel
SP = Air Sparge Point
P&T = Pump and Treat
TPH-DRO = Total Petroleum Hydrocarbons - Diesel Range Organics
VDEQ = Virginia Department of Environmental Quality
DDOE = District Department of the Environment

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-01S	08/08/2014	NR	22.67	-	-	-	26.58	-	-	
	08/11/2014	NR	22.62	-	-	-	-	-	-	
	08/15/2014	NR	22.60	-	-	-	-	-	-	
	08/18/2014	NR	22.88	-	-	-	-	-	-	
	08/25/2014	30.87	22.27	-	-	-	-	8.60	-	
	09/02/2014	30.87	22.28	-	-	-	-	8.59	-	
	09/15/2014	30.87	22.61	-	-	-	-	8.26	-	
	09/22/2014	30.87	22.75	-	-	-	-	8.12	-	
	09/24/2014	30.87	22.95	-	-	-	-	7.92	-	
	10/01/2014	30.87	22.94	-	-	-	26.59	7.93	-	
	10/10/2014	30.87	23.06	-	-	-	-	7.81	-	
	10/20/2014	30.87	23.53	-	-	-	26.58	7.34	-	
	02/24/2015	30.87	25.89	25.74	0.15	-	26.65	4.98	15:24	LNAPL not manually bailed
	02/26/2015	30.87	25.61	25.51	0.10	-	-	5.26	16:10	LNAPL not manually bailed
	03/04/2015	30.87	25.63	25.52	0.11	-	-	5.24	14:21	LNAPL not manually bailed
	03/11/2015	30.87	25.51	25.39	0.12	-	-	5.36	13:00	LNAPL not manually bailed
	03/18/2015	30.87	25.14	25.03	0.11	-	-	5.73	11:19	LNAPL not manually bailed
	03/26/2015	30.87	25.07	24.98	0.09	-	26.60	5.80	10:35	LNAPL not manually bailed
	04/02/2015	30.87	25.06	24.96	0.10	-	26.60	5.81	11:33	LNAPL not manually bailed
	04/08/2015	30.87	25.10	24.96	0.14	-	26.64	5.77	9:27	LNAPL not manually bailed
	04/13/2015	30.87	24.92	24.83	0.09	-	-	5.95	10:35	LNAPL not manually bailed
	04/23/2015	30.87	24.38	24.35	0.03	-	26.55	6.49	12:04	LNAPL not manually bailed
	04/29/2015	30.87	24.38	24.34	0.04	-	26.60	6.49	14:29	LNAPL not manually bailed
	05/04/2015	30.87	24.32	24.28	0.04	-	-	6.55	11:55	LNAPL not manually bailed
	05/11/2015	30.87	24.37	24.31	0.06	-	-	6.50	10:55	LNAPL not manually bailed
	05/21/2015	30.87	24.46	24.41	0.05	-	-	6.41	12:15	LNAPL not manually bailed
	05/28/2015	30.87	24.65	24.54	0.11	-	26.55	6.22	11:50	LNAPL not manually bailed
	06/02/2015	30.87	24.52	24.46	0.06	-	-	6.35	13:16	LNAPL not manually bailed
	06/09/2015	30.87	24.12	24.10	0.02	-	-	6.75	10:43	LNAPL not manually bailed
	06/16/2015	30.87	24.05	24.04	0.01	-	-	6.82	11:37	LNAPL not manually bailed
	06/26/2015	30.87	23.72	-	-	-	26.50	7.15	10:43	LNAPL not manually bailed
	07/01/2015	30.87	23.25	23.24	0.01	-	-	7.62	12:34	LNAPL not manually bailed
	07/08/2015	30.87	22.93	TRACE	TRACE	TRACE	-	7.94	11:50	
	07/13/2015	30.87	22.72	-	-	-	-	8.15	9:42	
	07/20/2015	30.87	22.40	-	-	-	-	8.47	9:37	
	07/28/2015	30.87	22.43	-	-	-	26.69	8.44	10:56	
	08/04/2015	30.87	22.46	22.45	0.01	TRACE	26.56	8.41	10:35	
	08/11/2015	30.87	22.50	TRACE	TRACE	TRACE	26.61	8.37	10:39	
	08/18/2015	30.87	22.63	-	-	-	-	8.24	10:46	
	08/24/2015	30.87	22.69	-	-	-	-	8.18	10:43	
	09/02/2015	30.87	22.90	22.88	0.02	TRACE	26.62	7.97	9:32	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-01S (cont.)	09/09/2015	30.87	22.96	22.95	0.01	-	26.60	7.91	11:17	
	09/17/2015	30.87	23.19	23.18	0.01	-	26.62	7.68	10:58	
	09/23/2015	30.87	23.07	23.06	0.01	TRACE	-	7.80	11:01	
	09/28/2015	30.87	23.10	TRACE	TRACE	-	26.10	7.77	10:08	
TW-01	12/18/2013	38.31	31.38	-	-	-	-	6.93	-	
	01/08/2014	38.31	31.80	31.79	0.01	-	-	6.52	-	
	03/07/2014	38.31	30.41	-	-	-	-	7.90	-	
	03/13/2014	38.31	31.13	-	-	-	-	7.18	-	
	03/20/2014	38.31	30.36	-	-	-	-	7.95	-	
	03/27/2014	38.31	31.22	-	-	-	-	7.09	-	
	04/03/2014	38.31	30.36	-	-	-	-	7.95	-	
	04/08/2014	38.31	30.21	-	-	-	-	8.10	-	
	04/17/2014	38.31	31.02	-	-	-	-	7.29	-	
	04/22/2014	38.31	30.18	-	-	-	-	8.13	-	
	04/29/2014	38.31	30.22	-	-	-	-	8.09	-	
	05/05/2014	38.31	30.29	-	-	-	-	8.02	-	
	05/12/2014	38.31	30.28	-	-	-	-	8.03	-	
	05/19/2014	38.31	30.16	-	-	-	-	8.15	-	
	06/02/2014	38.31	30.17	-	-	-	-	8.14	-	
	06/09/2014	38.31	30.08	-	-	-	-	8.23	-	
	06/16/2014	38.31	30.23	-	-	-	-	8.08	-	
	06/23/2014	38.31	30.02	-	-	-	-	8.29	-	
	07/02/2014	38.31	29.98	-	-	-	-	8.33	-	
	07/07/2014	38.31	30.16	-	-	-	34.52	8.15	-	
	07/14/2014	38.31	29.89	-	-	-	-	8.42	-	
	07/31/2014	38.31	30.26	-	-	-	34.50	8.05	-	
	08/01/2014	Overdrilled and replaced with MW-05								
MW-05 / RW-05	08/08/2014	NR	25.41	-	-	-	33.94	-	-	
	08/11/2014	NR	25.16	-	-	-	-	-	-	
	08/15/2014	NR	24.98	-	-	-	-	-	-	
	08/16/2014	NR	24.84	24.80	0.04	NA	-	-	-	Transducers in well for pump test
	08/18/2014	NR	24.88	24.80	0.08	NA	-	-	-	Transducers in well for pump test
	08/25/2014	31.57	23.27	22.99	0.28	0.06	-	8.54	-	
	09/02/2014	31.57	23.62	23.07	0.55	0.31	-	8.43	-	
	09/15/2014	31.57	23.63	23.13	0.50	NR	-	8.38	-	
	09/19/2014	31.57	23.72	23.18	0.54	0.17	-	8.32	-	
	09/22/2014	31.57	23.25	22.97	0.28	0.06	-	8.56	-	
	09/24/2014	31.57	23.33	23.13	0.20	NR	-	8.41	-	HIT event
	10/01/2014	31.57	26.67	TRACE	TRACE	TRACE	31.94	4.90	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-05 / RW-05 (cont.)	10/10/2014	31.57	26.58	26.57	0.01	TRACE	-	4.99	-	
	10/13/2014	31.57	26.73	26.71	0.02	TRACE	-	4.86	-	
	10/20/2014	31.57	26.91	26.89	0.02	TRACE	-	4.68	-	
	10/27/2014	31.57	27.07	27.06	0.01	TRACE	-	4.51	-	
	11/07/2014	31.57	26.93	26.88	0.05	TRACE	-	4.68	-	
	11/12/2014	31.57	26.96	26.94	0.02	TRACE	-	4.63	-	
	11/21/2014	31.57	27.74	27.73	0.01	TRACE	-	3.84	-	
	11/26/2014	31.57	27.28	27.25	0.03	TRACE	-	4.32	-	
	12/05/2014	31.57	27.18	27.16	0.02	TRACE	-	4.41	-	
	12/11/2014	31.57	26.93	-	0.00	TRACE	-	4.64	-	
	12/16/2014	31.57	26.87	26.82	0.05	TRACE	-	4.74	-	
	12/23/2014	31.57	26.95	26.92	0.03	TRACE	-	4.62	-	
	12/30/2014	31.57	27.35	27.32	0.03	TRACE	-	4.22	-	
	01/09/2015	31.57	27.36	27.32	0.04	TRACE	-	4.21	-	
	01/16/2015	31.57	27.06	27.02	0.04	TRACE	-	4.51	-	
	01/19/2015	31.57	27.08	27.03	0.05	TRACE	-	4.49	-	
	01/26/2015	31.57	26.99	26.95	0.04	TRACE	-	4.58	-	
	02/03/2015	31.57	27.73	27.71	0.02	-	32.04	3.84	-	LNAPL not manually bailed
	02/09/2015	31.57	27.23	27.17	0.06	-	-	4.34	-	LNAPL not manually bailed
	02/18/2015	31.57	27.25	27.21	0.04	-	-	4.32	-	LNAPL not manually bailed
	02/24/2015	31.57	27.38	27.37	0.01	TRACE	-	4.19	13:51	
	03/04/2015	31.57	27.25	27.20	0.05	-	-	4.32	14:18	LNAPL not manually bailed
	03/11/2015	31.57	27.07	26.97	0.10	-	-	4.50	12:57	LNAPL not manually bailed
	03/18/2015	31.57	27.11	27.03	0.08	-	-	4.46	11:15	LNAPL not manually bailed
	03/26/2015	31.57	26.81	26.73	0.08	-	31.90	4.76	12:06	LNAPL not manually bailed
	04/02/2015	31.57	27.13	26.97	0.16	-	31.95	4.44	11:37	LNAPL not manually bailed
	04/08/2015	31.57	27.49	27.20	0.29	-	32.00	4.08	9:20	LNAPL not manually bailed
	04/13/2015	31.57	27.53	27.07	0.46	-	-	4.04	10:51	LNAPL not manually bailed
	04/23/2015	31.57	27.41	26.55	0.86	-	32.00	4.16	12:10	LNAPL not manually bailed
	04/29/2015	31.57	27.78	26.61	1.17	-	31.90	3.79	14:39	LNAPL not manually bailed
	05/04/2015	31.57	28.03	26.56	1.47	-	-	3.54	11:51	LNAPL not manually bailed
	05/11/2015	31.57	28.24	26.40	1.84	-	-	3.33	15:10	LNAPL not manually bailed
	05/13/2015	31.57	28.75	26.84	1.91	1.50	-	2.82	13:20	
	05/21/2015	31.57	26.87	26.78	0.09	-	-	4.70	12:48	LNAPL not manually bailed
	05/28/2015	31.57	28.45	27.00	1.45	-	32.00	3.12	11:54	LNAPL not manually bailed
	06/02/2015	31.57	28.52	26.62	1.90	-	-	3.05	13:11	LNAPL not manually bailed
	06/09/2015	31.57	28.67	26.12	2.55	-	-	2.90	10:55	LNAPL not manually bailed
	06/16/2015	31.57	29.17	25.86	3.31	-	-	2.40	11:48	LNAPL not manually bailed
	06/26/2015	31.57	28.51	25.55	2.96	-	32.00	3.06	10:50	LNAPL not manually bailed
	07/01/2015	31.57	27.93	24.65	3.28	-	-	3.64	12:39	LNAPL not manually bailed
	07/08/2015	31.57	27.50	23.75	3.75	-	-	4.07	8:00	Baildown test

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-05 / RW-05 (cont.)	07/13/2015	31.57	24.16	22.98	1.18	-	-	7.41	8:10	HIT event
	07/20/2015	31.57	23.03	22.69	0.34	0.09	-	8.54	9:56	
	07/28/2015	31.57	22.75	22.55	0.20	0.09	32.07	8.82	12:40	
	08/04/2015	31.57	22.92	22.63	0.29	0.06	-	8.65	12:31	
	08/11/2015	31.57	23.57	22.60	0.97	0.09	32.05	8.00	10:43	
	08/18/2015	31.57	23.74	23.02	0.72	0.38	-	7.83	10:56	
	08/21/2015	31.57	23.46	23.15	0.31	-	-	8.11	7:55	HIT event
	08/24/2015	31.57	23.88	23.86	0.02	TRACE	-	7.69	11:00	
	09/02/2015	31.57	24.72	24.44	0.28	0.05	32.04	6.85	11:00	
	09/09/2015	31.57	24.60	24.39	0.21	0.06	32.05	6.97	11:20	
	09/17/2015	31.57	24.83	24.36	0.47	0.07	32.08	6.74	11:00	
	09/23/2015	31.57	24.88	24.70	0.18	0.02	-	6.69	11:23	
	09/28/2015	31.57	24.50	24.48	0.02	0.04	31.94	7.07	10:05	
TW-09S	12/18/2013	36.65	DRY	-	-	-	-	-	-	
	01/08/2014	36.65	DRY	25.54	0.46	0.10	-	-	-	
	03/07/2014	36.65	24.71	24.70	0.01	-	-	11.95	-	
	03/13/2014	36.65	25.78	24.71	1.07	0.10	-	11.80	-	
	03/20/2014	36.65	DRY	25.65	0.50	0.10	-	-	-	
	03/27/2014	36.65	DRY	25.58	0.54	0.10	-	-	-	
	04/03/2014	36.65	23.37	23.18	0.19	0.10	-	13.45	-	
	04/08/2014	36.65	23.39	23.23	0.16	0.10	-	13.40	-	
	04/17/2014	36.65	23.72	23.66	0.06	-	-	12.98	-	
	04/22/2014	36.65	23.53	23.40	0.13	0.10	-	13.23	-	
	04/29/2014	36.65	23.76	23.68	0.08	-	-	12.96	-	
	05/05/2014	36.65	23.23	23.17	0.06	-	-	13.47	-	
	05/12/2014	36.65	23.25	23.23	0.02	-	-	13.42	-	
	05/19/2014	36.65	23.17	23.16	0.01	-	-	13.49	-	
	06/02/2014	36.65	23.19	-	-	-	-	13.46	-	
	06/09/2014	36.65	23.17	-	-	-	-	13.48	-	
	06/16/2014	36.65	23.13	-	-	-	-	13.52	-	
	06/23/2014	36.65	23.11	-	-	-	-	13.54	-	
	07/02/2014	36.65	23.03	TRACE	TRACE	TRACE	-	13.62	-	
	07/07/2014	36.65	23.01	-	-	-	26.15	13.64	-	
	07/14/2014	36.65	23.02	-	-	-	-	13.63	-	
	07/23/2014	Overdrilled and replaced with MW-08S								
MW-08S	07/24/2014	NR	26.59	-	-	-	-	-	-	
	07/31/2014	NR	22.08	-	-	-	24.35	-	-	
	08/08/2014	NR	21.33	-	-	-	24.64	-	-	
	08/11/2014	NR	21.42	-	-	-	-	-	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-08S (cont.)	08/15/2014	NR	21.41	-	-	-	-	-	-	
	08/18/2014	NR	21.46	-	-	-	-	-	-	
	08/25/2014	30.86	21.49	-	-	-	-	9.37	-	
	09/02/2014	30.86	21.45	-	-	-	-	9.41	-	
	09/15/2014	30.86	21.58	-	-	-	-	9.28	-	
	09/22/2014	30.86	21.67	-	-	-	-	9.19	-	
	09/24/2014	30.86	21.68	-	-	-	-	9.18	-	
	10/01/2014	30.86	21.67	-	-	-	24.66	9.19	-	
	10/10/2014	30.86	21.71	-	-	-	-	9.15	-	
	10/13/2014	30.86	21.72	-	-	-	-	9.14	-	
	10/20/2014	30.86	21.80	-	-	-	24.65	9.06	-	
	10/27/2014	30.86	21.88	-	-	-	-	8.98	-	
	11/07/2014	30.86	21.84	-	-	-	-	9.02	-	
	11/12/2014	30.86	21.94	-	-	-	-	8.92	-	
	11/21/2014	30.86	21.99	-	-	-	-	8.87	-	
	11/26/2014	30.86	22.01	-	-	-	-	8.85	-	
	12/05/2014	30.86	22.03	-	-	-	-	8.83	-	
	12/11/2014	30.86	22.03	-	-	-	-	8.83	-	
	12/16/2014	30.86	22.04	-	-	-	-	8.82	-	
	12/23/2014	30.86	22.07	-	-	-	-	8.79	-	
	12/30/2014	30.86	22.10	-	-	-	-	8.76	-	
	01/09/2015	30.86	22.12	-	-	-	-	8.74	-	
	01/16/2015	30.86	22.05	-	-	-	-	8.81	-	
	01/19/2015	30.86	22.01	-	-	-	-	8.85	-	
	01/26/2015	30.86	22.08	-	-	-	-	8.78	-	
	02/03/2015	30.86	22.15	-	-	-	24.72	8.71	-	
	02/09/2015	30.86	22.14	-	-	-	-	8.72	-	
	02/18/2015	30.86	22.15	-	-	-	-	8.71	-	
	02/24/2015	30.86	22.15	-	-	-	24.64	8.71	15:48	
	03/04/2015	30.86	21.34	-	-	-	-	9.52	14:15	
	03/11/2015	30.86	21.80	-	-	-	-	9.06	12:45	
	03/18/2015	30.86	21.88	-	-	-	-	8.98	11:05	
	03/26/2015	30.86	22.05	-	-	-	24.70	8.81	11:40	
	04/02/2015	30.86	22.03	-	-	-	24.60	8.83	11:25	
	04/08/2015	30.86	22.07	-	-	-	24.68	8.79	8:50	
	04/13/2015	30.86	22.08	-	-	-	-	8.78	10:41	
	04/23/2015	30.86	22.08	-	-	-	24.65	8.78	11:55	
	04/29/2015	30.86	22.09	-	-	-	24.60	8.77	14:22	
	05/04/2015	30.86	22.09	-	-	-	-	8.77	11:39	
	05/11/2015	30.86	22.10	-	-	-	24.70	8.76	9:50	
	05/21/2015	30.86	22.05	-	-	-	24.65	8.81	12:22	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-08S (cont.)	05/28/2015	30.86	22.11	-	-	-	24.60	8.75	11:45	
	06/02/2015	30.86	22.06	-	-	-	-	8.80	13:04	
	06/09/2015	30.86	22.05	-	-	-	-	8.81	10:30	
	06/16/2015	30.86	22.05	-	-	-	-	8.81	11:24	
	06/26/2015	30.86	21.98	-	-	-	24.50	8.88	10:40	
	07/01/2015	30.86	22.02	-	-	-	-	8.84	12:15	
	07/08/2015	30.86	22.01	-	-	-	-	8.85	11:18	
	07/13/2015	30.86	21.95	-	-	-	-	8.91	9:26	
	07/20/2015	30.86	21.75	-	-	-	-	9.11	9:16	
	07/28/2015	30.86	21.08	-	-	-	24.75	9.78	11:46	
	07/28/2015	30.86	21.08	-	-	-	24.75	9.78	11:46	
	08/04/2015	30.86	21.05	-	-	-	24.30	9.81	9:39	
	08/11/2015	30.86	21.15	-	-	-	24.69	9.71	10:18	
	08/18/2015	30.86	21.24	-	-	-	-	9.62	10:16	
	08/24/2015	30.86	21.32	-	-	-	-	9.54	10:26	
	09/02/2015	30.86	21.32	-	-	-	24.66	9.54	11:10	
	09/09/2015	30.86	21.50	-	-	-	24.71	9.36	10:15	
	09/17/2015	30.86	21.61	-	-	-	24.74	9.25	10:17	
	09/23/2015	30.86	21.63	-	-	-	-	9.23	10:40	
	09/28/2015	30.86	21.68	-	-	-	24.69	9.18	9:22	
MW-10S	08/08/2014	NR	22.40	-	-	-	26.51	-	-	
	08/11/2014	NR	22.41	-	-	-	-	-	-	
	08/15/2014	NR	22.02	-	-	-	-	-	-	
	08/18/2014	NR	22.03	-	-	-	-	-	-	
	08/25/2014	31.24	22.06	-	-	-	-	9.18	-	
	09/02/2014	31.24	22.11	-	-	-	-	9.13	-	
	09/15/2014	31.24	22.15	-	-	-	-	9.09	-	
	09/22/2014	31.24	22.18	-	-	-	-	9.06	-	
	09/24/2014	31.24	22.19	-	-	-	-	9.05	-	HIT event
	10/01/2014	31.24	22.22	-	-	-	26.09	9.02	-	
	10/10/2014	31.24	22.18	TRACE	TRACE	-	-	9.06	-	
	10/13/2014	31.24	22.21	-	-	-	-	9.03	-	
	10/20/2014	31.24	22.35	-	-	-	26.10	8.89	-	
	10/27/2014	31.24	22.32	-	-	-	-	8.92	-	
	11/07/2014	31.24	22.30	-	-	-	-	8.94	-	
	11/12/2014	31.24	22.32	-	-	-	-	8.92	-	
	11/21/2014	31.24	22.38	-	-	-	-	8.86	-	
	11/26/2014	31.24	22.35	-	-	-	-	8.89	-	
	12/05/2014	31.24	22.40	22.38	0.02	TRACE	-	8.84	-	
	12/11/2014	31.24	22.33	TRACE	TRACE	-	-	8.91	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-10S (cont.)	12/16/2014	31.24	22.36	TRACE	TRACE	-	-	8.88	-	
	12/23/2014	31.24	22.37	-	-	-	-	8.87	-	
	12/30/2014	31.24	22.42	TRACE	TRACE	-	-	8.82	-	
	01/09/2015	31.24	22.44	22.43	0.01	TRACE	-	8.80	-	
	01/16/2015	31.24	22.41	22.40	0.01	TRACE	-	8.83	-	
	01/19/2015	31.24	22.43	22.42	0.01	TRACE	-	8.81	-	
	01/26/2015	31.24	22.23	22.22	0.01	TRACE	-	9.01	-	
	02/03/2015	31.24	22.50	-	-	-	26.11	8.74	-	
	02/09/2015	31.24	22.43	22.42	0.01	-	-	8.81	-	LNAPL not manually bailed
	02/18/2015	31.24	22.44	22.43	0.01	-	-	8.80	-	LNAPL not manually bailed
	02/24/2015	31.24	22.50	22.49	0.01	-	26.11	8.74	15:44	LNAPL not manually bailed
	03/04/2015	31.24	22.50	22.48	0.02	-	-	8.74	14:28	LNAPL not manually bailed
	03/11/2015	31.24	22.51	22.48	0.03	-	-	8.73	12:54	LNAPL not manually bailed
	03/18/2015	31.24	22.56	22.52	0.04	-	-	8.68	11:23	LNAPL not manually bailed
	03/26/2015	31.24	22.53	22.50	0.03	-	26.10	8.71	11:27	LNAPL not manually bailed
	04/02/2015	31.24	22.55	22.51	0.04	-	26.05	8.69	11:52	LNAPL not manually bailed
	04/08/2015	31.24	22.53	22.52	0.01	-	26.10	8.71	9:05	LNAPL not manually bailed
	04/13/2015	31.24	22.56	22.53	0.03	-	-	8.68	10:59	LNAPL not manually bailed
	04/23/2015	31.24	22.53	22.51	0.02	-	26.05	8.71	12:22	LNAPL not manually bailed
	04/29/2015	31.24	23.53	23.50	0.03	-	26.00	7.71	14:43	LNAPL not manually bailed
	05/04/2015	31.24	22.57	22.54	0.03	-	-	8.67	11:59	LNAPL not manually bailed
	05/11/2015	31.24	22.86	22.84	0.02	-	26.10	8.38	10:00	LNAPL not manually bailed
	05/21/2015	31.24	22.59	22.56	0.03	-	-	8.65	12:46	LNAPL not manually bailed
	05/28/2015	31.24	22.60	22.56	0.04	-	26.00	8.64	12:01	LNAPL not manually bailed
	06/02/2015	31.24	22.60	22.56	0.04	-	-	8.64	13:20	LNAPL not manually bailed
	06/09/2015	31.24	22.54	22.53	0.01	-	-	8.70	10:40	LNAPL not manually bailed
	06/19/2015	31.24	22.54	22.53	0.01	-	-	8.70	11:34	LNAPL not manually bailed
	06/26/2015	31.24	22.61	22.54	0.07	-	26.00	8.63	11:26	LNAPL not manually bailed
	07/01/2015	31.24	22.58	22.52	0.06	-	-	8.66	12:26	LNAPL not manually bailed
	07/08/2015	31.24	22.54	22.49	0.05	TRACE	-	8.70	11:57	LNAPL not manually bailed
	07/13/2015	31.24	21.96	-	-	-	-	9.28	9:44	
	07/20/2015	31.24	21.48	-	-	-	-	9.76	9:13	
	07/28/2015	31.24	21.36	-	-	-	26.11	9.88	10:39	
	08/05/2015	31.24	21.51	21.42	0.09	-	-	9.73	9:24	
	08/11/2015	31.24	21.49	TRACE	TRACE	TRACE	26.15	9.75	10:22	
	08/18/2015	31.24	21.76	21.59	0.17	0.02	-	9.48	10:40	
	08/24/2015	31.24	21.80	21.68	0.12	0.01	-	9.44	10:50	
	09/02/2015	31.24	21.95	21.81	0.14	0.01	26.10	9.29	10:00	
	09/09/2015	31.24	22.05	21.91	0.14	0.02	26.11	9.19	11:08	
	09/17/2015	31.24	22.10	22.00	0.10	TRACE	-	9.14	10:35	
	09/23/2015	31.24	22.06	22.02	0.04	TRACE	-	9.18	11:10	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-10S (cont.)	09/28/2015	31.24	22.14	22.07	0.07	TRACE	26.10	9.10	10:00	
MW-11	07/25/2014	NR	26.90	-	-	-	33.40	-	-	
	08/08/2014	NR	26.76	-	-	-	34.00	-	-	
	08/11/2014	NR	26.57	-	-	-	-	-	-	
	08/15/2014	NR	27.15	-	-	-	-	-	-	
	08/16/2014	NR	26.81	-	-	-	34.00	-	-	
	08/18/2014	NR	26.77	-	-	-	-	-	-	
	08/25/2014	30.85	26.43	-	-	-	-	4.42	-	
	09/02/2014	30.85	26.83	-	-	-	-	4.02	-	
	09/15/2014	30.85	26.75	-	-	-	-	4.10	-	
	09/22/2014	30.85	26.64	-	-	-	-	4.21	-	
	09/24/2014	30.85	27.08	-	-	-	-	3.77	-	
	10/01/2014	30.85	26.87	-	-	-	34.02	3.98	-	
	10/13/2014	30.85	26.86	-	-	-	-	3.99	-	
	10/20/2014	30.85	26.96	-	-	-	33.99	3.89	-	
	02/24/2015	30.85	27.03	-	-	-		3.82	13:39	
	02/26/2015	30.85	27.07	-	-	-	34.00	3.78	10:18	
	03/04/2015	30.85	26.95	-	-	-	-	3.90	14:09	
	03/11/2015	30.85	26.58	-	-	-	-	4.27	12:39	
	03/18/2015	30.85	26.74	-	-	-	-	4.11	10:59	
	03/26/2015	30.85	26.56	-	-	-	33.90	4.29	11:22	
	04/02/2015	30.85	26.69	-	-	-	33.90	4.16	11:12	
	04/08/2015	30.85	27.00	-	-	-	33.82	3.85	9:25	
	04/13/2015	30.85	26.88	-	-	-	-	3.97	10:32	
	04/23/2015	30.85	26.40	-	-	-	33.85	4.45	11:40	
	04/29/2015	30.85	26.56	-	-	-	33.80	4.29	14:09	
	05/04/2015	30.85	26.39	-	-	-		4.46	11:33	
	05/11/2015	30.85	26.35	-	-	-	33.80	4.50	15:05	
	05/21/2015	30.85	26.88	-	-	-	33.90	3.97	12:12	
	05/28/2015	30.85	26.83	-	-	-	33.80	4.02	11:38	
	06/02/2015	30.85	26.50	-	-	-	-	4.35	12:58	
	06/09/2015	30.85	26.23	-	-	-	-	4.62	10:24	
	06/16/2015	30.85	26.28	-	-	-	-	4.57	11:18	
	06/26/2015	30.85	26.22	-	-	-	33.80	4.63	10:32	
	07/01/2015	30.85	25.73	-	-	-	-	5.12	12:09	
	08/04/2015	30.85	25.94	-	-	-	33.86	4.91	12:13	
	08/05/2015	30.85	26.31	-	-	-	33.84	4.54	8:46	
	09/28/2015	30.85	25.92	25.90	0.02	-	33.92	4.93	9:58	
TW-13	12/18/2013	36.99	30.09	-	-	-	-	6.90	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-13 (cont.)	01/08/2014	36.99	30.45	-	-	-	-	6.54	-	
	03/07/2014	36.99	29.11	-	-	-	-	7.88	-	
	03/13/2014	36.99	29.91	-	-	-	-	7.08	-	
	03/20/2014	36.99	29.09	-	-	-	-	7.90	-	
	03/27/2014	36.99	29.98	-	-	-	-	7.01	-	
	04/03/2014	36.99	29.05	-	-	-	-	7.94	-	
	04/08/2014	36.99	29.98	-	-	-	-	7.01	-	
	04/17/2014	36.99	29.62	-	-	-	-	7.37	-	
	04/22/2014	36.99	28.93	-	-	-	-	8.06	-	
	04/29/2014	36.99	28.90	-	-	-	-	8.09	-	
	05/05/2014	36.99	29.95	-	-	-	-	7.04	-	
	05/12/2014	36.99	28.91	-	-	-	-	8.08	-	
	05/19/2014	36.99	28.87	-	-	-	-	8.12	-	
	06/02/2014	36.99	28.86	-	-	-	-	8.13	-	
	06/09/2014	36.99	28.73	-	-	-	-	8.26	-	
	06/16/2014	36.99	28.88	-	-	-	-	8.11	-	
	06/23/2014	36.99	28.65	-	-	-	-	8.34	-	
	07/02/2014	36.99	28.69	-	-	-	-	8.30	-	
	07/07/2014	36.99	28.91	-	-	-	35.02	8.08	-	
	07/14/2014	36.99	28.58	-	-	-	-	8.41	-	
	07/29/2014	Overdrilled and replaced with MW-14								
MW-14	07/31/2014	NR	28.04	-	-	-	38.15	-	-	
	08/08/2014	NR	28.21	-	-	-	38.14	-	-	
	08/11/2014	NR	27.81	-	-	-	-	-	-	
	08/15/2014	NR	27.43	-	-	-	-	-	-	
	08/18/2014	NR	27.17	-	-	-	-	-	-	
	08/25/2014	31.22	26.83	-	-	-	-	4.39	-	
	09/02/2014	31.22	27.25	-	-	-	-	3.97	-	
	09/15/2014	31.22	27.15	-	-	-	-	4.07	-	
	09/22/2014	31.22	27.04	-	-	-	-	4.18	-	
	10/01/2014	31.22	27.23	-	-	-	37.28	3.99	-	
	10/13/2014	31.22	27.25	TRACE	TRACE	-	-	3.97	-	
	10/20/2014	31.22	27.32	-	-	-	37.30	3.90	-	
	02/24/2015	31.22	27.42	-	-	-	37.31	3.80	13:40	
	02/25/2015	31.22	27.46	-	-	-	37.31	3.76	10:47	
	03/04/2015	31.22	27.39	-	-	-	-	3.83	14:06	
	03/11/2015	31.22	26.94	-	-	-	-	4.28	12:36	
	03/18/2015	31.22	27.13	-	-	-	-	4.09	10:56	
	03/26/2015	31.22	26.92	-	-	-	37.30	4.30	11:19	
	04/02/2015	31.22	27.04	-	-	-	37.25	4.18	11:08	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-14 (cont.)	04/08/2015	31.22	27.30	-	-	-	37.21	3.92	9:26	
	04/13/2015	31.22	27.30	-	-	-	-	3.92	10:55	
	04/23/2015	31.22	26.72	-	-	-	37.25	4.50	11:37	
	04/29/2015	31.22	26.94	-	-	-	37.25	4.28	14:06	
	05/04/2015	31.22	26.77	-	-	-		4.45	11:30	
	05/11/2015	31.22	26.71	-	-	-	37.37	4.51	14:52	
	05/12/2015	31.22	27.08	-	-	-		4.14	12:15	
	05/21/2015	31.22	26.93	-	-	-	37.33	4.29	12:10	
	05/28/2015	31.22	27.25	-	-	-	37.25	3.97	11:36	
	06/02/2015	31.22	26.92	-	-	-	-	4.30	12:55	
	06/09/2015	31.22	26.67	-	-	-	-	4.55	10:21	
	06/16/2015	31.22	26.73	-	-	-	-	4.49	11:15	
	06/26/2015	31.22	26.65	-	-	-	37.30	4.57	10:30	
	07/01/2015	31.22	26.12	-	-	-	-	5.10	12:06	
	08/04/2015	31.22	26.26	-	-	-	37.28	4.96	12:09	
	08/05/2015	31.22	26.75	SHEEN	-	-	37.27	4.47	8:50	
MW-15S	08/08/2014	NR	26.11	-	-	-	26.20	-	-	
	08/11/2014	NR	26.11	-	-	-	-	-	-	
	08/15/2014	NR	24.00	-	-	-	-	-	-	
	08/18/2014	NR	24.67	-	-	-	-	-	-	
	08/25/2014	31.03	24.82	-	-	-	-	6.21	-	
	09/02/2014	31.03	24.82	-	-	-	-	6.21	-	
	09/15/2014	31.03	24.96	-	-	-	-	6.07	-	
	09/22/2014	31.03	25.06	-	-	-	-	5.97	-	
	10/01/2014	31.03	25.20	-	-	-	25.88	5.83	-	
	10/13/2014	31.03	26.37	-	-	-	-	4.66	-	
	10/20/2014	31.03	25.45	-	-	-	25.90	5.58	-	
	05/11/2015	31.03	25.33	-	-	-	26.00	5.70	9:10	
	05/12/2015	31.03	25.35	-	-	-	-	5.68	12:10	
	08/04/2015	31.03	22.16	-	-	-	25.90	8.87	9:47	
MW-16S	08/15/2014	31.03	24.13	-	-	-	24.61	-	-	
	08/16/2014	31.03	24.12	-	-	-	24.48	-	-	
	08/18/2014	31.03	24.13	-	-	-	-	-	-	
	08/25/2014	31.03	24.24	-	-	-	-	6.79	-	
	09/02/2014	31.03	DRY	-	-	-	24.65	-	-	
	09/15/2014	31.03	DRY	-	-	-	24.64	-	-	
	09/22/2014	31.03	DRY	-	-	-	-	-	-	
	10/01/2014	31.03	DRY	-	-	-	24.64	-	-	
	10/10/2014	31.03	DRY	-	-	-	-	-	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-16S (cont.)	10/20/2014	31.03	DRY	-	-	-	24.64	-	-	
	02/24/2015	31.03	DRY	-	-	-	24.70	-	15:36	
	05/11/2015	31.03	DRY	-	-	-	24.70	-	10:15	
	08/04/2015	31.03	22.63	-	-	-	24.62	8.40	9:54	
MW-16	08/15/2014	NR	26.78	-	-	-	35.74	-	-	
	08/18/2014	NR	26.73	-	-	-	-	-	-	
	08/25/2014	30.97	26.55	-	-	-	-	4.42	-	
	09/02/2014	30.97	26.91	-	-	-	-	4.06	-	
	09/15/2014	30.97	26.76	-	-	-	-	4.21	-	
	09/22/2014	30.97	26.80	-	-	-	-	4.17	-	
	10/01/2014	30.97	26.95	-	-	-	35.53	4.02	-	
	10/10/2014	30.97	26.85	-	-	-	-	4.12	-	
	10/20/2014	30.97	27.19	-	-	-	35.61	3.78	-	
	02/24/2015	30.97	27.25	-	-	-	35.61	3.72	13:34	
	02/25/2015	30.97	27.23	-	-	-	35.62	3.74	11:14	
	05/11/2015	30.97	26.43	-	-	-	35.60	4.54	14:50	
	05/12/2015	30.97	26.90	-	-	-	-	4.07	9:52	
	08/04/2015	30.97	24.75	-	-	-	35.55	6.22	12:06	
	08/05/2015	30.97	25.04	-	-	-	35.53	5.93	9:51	
MW-25S	08/08/2014	NR	23.64	-	-	-	25.80	-	-	
	08/11/2014	NR	22.35	-	-	-	-	-	-	
	08/15/2014	NR	21.94	-	-	-	-	-	-	
	08/18/2014	NR	21.95	-	-	-	-	-	-	
	08/25/2014	31.07	21.98	-	-	-	-	9.09	-	
	09/02/2014	31.07	21.99	-	-	-	-	9.08	-	
	09/15/2014	31.07	22.04	-	-	-	-	9.03	-	
	09/22/2014	31.07	22.50	-	-	-	-	8.57	-	
	09/24/2014	31.07	22.12	TRACE	TRACE	-	-	8.95	-	
	10/01/2014	31.07	22.07	-	-	-	25.47	9.00	-	
	10/10/2014	31.07	22.09	TRACE	TRACE	-	-	8.98	-	
	10/13/2014	31.07	22.13	22.11	0.02	TRACE	-	8.96	-	
	10/20/2014	31.07	22.19	22.18	0.01	TRACE	-	8.89	-	
	10/27/2014	31.07	22.10	22.09	0.01	TRACE	-	8.98	-	
	10/27/2014	31.07	22.10	22.09	0.01	TRACE	-	8.98	-	
	11/07/2014	31.07	22.08	22.07	0.01	TRACE	-	9.00	-	
	11/12/2014	31.07	22.28	22.10	0.18	0.06	-	8.95	-	
	11/21/2014	31.07	22.43	22.18	0.25	0.09	-	8.86	-	
	11/26/2014	31.07	22.37	22.17	0.20	0.06	-	8.87	-	
	12/05/2014	31.07	22.57	22.20	0.37	-	25.50	8.50	-	HIT event

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-25S (cont.)	12/11/2014	31.07	22.22	22.21	0.01	TRACE	-	8.85	-	
	12/16/2014	31.07	22.38	22.11	0.27	0.03	-	8.69	-	
	12/23/2014	31.07	22.43	22.13	0.30	0.05	-	8.64	-	
	12/30/2014	31.07	22.50	22.20	0.30	0.04	-	8.83	-	
	01/09/2015	31.07	22.49	22.19	0.30	-	-	8.84	-	HIT event
	01/16/2015	31.07	22.60	22.48	0.12	0.01	-	8.57	-	
	01/19/2015	31.07	22.34	22.25	0.09	0.01	-	8.81	-	
	01/26/2015	31.07	22.30	22.16	0.14	0.02		8.89	-	
	02/03/2015	31.07	22.25	-	-	-	25.50	8.82	-	
	02/09/2015	31.07	22.31	22.14	0.17	-	-	8.76	-	LNAPL not manually bailed
	02/18/2015	31.07	22.37	22.18	0.19	-	-	8.70	-	LNAPL not manually bailed
	02/24/2015	31.07	22.59	22.28	0.31	-	-	8.48	14:03	LNAPL not manually bailed
	03/04/2015	31.07	22.48	22.30	0.18	-	-	8.59	14:31	LNAPL not manually bailed
	03/11/2015	31.07	22.50	22.30	0.20	-	-	8.57	13:04	LNAPL not manually bailed
	03/18/2015	31.07	22.46	22.23	0.23	-	-	8.61	11:26	LNAPL not manually bailed
	03/26/2015	31.07	22.35	22.17	0.18	-	25.50	8.72	11:59	LNAPL not manually bailed
	04/02/2015	31.07	22.40	22.18	0.22	-	25.45	8.67	12:06	LNAPL not manually bailed
	04/08/2015	31.07	22.40	22.08	0.32	-	25.47	8.67	9:15	LNAPL not manually bailed
	04/13/2015	31.07	22.50	22.22	0.28	-	-	8.57	11:03	LNAPL not manually bailed
	04/23/2015	31.07	22.39	22.16	0.23	-	25.50	8.68	12:25	LNAPL not manually bailed
	04/29/2015	31.07	22.35	22.12	0.23	-	25.50	8.72	14:48	LNAPL not manually bailed
	05/04/2015	31.07	22.47	22.19	0.28	-	-	8.60	12:04	LNAPL not manually bailed
	05/11/2015	31.07	22.45	22.20	0.25	-	-	8.62	11:00	LNAPL not manually bailed
	05/21/2015	31.07	22.40	22.23	0.17	-	-	8.67	12:53	LNAPL not manually bailed
	05/28/2015	31.07	22.60	22.27	0.33	-	25.50	8.47	12:06	LNAPL not manually bailed
	06/02/2015	31.07	22.53	22.25	0.28	-	-	8.54	13:24	LNAPL not manually bailed
	06/09/2015	31.07	22.38	22.16	0.22	-	-	8.69	10:46	LNAPL not manually bailed
	06/16/2015	31.07	22.37	22.13	0.24	-	-	8.70	11:40	LNAPL not manually bailed
	06/26/2015	31.07	22.35	22.12	0.23	-	25.40	8.72	11:28	LNAPL not manually bailed
	07/01/2015	31.07	22.23	22.04	0.19	-	-	8.84	12:18	LNAPL not manually bailed
	07/08/2015	31.07	22.08	21.88	0.20	0.04	-	8.99	12:04	
	07/13/2015	31.07	21.89	21.74	0.15	-	-	9.18	9:48	HIT event
	07/20/2015	31.07	21.37	21.33	0.04	TRACE	-	9.70	9:43	
	07/28/2015	31.07	21.20	-	-	-	25.49	9.87	12:25	
	08/04/2015	31.07	21.28	21.24	TRACE	TRACE	-	9.79	12:22	
	08/11/2015	31.07	21.37	21.36	0.01	0.01	25.49	9.70	11:22	
	08/18/2015	31.07	21.51	21.46	0.05	TRACE	-	9.56	10:50	
	08/24/2015	31.07	21.60	21.54	0.06	TRACE	-	9.47	10:53	
	09/02/2015	31.07	21.76	21.69	0.07	0.01	25.47	9.31	10:31	
	09/09/2015	31.07	21.81	21.77	0.04	0.01	25.49	9.26	10:50	
	09/17/2015	31.07	21.92	21.89	0.03	0.01	25.52	9.15	10:37	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-25S (cont.)	09/23/2015	31.07	21.92	21.89	0.03	TRACE	-	9.15	11:14	
	09/28/2015	31.07	21.96	21.92	0.04	TRACE	25.48	9.11	9:49	
MW-25 / RW-25	08/08/2014	NR	27.97	27.60	0.37	0.08	36.69	-	-	
	08/11/2014	NR	27.61	27.37	0.24	NA	-	-	-	Transducers in well for pump test
	08/15/2014	NR	28.11	28.05	0.06	NA	-	-	-	Transducers in well for pump test
	08/16/2014	NR	27.81	27.75	0.06	NA	-	-	-	Transducers in well for pump test
	08/18/2014	NR	27.94	27.71	0.23	NA	-	-	-	Transducers in well for pump test
	08/25/2014	31.13	26.89	26.74	0.15	0.05	-	4.37	-	
	09/02/2014	31.13	27.77	27.03	0.74	0.50	-	4.00	-	
	09/15/2014	31.13	27.69	26.87	0.82	NR	-	4.15	-	
	09/19/2014	31.13	28.10	26.95	1.15	0.93	-	4.03	-	
	09/22/2014	31.13	27.53	26.91	0.62	0.38	-	4.14	-	
	09/24/2014	31.13	27.73	27.23	0.50	NR	-	3.84	-	HIT event
	10/01/2014	31.13	27.47	27.02	0.45	0.19	35.90	4.05	-	
	10/10/2014	31.13	27.65	26.91	0.74	0.50	-	4.12	-	
	10/13/2014	31.13	27.60	27.03	0.57	NR	-	4.03	-	
	10/20/2014	31.13	27.49	27.19	0.30	0.13	-	3.90	-	
	10/27/2014	31.13	27.87	27.25	0.62	NR	-	3.80	-	HIT event
	11/07/2014	31.13	27.53	27.08	0.45	0.19	-	3.99	-	
	11/12/2014	31.13	27.50	27.07	0.43	0.19	-	4.00	-	
	11/21/2014	31.13	28.53	27.81	0.72	0.16	-	3.23	-	
	11/26/2014	31.13	27.70	27.23	0.47	0.19	-	3.84	-	
	12/05/2014	31.13	27.63	27.15	0.48	-	35.87	3.50	-	HIT event
	12/11/2014	31.13	27.31	26.98	0.33	0.06	-	3.82	-	
	12/16/2014	31.13	27.27	27.04	0.23	0.03	-	3.86	-	
	12/23/2014	31.13	27.20	26.95	0.25	0.04	-	3.93	-	
	12/30/2014	31.13	28.02	27.33	0.69	0.28	-	3.11	-	
	01/09/2015	31.13	27.80	27.38	0.42	-	-	3.33	-	HIT event
	01/16/2015	31.13	27.24	27.16	0.08	0.00	-	3.89	-	
	01/19/2015	31.13	27.28	26.97	0.31	0.06	-	3.85	-	
	01/26/2015	31.13	27.27	26.98	0.29	0.05	-	3.86	-	
	02/03/2015	31.13	28.10	27.52	0.58	-	35.86	3.03	-	LNAPL not manually bailed
	02/09/2015	31.13	27.43	27.06	0.37	-	-	3.70	-	LNAPL not manually bailed
	02/18/2015	31.13	27.63	27.24	0.39	-	-	3.50	-	LNAPL not manually bailed
	02/24/2015	31.13	27.68	27.18	0.50	-	-	3.45	14:00	LNAPL not manually bailed
	03/04/2015	31.13	27.85	27.19	0.66	-	-	3.28	14:35	LNAPL not manually bailed
	03/11/2015	31.13	27.27	26.76	0.51	-	-	3.86	13:08	LNAPL not manually bailed
	03/18/2015	31.13	27.63	26.93	0.70	-	-	3.50	11:30	LNAPL not manually bailed
	03/26/2015	31.13	27.31	26.70	0.61	-	35.90	3.82	12:03	LNAPL not manually bailed
	04/02/2015	31.13	27.60	26.85	0.75	-	35.80	3.53	12:09	LNAPL not manually bailed

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-25 / RW-25 (cont.)	04/08/2015	31.13	28.00	27.15	0.85	-	35.90	3.13	9:10	LNAPL not manually bailed
	04/13/2015	31.13	27.98	27.05	0.93	-	-	3.15	11:06	LNAPL not manually bailed
	04/23/2015	31.13	27.21	26.47	0.74	-	35.90	3.92	12:28	LNAPL not manually bailed
	04/29/2015	31.13	27.50	26.67	0.83	-	35.90	3.63	14:52	LNAPL not manually bailed
	05/04/2015	31.13	27.37	26.57	0.80	-	-	3.76	12:08	LNAPL not manually bailed
	05/11/2015	31.13	27.50	27.43	0.07	-	-	3.63	15:10	LNAPL not manually bailed
	05/13/2015	31.13	28.31	27.19	1.12	1.50	-	2.82	12:53	
	05/21/2015	31.13	26.85	26.82	0.03	-	-	4.28	12:50	LNAPL not manually bailed
	05/28/2015	31.13	27.55	27.09	0.46	-	35.80	3.58	12:10	LNAPL not manually bailed
	06/02/2015	31.13	27.10	26.74	0.36	-	-	4.03	13:28	LNAPL not manually bailed
	06/09/2015	31.13	26.91	26.46	0.45	-	-	4.22	10:50	LNAPL not manually bailed
	06/16/2015	31.13	26.86	26.56	0.30	-	-	4.27	11:43	LNAPL not manually bailed
	06/26/2015	31.13	26.91	26.48	0.43	-	35.80	4.22	11:31	LNAPL not manually bailed
	07/01/2015	31.13	26.43	25.98	0.45	-	-	4.70	12:22	LNAPL not manually bailed
	07/08/2015	31.13	26.63	26.13	0.50	0.25	-	4.50	12:00	
	07/13/2015	31.13	26.13	25.89	0.24	-	-	5.00	9:50	HIT event
	07/20/2015	31.13	26.23	TRACE	TRACE	TRACE	-	4.90	9:48	
	07/28/2015	31.13	26.37	26.23	0.14	TRACE	36.00	4.76	12:10	
	08/04/2015	31.13	26.27	26.20	0.07	0.02	-	4.86	12:25	
	08/11/2015	31.13	26.05	25.90	0.15	0.03	35.88	5.08	11:19	
	08/18/2015	31.13	26.52	26.42	0.10	0.01	-	4.61	10:53	
	08/24/2015	31.13	26.55	26.33	0.22	0.02	-	4.58	10:56	
	09/02/2015	31.13	26.80	26.62	0.18	0.02	35.92	4.33	10:28	
	09/09/2015	31.13	26.51	26.45	0.06	0.02	35.93	4.62	10:42	
	09/17/2015	31.13	26.73	26.53	0.20	0.04	35.95	4.40	10:48	
	09/23/2015	31.13	26.82	26.63	0.19	0.02	-	4.31	11:18	
	09/28/2015	31.13	26.34	26.31	0.03	0.01	35.89	4.79	9:51	
TW-10	12/18/2013	37.28	30.31	-	-	-	-	6.97	-	
	01/08/2014	37.28	30.56	-	-	-	-	6.72	-	
	03/07/2014	37.28	29.70	-	-	-	-	7.58	-	
	03/13/2014	37.28	30.08	-	-	-	-	7.20	-	
	03/20/2014	37.28	29.22	-	-	-	-	8.06	-	
	03/27/2014	37.28	30.13	-	-	-	-	7.15	-	
	04/03/2014	37.28	29.08	-	-	-	-	8.20	-	
	04/08/2014	37.28	29.14	-	-	-	-	8.14	-	
	04/17/2014	37.28	29.66	-	-	-	-	7.62	-	
	04/22/2014	37.28	29.12	-	-	-	-	8.16	-	
	04/29/2014	37.28	28.96	-	-	-	-	8.32	-	
	05/05/2014	37.28	29.22	-	-	-	-	8.06	-	
	05/12/2014	37.28	29.06	-	-	-	-	8.22	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-10 (cont.)	05/19/2014	37.28	29.02	-	-	-	-	8.26	-	
	06/02/2014	37.28	28.99	-	-	-	-	8.29	-	
	06/09/2014	37.28	28.89	-	-	-	-	8.39	-	
	06/16/2014	37.28	29.02	-	-	-	-	8.26	-	
	06/23/2014	37.28	28.86	-	-	-	-	8.42	-	
	07/02/2014	37.28	28.87	-	-	-	-	8.41	-	
	07/07/2014	37.28	29.12	-	-	-	36.47	8.16	-	
	07/14/2014	37.28	28.68	-	-	-	-	8.60	-	
	07/21/2014	Overdrilled and replaced with MW-27								
MW-27	07/24/2014	NR	27.59	-	-	-	-	-	-	
	07/31/2014	NR	27.58	-	-	-	34.47	-	-	
	08/08/2014	NR	27.69	-	-	-	34.46	-	-	
	08/11/2014	NR	27.33	-	-	-	-	-	-	
	08/15/2014	NR	27.90	-	-	-	-	-	-	
	08/16/2014	NR	27.65	-	-	-	34.48	-	-	
	08/18/2014	NR	27.62	-	-	-	-	-	-	
	08/25/2014	31.43	27.09	-	-	-	-	4.34	-	
	09/02/2014	31.43	27.52	-	-	-	-	3.91	-	
	09/15/2014	31.43	27.38	-	-	-	-	4.05	-	
	09/22/2014	31.43	27.24	-	-	-	-	4.19	-	
	10/01/2014	31.43	27.44	-	-	-	34.27	3.99	-	
	10/10/2014	31.43	27.24	-	-	-	-	4.19	-	
	10/20/2014	31.43	27.59	-	-	-	34.13	3.84	-	
	10/27/2014	31.43	27.66	-	-	-	-	3.77	-	
	11/07/2014	31.43	27.43	-	-	-	-	4.00	-	
	11/12/2014	31.43	27.43	-	-	-	-	4.00	-	
	11/21/2014	31.43	28.23	-	-	-	-	3.20	-	
	11/26/2014	31.43	27.64	-	-	-	-	3.79	-	
	12/05/2014	31.43	27.50	-	-	-	-	3.93	-	
	12/11/2014	31.43	27.38	-	-	-	-	4.05	-	
	12/16/2014	31.43	27.34	-	-	-	-	4.09	-	
	12/23/2014	31.43	27.22	-	-	-	-	4.21	-	
	12/30/2014	31.43	27.80	-	-	-	-	3.63	-	
	01/09/2015	31.43	27.59	-	-	-	-	3.84	-	
	01/16/2015	31.43	27.46	-	-	-	-	3.97	-	
	01/19/2015	31.43	27.38	-	-	-	-	4.05	-	
	01/26/2015	31.43	27.40	-	-	-	-	4.03	-	
	02/03/2015	31.43	28.01	-	-	-	34.05	3.42	-	
	02/09/2015	31.43	27.43	-	-	-	-	4.00	-	
	02/18/2015	31.43	27.52	-	-	-	-	3.91	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-27 (cont.)	02/24/2015	31.43	26.61	-	-	-	-	4.82	13:15	
	02/25/2015	31.43	27.45	-	-	-	34.06	3.98	13:38	
	03/04/2015	31.43	27.63	-	-	-	-	3.80	13:59	
	03/11/2015	31.43	27.11	-	-	-	-	4.32	12:26	
	03/18/2015	31.43	27.36	-	-	-	-	4.07	10:49	
	03/26/2015	31.43	27.20	-	-	-	34.00	4.23	10:50	
	04/02/2015	31.43	27.28	-	-	-	34.05	4.15	11:15	
	04/08/2015	31.43	27.55	-	-	-	34.04	3.88	9:30	
	04/13/2015	31.43	27.53	-	-	-	-	3.90	10:14	
	04/23/2015	31.43	26.92	-	-	-	34.05	4.51	11:33	
	04/29/2015	31.43	27.18	-	-	-	34.05	4.25	13:52	
	05/04/2015	31.43	26.96	-	-	-	-	4.47	11:26	
	05/11/2015	31.43	26.86	-	-	-	34.04	4.57	15:15	
	05/13/2015	31.43	27.55	-	-	-	-	3.88	9:52	
	05/21/2015	31.43	27.12	-	-	-	34.12	4.31	12:02	
	05/28/2015	31.43	27.51	-	-	-	34.00	3.92	11:25	
	06/02/2015	31.43	27.11	-	-	-	-	4.32	12:45	
	06/09/2015	31.43	26.92	-	-	-	-	4.51	10:11	
	06/16/2015	31.43	26.86	-	-	-	-	4.57	11:05	
	06/26/2015	31.43	26.87	-	-	-	34.00	4.56	10:15	
	07/01/2015	31.43	26.38	-	-	-	-	5.05	11:57	
	07/08/2015	31.43	26.64	-	-	-	-	4.79	10:45	
	07/13/2015	31.43	26.19	-	-	-	-	5.24	9:10	
	07/20/2015	31.43	26.51	-	-	-	-	4.92	8:52	
	07/28/2015	31.43	26.55	-	-	-	34.13	4.88	9:56	
	08/04/2015	31.43	26.58	-	-	-	34.05	4.85	12:05	
	08/05/2015	31.43	27.06	TRACE	TRACE	TRACE	34.07	4.37	8:16	
	08/11/2015	31.43	26.16	TRACE	TRACE	TRACE	34.03	5.27	9:38	
	08/18/2015	31.43	26.77	-	-	-	-	4.66	10:03	
	08/24/2015	31.43	26.75	-	-	-	-	4.68	10:06	
	09/02/2015	31.43	27.09	TRACE	TRACE	TRACE	34.08	4.34	9:08	
	09/09/2015	31.43	26.82	TRACE	TRACE	TRACE	34.05	4.61	9:57	
	09/17/2015	31.43	27.16	-	-	-	34.08	4.27	10:07	
	09/23/2015	31.43	27.03	-	-	-	-	4.40	10:24	
	09/28/2015	31.43	26.52	-	-	-	34.09	4.91	9:42	
MW-30S	08/08/2014	NR	23.31	-	-	-	25.28	-	-	
	08/11/2014	NR	23.33	-	-	-	-	-	-	
	08/15/2014	NR	24.84	-	-	-	-	-	-	
	08/18/2014	NR	24.84	-	-	-	-	-	-	
	08/25/2014	30.67	24.79	-	-	-	-	5.88	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-30S (cont.)	09/02/2014	30.67	24.83	-	-	-	-	5.84	-	
	09/15/2014	30.67	24.85	-	-	-	-	5.82	-	
	09/22/2014	30.67	24.88	-	-	-	-	5.79	-	
	10/01/2014	30.67	24.88	-	-	-	25.28	5.79	-	
	10/10/2014	30.67	24.87	-	-	-	-	5.80	-	
	10/20/2014	30.67	24.77	-	-	-	25.29	5.90	-	
	10/27/2014	30.67	24.78	-	-	-	-	5.89	-	
	11/07/2014	30.67	24.85	-	-	-	-	5.82	-	
	11/12/2014	30.67	24.87	-	-	-	-	5.80	-	
	11/21/2014	30.67	24.94	-	-	-	-	5.73	-	
	11/26/2014	30.67	24.93	-	-	-	-	5.74	-	
	12/05/2014	30.67	24.92	-	-	-	-	5.75	-	
	12/11/2014	30.67	24.72	-	-	-	-	5.95	-	
	12/16/2014	30.67	24.74	-	-	-	-	5.93	-	
	12/23/2014	30.67	24.70	-	-	-	-	5.97	-	
	12/30/2014	30.67	24.68	-	-	-	-	5.99	-	
	01/09/2015	30.67	24.66	-	-	-	-	6.01	-	
	01/16/2015	30.67	24.62	-	-	-	-	6.05	-	
	01/19/2015	30.67	24.60	-	-	-	-	6.07	-	
	01/26/2015	30.67	24.48	-	-	-	-	6.19	-	
	02/03/2015	30.67	24.56	-	-	-	25.34	6.11	-	
	02/09/2015	30.67	24.57	-	-	-	-	6.10	-	
	02/18/2015	30.67	24.63	-	-	-	-	6.04	-	
	02/24/2015	30.67	24.24	-	-	-	25.31	6.43	15:32	
	02/25/2015	30.67	24.10	-	-	-	25.31	6.57	13:10	
	03/04/2015	30.67	24.20	-	-	-	-	6.47	14:04	
	03/11/2015	30.67	24.20	-	-	-	-	6.47	12:32	
	03/18/2015	30.67	24.22	-	-	-	-	6.45	10:55	
	03/26/2015	30.67	24.32	-	-	-	25.30	6.35	10:42	
	04/02/2015	30.67	24.27	-	-	-	25.30	6.40	11:02	
	04/08/2015	30.67	24.30	-	-	-	25.29	6.37	9:31	
	04/13/2015	30.67	24.31	-	-	-	-	6.36	10:28	
	04/23/2015	30.67	DRY	-	-	-	25.28	-	11:23	
	04/29/2015	30.67	24.27	-	-	-	25.25	6.40	13:38	
	05/04/2015	30.67	24.32	-	-	-	-	6.35	11:23	
	05/11/2015	30.67	24.41	-	-	-	25.20	6.26	10:50	
	05/13/2015	30.67	24.41	-	-	-	-	6.26	9:50	
	05/21/2015	30.67	24.68	-	-	-	25.15	5.99	12:04	
	05/28/2015	30.67	24.67	-	-	-	25.28	6.00	11:21	
	06/02/2015	30.67	24.55	-	-	-	-	6.12	12:51	
	06/09/2015	30.67	24.30	-	-	-	-	6.37	10:17	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-30S (cont.)	06/16/2015	30.67	24.33	-	-	-	-	6.34	11:08	
	06/22/2015	Destroyed during overdrilling activities; replaced with RW-30S								
TW-11	12/18/2013	37.39	26.40	-	-	-	-	10.99	-	
	01/08/2014	37.39	27.73	-	-	-	-	9.66	-	
	03/07/2014	37.39	29.17	-	-	-	-	8.22	-	
	03/13/2014	37.39	27.56	-	-	-	-	9.83	-	
	03/20/2014	37.39	27.15	-	-	-	-	10.24	-	
	03/27/2014	37.39	27.40	-	-	-	-	9.99	-	
	04/03/2014	37.39	26.28	26.26	0.02	0.10	-	11.12	-	
	04/08/2014	37.39	26.52	-	-	-	-	10.87	-	
	04/17/2014	37.39	26.85	-	-	-	-	10.54	-	
	04/22/2014	37.39	27.09	-	-	-	-	10.30	-	
	04/29/2014	37.39	27.39	-	-	-	-	10.00	-	
	05/05/2014	37.39	26.26	26.24	0.02	-	-	11.15	-	
	05/12/2014	37.39	26.97	-	-	-	-	10.42	-	
	05/19/2014	37.39	25.91	25.90	0.01	-	-	11.49	-	
	06/02/2014	37.39	26.32	26.31	0.01	-	-	11.08	-	
	06/09/2014	37.39	25.23	-	-	-	-	12.16	-	
	06/16/2014	37.39	25.35	25.36	0.01	-	-	12.05	-	
	06/23/2014	37.39	26.55	-	-	-	-	10.84	-	
	07/02/2014	37.39	26.91	TRACE	TRACE	-	-	10.48	-	
	07/07/2014	37.39	27.08	-	-	-	37.10	10.31	-	
	07/14/2014	37.39	26.95	TRACE	TRACE	-	-	10.44	-	
	07/24/2014	37.39	26.88	-	-	-	-	10.51	-	
	07/31/2014	37.39	27.10	-	-	-	37.02	10.29	-	
	08/05/2014	Overdrilled and replaced with MW-31								
MW-31 / RW-31 (cont.)	08/08/2014	NR	27.31	-	-	-	36.35	-	-	
	08/11/2014	NR	26.88	-	-	-	-	-	-	
	08/15/2014	NR	27.00	-	-	-	-	-	-	
	08/16/2014	NR	26.92	-	-	-	35.00	-	-	
	08/18/2014	NR	27.11	-	-	-	-	-	-	
	08/25/2014	31.23	26.90	-	-	-	-	4.33	-	
	09/02/2014	31.23	27.31	-	-	-	-	3.92	-	
	09/15/2014	31.23	27.18	-	-	-	-	4.05	-	
	09/22/2014	31.23	27.05	-	-	-	-	4.18	-	
	10/01/2014	31.23	27.21	-	-	-	35.50	4.02	-	
	10/10/2014	31.23	27.02	-	-	-	-	4.21	-	
	10/20/2014	31.23	27.40	-	-	-	35.50	3.83	-	
	10/27/2014	31.23	27.43	-	-	-	-	3.80	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-31 / RW-31 (cont.)	11/07/2014	31.23	24.23	-	-	-	-	7.00	-	
	11/12/2014	31.23	27.18	-	-	-	-	4.05	-	
	11/21/2014	31.23	28.03	-	-	-	-	3.20	-	
	11/26/2014	31.23	27.39	-	-	-	-	3.84	-	
	12/05/2014	31.23	27.33	-	-	-	-	3.90	-	
	12/11/2014	31.23	27.14	-	-	-	-	4.09	-	
	12/16/2014	31.23	27.15	-	-	-	-	4.08	-	
	12/23/2014	31.23	27.02	-	-	-	-	4.21	-	
	12/30/2014	31.23	27.61	-	-	-	-	3.62	-	
	01/09/2015	31.23	27.42	-	-	-	-	3.81	-	
	01/16/2015	31.23	27.26	-	-	-	-	3.97	-	
	01/19/2015	31.23	27.20	-	-	-	-	4.03	-	
	01/26/2015	31.23	27.18	-	-	-	-	4.05	-	
	02/03/2015	31.23	27.81	-	-	-	35.49	3.42	-	
	02/09/2015	31.23	27.18	-	-	-	-	4.05	-	
	02/18/2015	31.23	27.34	-	-	-	-	3.89	-	
	02/24/2015	31.23	27.27	-	-	-	-	3.96	13:09	
	02/25/2015	31.23	27.50	-	-	-	35.52	3.73	10:28	
	03/04/2015	31.23	27.45	-	-	-	-	3.78	14:02	
	03/11/2015	31.23	26.78	-	-	-	-	4.45	12:29	
	03/18/2015	31.23	27.13	-	-	-	-	4.10	10:52	
	03/26/2015	31.23	26.99	-	-	-	35.50	4.24	10:46	
	04/02/2015	31.23	27.04	-	-	-	35.45	4.19	11:04	
	04/08/2015	31.23	27.27	-	-	-	35.42	3.96	9:32	
	04/13/2015	31.23	27.35	-	-	-	-	3.88	10:25	
	04/23/2015	31.23	26.67	-	-	-	35.45	4.56	11:27	
	04/29/2015	31.23	26.97	-	-	-	35.40	4.26	13:34	
	05/04/2015	31.23	26.75	-	-	-	-	4.48	11:20	
	05/11/2015	31.23	26.65	-	-	-	35.40	4.58	14:55	
	05/13/2015	31.23	27.35	-	-	-	-	3.88	9:47	
	05/21/2015	31.23	26.87	-	-	-	35.50	4.36	12:06	
	05/28/2015	31.23	27.31	-	-	-	35.40	3.92	11:23	
	06/02/2015	31.23	26.87	-	-	-	-	4.36	12:48	
	06/09/2015	31.23	26.71	-	-	-	-	4.52	10:14	
	06/16/2015	31.23	26.68	-	-	-	-	4.55	11:11	
	06/26/2015	31.23	26.58	-	-	-	35.20	4.65	9:20	
	07/01/2015	31.23	26.02	-	-	-	-	5.21	12:00	
	07/08/2015	31.23	26.26	-	-	-	-	4.97	10:48	
	07/13/2015	31.23	25.88	-	-	-	-	5.35	9:13	
	07/20/2015	31.23	26.22	-	-	-	-	5.01	8:58	
	07/28/2015	31.23	26.31	-	-	-	35.56	4.92	10:22	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-31 / RW-31 (cont.)	08/04/2015	31.23	29.82	-	-	-	35.42	1.41	12:09	
	08/05/2015	31.23	26.78	-	-	-	35.47	4.45	8:22	
	08/11/2015	31.23	25.93	-	-	-	35.43	5.30	9:48	
	08/18/2015	31.23	26.56	-	-	-	-	4.67	9:56	
	08/24/2015	31.23	26.55	-	-	-	-	4.68	10:00	
	09/02/2015	31.23	26.87	-	-	-	35.42	4.36	9:20	
	09/09/2015	31.23	26.61	-	-	-	35.47	4.62	10:03	
	09/17/2015	31.23	26.96	-	-	-	35.50	4.27	10:01	
	09/23/2015	31.23	26.82	-	-	-	-	4.41	10:18	
	09/28/2015	31.23	26.29	-	-	-	35.44	4.94	9:35	
MW-33	08/08/2014	NR	27.91	-	-	-	35.41	-	-	
	08/11/2014	NR	27.41	-	-	-	-	-	-	
	08/15/2014	NR	26.98	-	-	-	34.45	-	-	
	08/18/2014	NR	26.76	-	-	-	-	-	-	
	08/25/2014	30.93	26.47	-	-	-	-	4.46	-	
	09/02/2014	30.93	26.87	-	-	-	-	4.06	-	
	09/15/2014	30.93	26.73	-	-	-	-	4.20	-	
	09/22/2014	30.93	26.59	-	-	-	-	4.34	-	
	10/01/2014	30.93	26.79	-	-	-	34.47	4.14	-	
	10/10/2014	30.93	26.60	-	-	-	-	4.33	-	
	10/20/2014	30.93	26.96	-	-	-	34.47	3.97	-	
	02/24/2015	30.93	26.99	-	-	-	-	3.94	13:05	
	02/25/2015	30.93	27.03	-	-	-	34.45	3.90	10:08	
	05/11/2015	30.93	26.22	-	-	-	34.40	4.71	14:54	
	05/13/2015	30.93	26.90	-	-	-	34.40	4.03	9:45	
	08/04/2015	30.93	25.91	-	-	-	34.39	5.02	12:14	
	08/05/2015	30.93	26.43	-	-	-	34.42	4.50	8:26	
MW-51S	08/08/2014	NR	21.15	-	-	-	25.27	-	-	
	08/11/2014	NR	21.27	-	-	-	-	-	-	
	08/15/2014	NR	21.17	-	-	-	25.30	-	-	
	08/18/2014	NR	21.23	-	-	-	-	-	-	
	08/25/2014	30.81	21.34	-	-	-	-	9.47	-	
	09/02/2014	30.81	21.38	-	-	-	-	9.43	-	
	09/15/2014	30.81	21.46	-	-	-	-	9.35	-	
	09/22/2014	30.81	21.48	-	-	-	-	9.33	-	
	09/24/2014	30.81	21.49	-	-	-	-	9.32	-	
	10/01/2014	30.81	21.32	TRACE	TRACE	-	25.30	9.49	-	
	10/10/2014	30.81	21.53	-	-	-	-	9.28	-	
	10/13/2014	30.81	21.52	-	-	-	-	9.29	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-51S (cont.)	10/20/2014	30.81	21.58	-	-	-	25.33	9.23	-	
	10/27/2014	30.81	21.64	-	-	-	-	9.17	-	
	11/07/2014	30.81	21.53	-	-	-	-	9.28	-	
	11/12/2014	30.81	21.66	-	-	-	-	9.15	-	
	11/21/2014	30.81	21.73	-	-	-	-	9.08	-	
	12/05/2014	30.81	21.64	-	-	-	-	9.17	-	
	12/11/2014	30.81	21.72	-	-	-	-	9.09	-	
	12/16/2014	30.81	21.78	-	-	-	-	9.03	-	
	12/23/2014	30.81	21.83	-	-	-	-	8.98	-	
	12/30/2014	30.81	21.87	-	-	-	-	8.94	-	
	01/09/2015	30.81	21.89	-	-	-	-	8.92	-	
	01/16/2015	30.81	21.80	-	-	-	-	9.01	-	
	01/19/2015	30.81	21.87	-	-	-	-	8.94	-	
	01/26/2015	30.81	21.82	-	-	-	-	8.99	-	
	02/03/2015	30.81	22.00	-	-	-	25.21	8.81	-	
	02/09/2015	30.81	21.92	-	-	-	-	8.89	-	
	02/18/2015	30.81	21.92	-	-	-	-	8.89	-	
	02/24/2015	30.81	21.96	-	-	-	25.33	8.85	16:00	
	03/11/2015	30.81	21.67	-	-	-	-	9.14	12:48	
	03/18/2015	30.81	21.71	-	-	-	-	9.10	11:08	
	03/26/2015	30.81	21.76	-	-	-	25.30	9.05	11:45	
	04/02/2015	30.81	21.80	-	-	-	25.30	9.01	11:27	
	04/08/2015	30.81	21.75	-	-	-	25.19	9.06	8:55	
	04/13/2015	30.81	21.87	-	-	-	-	8.94	10:44	
	04/23/2015	30.81	21.89	-	-	-	25.25	8.92	11:59	
	04/29/2015	30.81	21.88	-	-	-	25.25	8.93	14:26	
	05/04/2015	30.81	21.89	-	-	-	-	8.92	11:43	
	05/11/2015	30.81	21.93	-	-	-	24.50	8.88	10:45	
	05/13/2015	30.81	21.95	-	-	-	-	8.86	10:00	
	05/21/2015	30.81	21.68	-	-	-	25.35	9.13	12:12	
	05/28/2015	30.81	21.93	-	-	-	25.30	8.88	11:47	
	06/09/2015	30.81	21.85	-	-	-	-	8.96	10:34	
	06/16/2015	30.81	21.79	-	-	-	-	9.02	11:27	
	06/26/2015	30.81	21.62	-	-	-	-	9.19	10:35	
	07/08/2015	30.81	21.33	-	-	-	-	9.48	11:40	
	07/13/2015	30.81	21.62	-	-	-	-	9.19	9:41	
	07/20/2015	30.81	21.57	-	-	-	-	9.24	9:19	
	07/28/2015	30.81	21.37	-	-	-	25.35	9.44	11:29	
	08/04/2015	30.81	21.21	-	-	-	25.30	9.60	12:02	
	08/05/2015	30.81	21.25	-	-	-	25.30	9.56	9:12	
	08/11/2015	30.81	21.28	-	-	-	25.31	9.53	10:14	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-51S (cont.)	08/18/2015	30.81	21.22	-	-	-	-	9.59	10:19	
	08/24/2015	30.81	21.27	-	-	-	-	9.54	10:30	
	09/02/2015	30.81	21.35	-	-	-	25.30	9.46	9:54	
	09/09/2015	30.81	21.42	-	-	-	25.32	9.39	10:32	
	09/17/2015	30.81	21.52	-	-	-	25.43	9.29	10:32	
	09/23/2015	30.81	21.48	-	-	-	-	9.33	10:53	
	09/28/2015	30.81	21.56	-	-	-	25.30	9.25	9:44	
MW-51 / RW-51	07/25/2014	NR	27.25	-	-	-	35.95	-	-	
	08/08/2014	NR	27.00	TRACE	TRACE	-	36.48	-	-	
	08/11/2014	NR	26.70	-	-	-	-	-	-	
	08/15/2014	NR	27.30	-	-	-	-	-	-	
	08/16/2014	NR	26.99	TRACE	TRACE	-	34.65	-	-	
	08/18/2014	NR	26.94	TRACE	TRACE	-	-	-	-	
	08/25/2014	30.97	26.59	TRACE	TRACE	-	-	4.38	-	
	09/02/2014	30.97	26.93	TRACE	TRACE	-	-	4.04	-	
	09/15/2014	30.97	26.88	26.85	0.03	TRACE	-	4.12	-	
	09/22/2014	30.97	26.83	26.80	0.03	TRACE	-	4.17	-	
	09/24/2014	30.97	27.19	27.15	0.04	-	-	3.81	-	
	10/01/2014	30.97	26.93	TRACE	TRACE	-	36.15	4.04	-	
	10/10/2014	30.97	26.84	26.81	0.03	-	-	4.16	-	
	10/13/2014	30.97	27.01	26.94	0.07	-	-	4.02	-	
	10/20/2014	30.97	27.05	27.03	0.02	TRACE	-	3.94	-	
	10/27/2014	30.97	27.16	27.12	0.04	TRACE	-	3.84	-	
	11/07/2014	30.97	27.11	27.07	0.04	TRACE	-	3.89	-	
	11/12/2014	30.97	26.92	26.90	0.02	TRACE	-	4.07	-	
	11/21/2014	30.97	27.57	27.50	0.07	TRACE	-	3.46	-	
	11/26/2014	30.97	27.20	27.17	0.03	TRACE	-	3.80	-	
	12/05/2014	30.97	26.98	26.96	0.02	TRACE	-	3.99	-	
	12/11/2014	30.97	26.88	26.87	0.01	TRACE	-	4.09	-	
	12/16/2014	30.97	26.83	26.80	0.03	TRACE	-	4.14	-	
	12/23/2014	30.97	26.83	TRACE	TRACE	TRACE	-	4.14	-	
	12/30/2014	30.97	27.28	27.22	0.06	TRACE	-	3.69	-	
	01/09/2015	30.97	27.20	27.15	0.05	TRACE	-	3.77	-	
	01/16/2015	30.97	26.95	26.91	0.04	TRACE	-	4.02	-	
	01/19/2015	30.97	26.88	26.83	0.05	TRACE	-	4.09	-	
	01/26/2015	30.97	26.98	26.92	0.06	TRACE	-	3.99	-	
	02/03/2015	30.97	27.52	27.45	0.07	-	36.15	3.45	-	LNAPL not manually bailed
	02/09/2015	30.97	26.93	26.91	0.02	-	-	4.04	-	LNAPL not manually bailed
	02/18/2015	30.97	27.07	27.02	0.05	-	-	3.90	-	LNAPL not manually bailed
	02/24/2015	30.97	27.07	27.06	0.01	TRACE	-	3.90	13:46	LNAPL not manually bailed

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-51 / RW-51 (cont.)	03/04/2015	30.97	27.24	27.17	0.07	-	-	3.73	14:25	LNAPL not manually bailed
	03/11/2015	30.97	26.68	26.65	0.03	-	-	4.29	12:51	LNAPL not manually bailed
	03/18/2015	30.97	26.94	26.84	0.10	-	-	4.03	11:11	LNAPL not manually bailed
	03/26/2015	30.97	26.74	26.60	0.14	-	36.10	4.23	11:50	LNAPL not manually bailed
	04/02/2015	30.97	27.78	27.75	0.03	-	36.05	3.19	11:46	LNAPL not manually bailed
	04/08/2015	30.97	27.15	27.02	0.13	-	36.11	3.82	9:00	LNAPL not manually bailed
	04/13/2015	30.97	27.09	26.98	0.11	-	-	3.88	10:47	LNAPL not manually bailed
	04/23/2015	30.97	26.42	26.35	0.07	-	36.05	4.55	12:17	LNAPL not manually bailed
	04/29/2015	30.97	26.71	26.60	0.11	-	36.00	4.26	14:39	LNAPL not manually bailed
	05/04/2015	30.97	26.54	26.48	0.06	-	-	4.43	11:46	LNAPL not manually bailed
	05/11/2015	30.97	26.44	26.40	0.04	-	-	4.53	15:00	LNAPL not manually bailed
	05/13/2015	30.97	27.31	27.10	0.21	0.03	-	3.66	12:35	
	05/21/2015	30.97	26.74	26.71	0.03	-	-	4.23	12:10	LNAPL not manually bailed
	05/28/2015	30.97	27.10	26.95	0.15	-	36.05	3.87	11:58	LNAPL not manually bailed
	06/02/2015	30.97	26.85	26.82	0.03	-	-	4.12	13:07	LNAPL not manually bailed
	06/09/2015	30.97	26.75	26.72	0.03	-	-	4.22	10:37	LNAPL not manually bailed
	06/16/2015	30.97	26.57	26.54	0.03	-	-	4.40	11:30	LNAPL not manually bailed
	06/26/2015	30.97	26.44	26.31	0.13	-	36.00	4.53	11:23	LNAPL not manually bailed
	07/01/2015	30.97	25.86	25.85	0.01	-	-	5.11	12:30	LNAPL not manually bailed
	07/08/2015	30.97	26.28	26.05	0.23	0.05	-	4.69	11:54	
	07/13/2015	30.97	26.03	25.90	0.13	-	-	4.94	9:46	HIT event
	07/20/2015	30.97	25.97	25.92	0.05	TRACE	-	5.00	9:52	
	07/28/2015	30.97	26.16	26.10	0.06	TRACE	36.18	4.81	11:55	
	08/04/2015	30.97	26.11	26.02	0.09	0.01	-	4.86	12:28	
	08/11/2015	30.97	25.78	25.70	0.08	0.01	36.14	5.19	11:07	
	08/18/2015	30.97	27.29	27.23	0.06	TRACE	-	3.68	10:43	
	08/24/2015	30.97	26.18	26.16	0.02	TRACE	-	4.79	10:46	
	09/02/2015	30.97	26.42	26.40	0.02	0.01	36.10	4.55	10:50	
	09/09/2015	30.97	26.35	26.27	0.08	0.02	36.12	4.62	10:35	
	09/17/2015	30.97	26.61	-	-	-	36.14	4.36	10:54	
	09/23/2015	30.97	26.49	26.47	0.02	TRACE	-	4.48	11:06	
	09/28/2015	30.97	26.00	TRACE	TRACE	-	36.10	4.97	10:01	
MW-52	08/15/2014	NR	28.11	-	-	-	35.78	-	-	
	08/18/2014	NR	26.07	-	-	-	-	-	-	
	08/25/2014	30.17	25.76	-	-	-	-	4.41	-	
	09/02/2014	30.17	26.15	-	-	-	-	4.02	-	
	09/15/2014	30.17	25.99	-	-	-	-	4.18	-	
	09/22/2014	30.17	26.00	-	-	-	-	4.17	-	
	10/01/2014	30.17	26.03	-	-	-	35.65	4.14	-	
	10/10/2014	30.17	26.07	-	-	-	-	4.10	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-52 (cont.)	10/20/2014	30.17	26.24	-	-	-	35.64	3.93	-	
	05/11/2015	30.17	25.81	-	-	-	35.65	4.36	14:45	
	05/12/2015	30.17	26.10	-	-	-	-	4.07	9:50	
	08/04/2015	30.17	25.21	-	-	-	35.55	4.96	12:01	
	08/05/2015	30.17	25.68	-	-	-	35.49	4.49	9:47	
MW-70	08/15/2014	NR	26.63	-	-	-	34.95	-	-	
	08/18/2014	NR	26.61	-	-	-	-	-	-	
	08/25/2014	30.86	26.25	-	-	-	-	4.61	-	
	09/02/2014	30.86	26.68	-	-	-	-	4.18	-	
	09/15/2014	30.86	26.63	-	-	-	-	4.23	-	
	09/22/2014	30.86	26.47	-	-	-	-	4.39	-	
	10/01/2014	30.86	26.66	-	-	-	34.88	4.20	-	
	10/10/2014	30.86	26.57	-	-	-	-	4.29	-	
	10/20/2014	30.86	26.79	-	-	-	34.90	4.07	-	
	02/24/2015	30.86	26.62	-	-	-	-	4.24	13:00	
	05/11/2015	30.86	26.02	-	-	-	35.15	4.84	14:55	
	05/12/2015	30.86	26.21	-	-	-	-	4.65	14:05	
	08/04/2015	30.86	25.73	-	-	-	35.16	5.13	12:28	
	08/05/2015	30.86	26.10	-	-	-	35.05	4.76	9:55	
TW-08S	12/18/2013	36.75	DRY	-	-	-	-	-	-	
	01/08/2014	36.75	DRY	-	-	-	-	-	-	
	03/07/2014	36.75	24.14	-	-	-	-	12.61	-	
	03/13/2014	36.75	24.06	-	-	-	-	12.69	-	
	03/20/2014	36.75	24.37	-	-	-	-	12.38	-	
	03/27/2014	36.75	24.54	-	-	-	-	12.21	-	
	04/03/2014	36.75	24.26	-	-	-	-	12.49	-	
	04/08/2014	36.75	23.85	-	-	-	-	12.90	-	
	04/17/2014	36.75	24.13	-	-	-	-	12.62	-	
	04/22/2014	36.75	23.92	-	-	-	-	12.83	-	
	04/29/2014	36.75	23.91	-	-	-	-	12.84	-	
	05/05/2014	36.75	22.89	-	-	-	-	13.86	-	
	05/12/2014	36.75	23.02	-	-	-	-	13.73	-	
	05/19/2014	36.75	22.90	-	-	-	-	13.85	-	
	06/02/2014	36.75	23.24	-	-	-	-	13.51	-	
	06/09/2014	36.75	23.21	-	-	-	-	13.54	-	
	06/16/2014	36.75	22.40	-	-	-	-	14.35	-	
	06/23/2014	36.75	22.41	-	-	-	-	14.34	-	
	07/02/2014	36.75	22.40	-	-	-	-	14.35	-	
	07/07/2014	36.75	22.65	-	-	-	25.85	14.10	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-08S (cont.)	07/14/2014	36.75	23.23	-	-	-	-	13.52	-	
	07/24/2014	36.75	23.09	-	-	-	-	13.66	-	
	07/31/2014	36.75	23.26	-	-	-	25.82	13.49	-	
	08/07/2014	Overdrilled and replaced with MW-72S								
MW-72S	08/08/2014	NR	23.33	-	-	-	25.30	-	-	
	08/11/2014	NR	22.85	-	-	-	-	-	-	
	08/15/2014	NR	21.35	-	-	-	23.90	-	-	
	08/18/2014	NR	21.34	-	-	-	-	-	-	
	08/25/2014	30.63	21.41	-	-	-	-	9.22	-	
	09/02/2014	30.63	21.45	-	-	-	-	9.18	-	
	09/15/2014	30.63	21.54	-	-	-	-	9.09	-	
	09/22/2014	30.63	21.56	-	-	-	-	9.07	-	
	10/01/2014	30.63	21.63	-	-	-	23.90	9.00	-	
	10/10/2014	30.63	21.69	-	-	-	-	8.94	-	
	10/20/2014	30.63	21.73	-	-	-	23.88	8.90	-	
	10/27/2014	30.63	21.80	-	-	-	-	8.83	-	
	11/07/2014	30.63	21.83	-	-	-	-	8.80	-	
	11/12/2014	30.63	21.88	-	-	-	-	8.75	-	
	11/21/2014	30.63	22.04	-	-	-	-	8.59	-	
	11/26/2014	30.63	22.10	-	-	-	-	8.53	-	
	12/05/2014	30.63	22.23	-	-	-	-	8.40	-	
	12/11/2014	30.63	22.11	-	-	-	-	8.52	-	
	12/16/2014	30.63	22.00	-	-	-	-	8.63	-	
	12/23/2014	30.63	21.99	-	-	-	-	8.64	-	
	12/30/2014	30.63	21.98	-	-	-	-	8.65	-	
	01/09/2015	30.63	21.94	-	-	-	-	8.69	-	
	01/16/2015	30.63	21.93	-	-	-	-	8.70	-	
	01/19/2015	30.63	21.88	-	-	-	-	8.75	-	
	01/26/2015	30.63	21.78	-	-	-	-	8.85	-	
	02/03/2015	30.63	21.79	-	-	-	23.93	8.84	-	
	02/09/2015	30.63	21.77	-	-	-	-	8.86	-	
	02/18/2015	30.63	21.85	-	-	-	-	8.78	-	
	02/24/2015	30.63	21.90	-	-	-	23.89	8.73	15:53	
	02/25/2015	30.63	21.87	-	-	-	23.75	8.76	14:10	
	03/04/2015	30.63	21.79	-	-	-	-	8.84	13:45	
	03/11/2015	30.63	21.75	-	-	-	-	8.88	12:12	
	03/18/2015	30.63	21.70	-	-	-	-	8.93	10:35	
	03/26/2015	30.63	21.73	-	-	-	23.90	8.90	11:10	
	04/02/2015	30.63	21.78	-	-	-	23.90	8.85	10:55	
	04/08/2015	30.63	21.82	-	-	-	23.87	8.81	9:35	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-72S (cont.)	04/13/2015	30.63	21.86	-	-	-	-	8.77	10:08	
	04/23/2015	30.63	21.86	-	-	-	23.87	8.77	11:12	
	04/29/2015	30.63	21.85	-	-	-	23.85	8.78	13:56	
	05/04/2015	30.63	21.84	-	-	-	-	8.79	11:06	
	05/11/2015	30.63	21.91	-	-	-	23.90	8.72	10:48	
	05/13/2015	30.63	21.90	-	-	-	-	8.73	9:57	
	05/21/2015	30.63	21.88	-	-	-	23.90	8.75	11:47	
	05/28/2015	30.63	22.04	-	-	-	23.90	8.59	11:27	
	06/02/2015	30.63	22.03	-	-	-	-	8.60	12:30	
	06/09/2015	30.63	21.67	-	-	-	-	8.96	9:56	
	06/16/2015	30.63	21.68	-	-	-	-	8.95	10:50	
	06/26/2015	30.63	21.55	-	-	-	23.80	9.08	10:17	
	07/01/2015	30.63	21.38	-	-	-	-	9.25	11:45	
	08/04/2015	30.63	21.55	-	-	-	23.90	9.08	12:38	
	08/05/2015	30.63	21.51	-	-	-	23.90	9.12	9:25	
MW-72 / RW-72	08/08/2014	NR	26.97	-	-	-	34.55	-	-	
	08/11/2014	NR	26.85	-	-	-	-	-	-	
	08/15/2014	NR	27.43	-	-	-	-	-	-	
	08/16/2014	NR	27.05	-	-	-	34.43	-	-	
	08/18/2014	NR	27.00	-	-	-	-	-	-	
	08/25/2014	31.06	26.66	-	-	-	-	4.40	-	
	09/02/2014	31.06	27.11	-	-	-	-	3.95	-	
	09/15/2014	31.06	27.02	-	-	-	-	4.04	-	
	09/22/2014	31.06	26.88	-	-	-	-	4.18	-	
	10/01/2014	31.06	27.10	-	-	-	34.48	3.96	-	
	10/10/2014	31.06	26.94	-	-	-	-	4.12	-	
	10/20/2014	31.06	27.19	-	-	-	34.43	3.87	-	
	10/27/2014	31.06	27.34	-	-	-	-	3.72	-	
	11/07/2014	31.06	27.04	-	-	-	-	4.02	-	
	11/12/2014	31.06	27.12	-	-	-	-	3.94	-	
	11/21/2014	31.06	27.82	-	-	-	-	3.24	-	
	11/26/2014	31.06	27.36	-	-	-	-	3.70	-	
	12/05/2014	31.06	27.01	-	-	-	-	4.05	-	
	12/11/2014	31.06	27.03	-	-	-	-	4.03	-	
	12/16/2014	31.06	26.91	-	-	-	-	4.15	-	
	12/23/2014	31.06	26.89	-	-	-	-	4.17	-	
	12/30/2014	31.06	27.36	-	-	-	-	3.70	-	
	01/09/2015	31.06	27.27	-	-	-	-	3.79	-	
	01/16/2015	31.06	27.03	-	-	-	-	4.03	-	
	01/19/2015	31.06	26.98	-	-	-	-	4.08	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-72 / RW-72 (cont.)	01/26/2015	31.06	26.96	-	-	-	-	4.10	-	
	02/03/2015	31.06	27.65	-	-	-	34.19	3.41	-	
	02/09/2015	31.06	27.14	-	-	-	-	3.92	-	
	02/18/2015	31.06	27.11	-	-	-	-	3.95	-	
	02/24/2015	31.06	27.27	-	-	-	-	3.79	13:35	
	02/25/2015	31.06	27.33	-	-	-	34.28	3.73	9:50	
	03/04/2015	31.06	27.17	-	-	-	-	3.89	13:48	
	03/11/2015	31.06	26.98	-	-	-	-	4.08	12:15	
	03/18/2015	31.06	26.94	-	-	-	-	4.12	10:38	
	03/26/2015	31.06	26.78	-	-	-	34.10	4.28	11:13	
	04/02/2015	31.06	26.86	-	-	-	34.15	4.20	10:57	
	04/08/2015	31.06	27.20	-	-	-	33.98	3.86	9:40	
	04/13/2015	31.06	27.11	-	-	-	-	3.95	10:11	
	04/23/2015	31.06	26.61	-	-	-	34.13	4.45	11:15	
	04/29/2015	31.06	26.76	-	-	-	33.95	4.30	14:00	
	05/04/2015	31.06	26.60	-	-	-	-	4.46	11:09	
	05/11/2015	31.06	26.55	-	-	-	33.90	4.51	14:58	
	05/13/2015	31.06	27.12	-	-	-	-	3.94	9:55	
	05/21/2015	31.06	26.81	-	-	-	34.04	4.25	11:49	
	05/28/2015	31.06	27.05	-	-	-	34.00	4.01	11:28	
	06/02/2015	31.06	26.68	-	-	-	-	4.38	12:33	
	06/09/2015	31.06	26.46	-	-	-	-	4.60	10:00	
	06/16/2015	31.06	26.48	-	-	-	-	4.58	10:53	
	06/26/2015	31.06	26.42	-	-	-	34.00	4.64	10:19	
	07/01/2015	31.06	25.91	-	-	-	-	5.15	11:48	
	08/04/2015	31.06	26.19	-	-	-	34.14	4.87	12:35	
	08/05/2015	31.06	26.61	-	-	-	34.26	4.45	9:22	
MW-100S	08/15/2014	NR	21.32	-	-	-	24.22	-	-	
	08/18/2014	NR	21.28	-	-	-	-	-	-	
	08/25/2014	31.06	21.31	-	-		-	9.75	-	
	09/02/2014	31.06	21.39	-	-	-	-	9.67	-	
	09/15/2014	31.06	21.39	-	-	-	-	9.67	-	
	09/22/2014	31.06	21.52	-	-	-	-	9.54	-	
	10/01/2014	31.06	21.62	-	-	-	24.16	9.44	-	
	10/10/2014	31.06	21.61	-	-	-	-	9.45	-	
	10/20/2014	31.06	21.67	-	-	-	24.17	9.39	-	
	02/24/2015	31.06	21.75	-	-	-	24.18	9.31	15:18	
	05/11/2015	31.06	21.55	-	-	-	24.20	9.51	9:55	
	08/04/2015	31.06	20.66	-	-	-	24.15	10.40	12:44	
	08/05/2015	31.06	20.70	-	-	-	24.15	10.36	10:03	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-100	08/15/2014	NR	26.80	-	-	-	36.90	-	-	
	08/18/2014	NR	26.66	-	-	-	-	-	-	
	08/25/2014	30.78	26.26	-	-	-	-	4.52	-	
	09/02/2014	30.78	26.70	-	-	-	-	4.08	-	
	09/15/2014	30.78	26.65	-	-	-	-	4.13	-	
	09/22/2014	30.78	26.48	-	-	-	-	4.30	-	
	10/01/2014	30.78	26.69	-	-	-	36.68	4.09	-	
	10/10/2014	30.78	26.60	-	-	-	-	4.18	-	
	10/20/2014	30.78	26.86	-	-	-	36.58	3.92	-	
	02/24/2015	30.78	26.88	-	-	-	36.61	3.90	13:08	
	02/25/2015	30.78	26.87	-	-	-	36.62	3.91	11:32	
	05/11/2015	30.78	26.17	-	-	-	36.60	4.61	14:57	
	08/04/2015	30.78	25.80	-	-	-	36.80	4.98	12:31	
	08/05/2015	30.78	26.22	-	-	-	36.61	4.56	9:59	
MW-102	08/15/2014	NR	29.91	-	-	-	36.64	-	-	
	08/18/2014	NR	29.81	-	-	-	-	-	-	
	08/25/2014	29.72	28.40	-	-	-	-	1.32	-	
	09/02/2014	29.72	27.23	-	-	-	-	2.49	-	
	09/15/2014	29.72	24.97	-	-	-	-	4.75	-	
	09/22/2014	29.72	24.83	-	-	-	-	4.89	-	
	10/01/2014	29.72	24.73	-	-	-	36.45	4.99	-	
	10/10/2014	29.72	24.66	-	-	-	-	5.06	-	
	10/20/2014	29.72	24.78	-	-	-	36.44	4.94	-	
	05/11/2015	29.72	24.44	-	-	-	36.40	5.28	15:01	
	08/04/2015	29.72	23.39	-	-	-	36.43	6.33	12:35	
	08/05/2015	29.72	23.50	-	-	-	36.42	6.22	10:14	
MW-103	07/24/2014	NR	7.87	-	-	-	-	-	-	
	08/08/2014	NR	4.61	-	-	-	15.06	-	-	
	08/11/2014	NR	4.63	-	-	-	-	-	-	
	08/15/2014	NR	4.26	-	-	-	14.95	-	-	
	08/18/2014	NR	4.48	-	-	-	-	-	-	
	08/25/2014	11.07	4.45	-	-	-	-	6.62	-	
	09/02/2014	11.07	4.50	-	-	-	-	6.57	-	
	09/15/2014	11.07	4.63	-	-	-	-	6.44	-	
	09/22/2014	11.07	4.76	-	-	-	-	6.31	-	
	10/01/2014	11.07	4.85	-	-	-	14.88	6.22	-	
	10/10/2014	11.07	4.93	-	-	-	-	6.14	-	
	10/20/2014	11.07	4.70	-	-	-	14.88	6.37	-	
	02/24/2015	11.07	5.02	-	-	-	-	6.05	15:27	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-103 (cont.)	02/26/2015	11.07	5.21	-	-	-	14.90	5.86	11:53	
	05/11/2015	11.07	4.67	-	-	-	14.88	6.40	10:20	
	08/04/2015	11.07	3.69	-	-	-	14.88	7.38	10:19	
	08/05/2015	11.07	3.71	-	-	-	14.87	7.36	10:20	
MW-104	07/24/2014	NR	5.24	-	-	-	-	-	-	
	08/08/2014	NR	4.28	-	-	-	12.05	-	-	
	08/11/2014	NR	4.40	-	-	-	-	-	-	
	08/15/2014	NR	3.95	-	-	-	12.20	-	-	
	08/18/2014	NR	4.22	-	-	-	-	-	-	
	08/25/2014	12.00	4.29	-	-	-	-	7.71	-	
	09/02/2014	12.00	4.38	-	-	-	-	7.62	-	
	09/15/2014	12.00	4.52	-	-	-	-	7.48	-	
	09/22/2014	12.00	4.73	-	-	-	-	7.27	-	
	10/01/2014	12.00	4.73	-	-	-	11.98	7.27	-	
	10/10/2014	12.00	4.77	-	-	-	-	7.23	-	
	10/20/2014	12.00	3.98	-	-	-	12.07	8.02	-	
	02/24/2015	12.00	5.43	-	-	-	-	6.57	15:38	
	02/26/2015	12.00	5.70	-	-	-	12.00	6.30	12:07	
	05/11/2015	12.00	4.51	-	-	-	12.10	7.49	10:25	
	08/04/2015	12.00	3.82	-	-	-	12.00	8.18	10:08	
	08/05/2015	12.00	3.85	-	-	-	12.50	8.15	10:23	
MW-105	07/24/2014	NR	2.34	-	-	-	-	-	-	
	08/08/2014	NR	2.15	-	-	-	10.06	-	-	
	08/11/2014	NR	2.39	-	-	-	-	-	-	
	08/15/2014	NR	1.67	-	-	-	9.95	-	-	
	08/18/2014	NR	2.06	-	-	-	-	-	-	
	08/25/2014	10.94	2.25	-	-	-	-	8.69	-	
	09/02/2014	10.94	2.24	-	-	-	-	8.70	-	
	09/15/2014	10.94	2.32	-	-	-	-	8.62	-	
	09/22/2014	10.94	2.71	-	-	-	-	8.23	-	
	10/01/2014	10.94	2.57	-	-	-	9.88	8.37	-	
	10/10/2014	10.94	2.70	-	-	-	-	8.24	-	
	10/20/2014	10.94	1.70	-	-	-	9.93	9.24	-	
	05/11/2015	10.94	2.40	-	-	-	9.70	8.54	10:35	
	08/04/2015	10.94	1.65	-	-	-	9.62	9.29	10:15	
	08/05/2015	10.94	1.67	-	-	-	9.60	9.27	10:26	
MW-106	08/08/2014	NR	8.30	-	-	-	10.27	-	-	
	08/11/2014	NR	8.27	-	-	-	-	-	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-106 (cont.)	08/15/2014	NR	7.63	-	-	-	9.88	-	-	
	08/18/2014	NR	7.58	-	-	-	-	-	-	
	08/25/2014	11.12	7.52	-	-	-	-	3.60	-	
	09/02/2014	11.12	7.79	-	-	-	-	3.33	-	
	09/15/2014	11.12	7.90	-	-	-	-	3.22	-	
	09/22/2014	11.12	7.87	-	-	-	-	3.25	-	
	10/01/2014	11.12	7.93	-	-	-	9.88	3.19	-	
	10/10/2014	11.12	7.71	-	-	-	-	3.41	-	
	10/13/2014	11.12	7.92	-	-	-	-	3.20	-	
	10/20/2014	11.12	7.86	-	-	-	9.88	3.26	-	
	10/27/2014	11.12	7.77	-	-	-	-	3.35	-	
	11/07/2014	11.12	7.83	-	-	-	-	3.29	-	
	11/12/2014	11.12	7.88	-	-	-	-	3.24	-	
	11/21/2014	11.12	8.23	-	-	-	-	2.89	-	
	11/26/2014	11.12	8.03	-	-	-	-	3.09	-	
	12/05/2014	11.12	7.21	-	-	-	-	3.91	-	
	12/11/2014	11.12	6.95	-	-	-	-	4.17	-	
	12/16/2014	11.12	7.18	-	-	-	-	3.94	-	
	12/23/2014	11.12	7.31	-	-	-	-	3.81	-	
	12/30/2014	11.12	6.97	-	-	-	-	4.15	-	
	01/09/2015	11.12	7.34	-	-	-	-	3.78	-	
	01/16/2015	11.12	6.88	-	-	-	-	4.24	-	
	01/19/2015	11.12	6.77	-	-	-	-	4.35	-	
	01/26/2015	11.12	5.79	-	-	-	-	5.33	-	
	02/03/2015	11.12	7.24	-	-	-	9.90	3.88	-	
	02/09/2015	11.12	7.42	-	-	-	-	3.70	-	
	02/18/2015	11.12	7.63	-	-	-	-	3.49	-	
	02/24/2015	11.12	7.76	-	-	-	9.84	3.36	13:18	
	02/25/2015	11.12	7.80	-	-	-	9.79	3.32	10:20	
	03/04/2015	11.12	7.57	-	-	-	-	3.55	13:52	
	03/11/2015	11.12	5.17	-	-	-	-	5.95	12:19	
	03/18/2015	11.12	6.39	-	-	-	-	4.73	10:42	
	03/26/2015	11.12	7.02	-	-	-	9.90	4.10	11:02	
	04/02/2015	11.12	7.15	-	-	-	9.85	3.97	10:47	
	04/08/2015	11.12	7.55	-	-	-	9.87	3.57	9:46	
	04/13/2015	11.12	7.63	-	-	-	-	3.49	10:18	
	04/23/2015	11.12	6.70	-	-	-	9.85	4.42	11:00	
	04/29/2015	11.12	7.15	-	-	-	9.85	3.97	13:34	
	05/04/2015	11.12	7.23	-	-	-	-	3.89	11:17	
	05/11/2015	11.12	7.43	-	-	-	9.85	3.69	14:51	
	05/12/2015	11.12	7.50	-	-	-	-	3.62	10:35	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-106 (cont.)	05/21/2015	11.12	7.62	-	-	-	9.85	3.50	11:55	
	05/28/2015	11.12	7.81	-	-	-	9.80	3.31	11:11	
	06/02/2015	11.12	6.66	-	-	-	-	4.46	12:38	
	06/09/2015	11.12	6.37	-	-	-	-	4.75	10:04	
	06/16/2015	11.12	7.21	-	-	-	-	3.91	11:01	
	06/26/2015	11.12	6.27	-	-	-	9.90	4.85	9:13	
	07/01/2015	11.12	4.77	-	-	-	-	6.35	11:54	
	08/04/2015	11.12	7.42	-	-	-	9.86	3.70	12:19	
MW-107	08/08/2014	NR	10.62	-	-	-	11.57	-	-	
	08/11/2014	NR	9.02	-	-	-	-	-	-	
	08/15/2014	NR	8.94	-	-	-	-	-	-	
	08/16/2014	NR	8.93	-	-	-	11.57	-	-	
	08/18/2014	NR	8.89	-	-	-	-	-	-	
	08/25/2014	15.74	8.38	-	-	-	-	7.36	-	
	09/02/2014	15.74	8.43	-	-	-	-	7.31	-	
	09/15/2014	15.74	9.39	-	-	-	-	6.35	-	
	09/22/2014	15.74	9.92	-	-	-	-	5.82	-	
	10/01/2014	15.74	10.32	-	-	-	11.03	5.42	-	
	10/10/2014	15.74	10.53	-	-	-	-	5.21	-	
	10/13/2014	15.74	10.67	-	-	-	-	5.07	-	
	10/20/2014	15.74	8.43	-	-	-	11.04	7.31	-	
	10/27/2014	15.74	7.97	-	-	-	-	7.77	-	
	11/07/2014	15.74	8.32	-	-	-	-	7.42	-	
	11/12/2014	15.74	8.63	-	-	-	-	7.11	-	
	11/21/2014	15.74	9.38	-	-	-	-	6.36	-	
	11/26/2014	15.74	8.93	-	-	-	-	6.81	-	
	12/05/2014	15.74	7.47	-	-	-	-	8.27	-	
	12/11/2014	15.74	7.43	-	-	-	-	8.31	-	
	12/16/2014	15.74	8.28	-	-	-	-	7.46	-	
	12/23/2014	15.74	8.35	-	-	-	-	7.39	-	
	12/30/2014	15.74	8.20	-	-	-	-	7.54	-	
	01/09/2015	15.74	8.03	-	-	-	-	7.71	-	
	01/16/2015	15.74	7.68	-	-	-	-	8.06	-	
	01/19/2015	15.74	6.76	-	-	-	-	8.98	-	
	01/26/2015	15.74	5.84	-	-	-	-	9.90	-	
	02/03/2015	15.74	8.63	-	-	-	11.04	7.11	-	
	02/09/2015	15.74	8.73	-	-	-	-	7.01	-	
	02/18/2015	15.74	9.21	-	-	-	-	6.53	-	
	02/24/2015	15.74	9.78	-	-	-	11.00	5.96	13:23	
	02/25/2015	15.74	9.64	-	-	-	11.00	6.10	11:40	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-107 (cont.)	03/04/2015	15.74	9.48	-	-	-	-	6.26	13:55	
	03/11/2015	15.74	4.08	-	-	-	-	11.66	12:22	
	03/18/2015	15.74	7.44	-	-	-	-	8.30	10:45	
	03/26/2015	15.74	8.98	-	-	-	11.00	6.76	11:05	
	04/02/2015	15.74	8.63	-	-	-	11.00	7.11	10:49	
	04/08/2015	15.74	9.00	-	-	-	11.00	6.74	9:45	
	04/13/2015	15.74	9.06	-	-	-	-	6.68	10:21	
	04/23/2015	15.74	7.18	-	-	-	11.00	8.56	11:04	
	04/29/2015	15.74	9.14	-	-	-	11.00	6.60	13:39	
	05/04/2015	15.74	9.03	-	-	-	-	6.71	11:14	
	05/11/2015	15.74	9.19	-	-	-	11.00	6.55	14:49	
	05/12/2015	15.74	9.25	-	-	-	-	6.49	10:37	
	05/21/2015	15.74	9.21	-	-	-	11.00	6.53	11:57	
	05/28/2015	15.74	9.27	-	-	-	11.00	6.47	11:13	
	06/02/2015	15.74	3.95	-	-	-	-	11.79	12:41	
	06/09/2015	15.74	6.78	-	-	-	-	8.96	10:07	
	06/16/2015	15.74	9.05	-	-	-	-	6.69	10:58	
	06/26/2015	15.74	6.86	-	-	-	11.00	8.88	9:15	
	07/01/2015	15.74	4.03	-	-	-	-	11.71	11:51	
	08/04/2015	15.74	9.40	-	-	-	11.00	6.34	12:21	
MW-108	08/08/2014	NR	DRY	-	-	-	9.49	-	-	
	08/11/2014	NR	DRY	-	-	-	9.52	-	-	
	08/15/2014	NR	9.01	-	-	-	9.22	-	-	
	08/18/2014	NR	9.07	-	-	-	-	-	-	
	08/25/2014	15.61	DRY	-	-	-	9.23	-	-	
	09/02/2014	15.61	DRY	-	-	-	9.23	-	-	
	09/15/2014	15.61	DRY	-	-	-	9.22	-	-	
	09/22/2014	15.61	DRY	-	-	-	-	-	-	
	10/01/2014	15.61	DRY	-	-	-	10.48	-	-	
	10/10/2014	15.61	DRY	-	-	-	-	-	-	
	10/20/2014	15.61	DRY	-	-	-	10.48	-	-	
	05/11/2015	15.61	DRY	-	-	-	9.20	-	14:47	
	05/12/2015	15.61	DRY	-	-	-	-	-	10:40	
	08/04/2015	15.61	DRY	-	-	-	9.21	-	12:27	
MW-109S	08/25/2014	19.27	10.06	-	-	-	-	9.21	-	
	09/15/2014	19.27	10.19	-	-	-	-	9.08	-	
	09/22/2014	19.27	10.24	-	-	-	-	9.03	-	
	10/01/2014	19.27	10.33	-	-	-	13.20	8.94	-	
	10/10/2014	19.27	10.47	-	-	-	-	8.80	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-109S (cont.)	10/13/2014	19.27	10.58	-	-	-	-	8.69	-	
	10/20/2014	19.27	10.67	-	-	-	13.20	8.60	-	
	10/27/2014	19.27	10.83	-	-	-	-	8.44	-	
	11/07/2014	19.27	10.76	-	-	-	-	8.51	-	
	11/12/2014	19.27	10.85	-	-	-	-	8.42	-	
	11/21/2014	19.27	11.04	-	-	-	-	8.23	-	
	11/26/2014	19.27	11.02	-	-	-	-	8.25	-	
	02/24/2015	19.27	11.43	-	-	-	13.06	7.84	13:55	
	02/26/2015	19.27	11.36	-	-	-	13.06	7.91	10:40	
	05/11/2015	19.27	11.31	-	-	-	13.20	7.96	15:06	
	05/12/2015	19.27	11.28	-	-	-	13.20	7.99	10:00	
	05/21/2015	19.27	11.40	-	-	-	13.06	7.87	12:34	
MW-109	08/25/2014	19.16	14.59	-	-	-	-	4.57	-	
	09/15/2014	19.16	14.98	-	-	-	-	4.18	-	
	09/22/2014	19.16	14.88	-	-	-	-	4.28	-	
	10/01/2014	19.16	15.07	-	-	-	22.79	4.09	-	
	10/10/2014	19.16	14.96	-	-	-	-	4.20	-	
	10/13/2014	19.16	15.09	-	-	-	-	4.07	-	
	10/20/2014	19.16	15.22	-	-	-	22.72	3.94	-	
	10/27/2014	19.16	15.27	-	-	-	-	3.89	-	
	11/07/2014	19.16	15.07	-	-	-	-	4.09	-	
	11/12/2014	19.16	15.13	-	-	-	-	4.03	-	
	11/21/2014	19.16	15.81	-	-	-	-	3.35	-	
	11/26/2014	19.16	15.33	-	-	-	-	3.83	-	
	02/24/2015	19.16	15.25	-	-	-	22.80	3.91	13:58	
	02/26/2015	19.16	15.25	-	-	-	22.80	3.91	10:44	
	05/11/2015	19.16	14.61	-	-	-	22.84	4.55	15:04	
	05/12/2015	19.16	14.77	-	-	-	22.84	4.39	9:57	
	05/21/2015	19.16	15.23	-	-	-	22.80	3.93	12:36	
MW-110S	08/25/2014	19.13	10.05	-	-	-	12.70	9.08	-	
	09/15/2014	19.13	10.23	-	-	-	-	8.90	-	
	09/22/2014	19.13	10.28	-	-	-	-	8.85	-	
	10/01/2014	19.13	10.33	-	-	-	12.65	8.80	-	
	10/10/2014	19.13	10.41	-	-	-	-	8.72	-	
	10/20/2014	19.13	10.45	-	-	-	12.66	8.68	-	
	10/27/2014	19.13	10.48	-	-	-	-	8.65	-	
	11/07/2014	19.13	10.50	-	-	-	-	8.63	-	
	11/12/2014	19.13	10.53	-	-	-	-	8.60	-	
	11/21/2014	19.13	10.60	-	-	-	-	8.53	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-110S (cont.)	11/26/2014	19.13	10.60	-	-	-	-	8.53	-	
	02/24/2015	19.13	11.53	-	-	-	12.67	7.60	13:49	
	02/26/2015	19.13	11.59	-	-	-	12.67	7.54	10:33	
	05/11/2015	19.13	12.24	-	-	-	12.65	6.89	14:56	
	05/12/2015	19.13	12.24	-	-	-	12.65	6.89	9:47	
	05/21/2015	19.13	11.55	-	-	-	12.67	7.58	12:38	
MW-110	08/25/2014	19.51	14.70	-	-	-	24.40	4.81	-	
	09/15/2014	19.51	15.11	-	-	-	-	4.40	-	
	09/22/2014	19.51	14.98	-	-	-	-	4.53	-	
	10/01/2014	19.51	15.18	-	-	-	23.33	4.33	-	
	10/10/2014	19.51	15.07	-	-	-	-	4.44	-	
	10/20/2014	19.51	14.35	-	-	-	23.34	5.16	-	
	10/27/2014	19.51	14.39	-	-	-	-	5.12	-	
	11/07/2014	19.51	15.18	-	-	-	-	4.33	-	
	11/12/2014	19.51	15.25	-	-	-	-	4.26	-	
	11/21/2014	19.51	15.97	-	-	-	-	3.54	-	
	11/26/2014	19.51	15.45	-	-	-	-	4.06	-	
	02/24/2015	19.51	15.38	-	-	-	23.36	4.13	13:52	
	02/26/2015	19.51	15.38	-	-	-	23.36	4.13	10:36	
	05/11/2015	19.51	14.74	-	-	-	23.42	4.77	14:54	
	05/12/2015	19.51	14.91	-	-	-	23.42	4.60	9:44	
	05/21/2015	19.51	15.40	-	-	-	23.36	4.11	12:40	
MW-111	10/10/2014	19.17	14.97	-	-	-	-	4.20	-	
	10/20/2014	19.17	14.25	-	-	-	21.97	4.92	-	
	02/24/2015	19.17	15.30	-	-	-	21.96	3.87	13:43	
	02/26/2015	19.17	15.28	-	-	-	21.96	3.89	10:25	
	05/11/2015	19.17	14.66	-	-	-	21.87	4.51	14:51	
	05/12/2015	19.17	14.78	-	-	-	21.87	4.39	9:41	
MW-112S	08/15/2014	NR	10.31	-	-	-	12.40	-	-	
	08/18/2014	NR	10.22	-	-	-	12.45	-	-	
	08/25/2014	19.22	10.29	-	-	-	-	8.93	-	
	09/15/2014	19.22	10.43	-	-	-	-	8.79	-	
	09/22/2014	19.22	10.56	-	-	-	-	8.66	-	
	10/01/2014	19.22	10.58	-	-	-	12.46	8.64	-	
	10/10/2014	19.22	10.64	-	-	-	-	8.58	-	
	10/20/2014	19.22	10.75	-	-	-	12.47	8.47	-	
	02/24/2015	19.22	11.30	-	-	-	12.48	7.92	13:37	
	02/26/2015	19.22	11.34	-	-	-	12.48	7.88	10:19	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-112S (cont.)	05/11/2015	19.22	11.21	-	-	-	12.44	8.01	15:01	
	05/12/2015	19.22	11.21	-	-	-	12.44	8.01	9:54	
MW-112	08/15/2014	NR	15.11	-	-	-	22.55	-	-	
	08/18/2014	NR	14.43	-	-	-	22.31	-	-	
	08/25/2014	19.08	14.53	-	-	-	-	4.55	-	
	09/02/2014	19.08	NR[3]	-	-	-	-	-	-	
	09/15/2014	19.08	14.85	-	-	-	-	4.23	-	
	09/22/2014	19.08	14.77	-	-	-	-	4.31	-	
	10/01/2014	19.08	14.92	-	-	-	22.83	4.16	-	
	10/10/2014	19.08	14.87	-	-	-	-	4.21	-	
	10/20/2014	19.08	15.15	-	-	-	22.83	3.93	-	
	02/24/2015	19.08	15.19	-	-	-	22.75	3.89	13:40	
	02/26/2015	19.08	15.15	-	-	-	22.75	3.93	10:22	
	05/11/2015	19.08	14.52	-	-	-	22.83	4.56	14:59	
	05/12/2015	19.08	14.64	-	-	-	22.83	4.44	9:51	
MW-113	08/25/2014	19.11	14.49	-	-	-	-	4.62	-	
	09/15/2014	19.11	14.96	-	-	-	-	4.15	-	
	09/22/2014	19.11	14.83	-	-	-	-	4.28	-	
	10/01/2014	19.11	15.04	-	-	-	22.95	4.07	-	
	10/10/2014	19.11	14.84	-	-	-	-	4.27	-	
	10/20/2014	19.11	15.20	-	-	-	22.95	3.91	-	
	02/24/2015	19.11	15.24	-	-	-	22.95	3.87	13:46	
	02/26/2015	19.11	15.27	-	-	-	22.95	3.84	10:29	
	05/11/2015	19.11	14.58	-	-	-	22.77	4.53	14:48	
	05/12/2015	19.11	14.81	-	-	-	22.77	4.30	9:38	
MW-114	08/25/2014	19.26	14.62	-	-	-	22.78	4.64	-	
	09/15/2014	19.26	14.89	-	-	-	-	4.37	-	
	09/22/2014	19.26	14.87	-	-	-	-	4.39	-	
	10/01/2014	19.26	14.96	-	-	-	22.77	4.30	-	
	10/10/2014	19.26	15.01	-	-	-	-	4.25	-	
	10/20/2014	19.26	15.29	-	-	-	22.77	3.97	-	
	02/24/2015	19.26	15.25	-	-	-	22.77	4.01	13:34	
	02/26/2015	19.26	15.10	-	-	-	22.77	4.16	10:15	
	05/11/2015	19.26	14.52	-	-	-	22.75	4.74	14:45	
	05/12/2015	19.26	14.51	-	-	-	22.75	4.75	9:35	
MW-121	07/08/2015	NR	26.52	-	-	-	-	-	11:21	
	07/13/2015	31.48	26.14	-	-	-	36.93	5.34	9:28	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
MW-121 (cont.)	07/20/2015	31.48	26.37	-	-	-	-	5.11	9:25	
	07/28/2015	31.48	26.53	-	-	-	37.06	4.95	11:38	
	08/04/2015	30.88	25.91	-	-	-	36.33	4.97	12:22	
	08/11/2015	30.88	25.58	-	-	-	36.31	5.30	9:59	
	08/18/2015	30.88	26.12	-	-	-	-	4.76	10:23	
	08/24/2015	30.88	26.02	-	-	-	-	4.86	10:23	
	09/02/2015	30.88	26.38	-	-	-	36.31	4.50	9:45	
	09/09/2015	30.88	26.11	-	-	-	36.29	4.77	10:23	
	09/17/2015	30.88	26.51	-	-	-	36.41	4.37	10:27	
	09/23/2015	30.88	26.32	-	-	-	-	4.56	10:43	
	09/28/2015	30.88	26.18	-	-	-	36.25	4.70	9:24	
MW-122	07/08/2015	NR	25.58	-	-	-	-	-	11:32	
	07/13/2015	31.12	25.36	-	-	-	34.72	5.76	9:29	
	07/20/2015	31.12	25.20	-	-	-	-	5.92	9:31	
	07/28/2015	31.12	25.38	-	-	-	34.85	5.74	11:13	
	08/04/2015	31.12	25.54	-	-	-	34.61	5.58	12:24	
	08/11/2015	31.12	25.46	-	-	-	34.79	5.66	9:58	
	08/18/2015	31.12	25.98	-	-	-	-	5.14	10:30	
	08/24/2015	31.12	25.83	-	-	-	-	5.29	10:37	
	09/02/2015	31.12	26.21	-	-	-	34.76	4.91	9:41	
	09/09/2015	31.12	26.03	-	-	-	34.78	5.09	10:21	
	09/17/2015	31.12	26.45	-	-	-	34.83	4.67	10:25	
	09/23/2015	31.12	26.18	-	-	-	-	4.94	10:46	
	09/28/2015	31.12	25.98	-	-	-	34.72	5.14	9:48	
MW-123S	07/08/2015	NR	DRY	-	-	-	24.92	-	11:35	
	07/13/2015	31.09	23.96	-	-	-	24.90	7.13	9:17	
	07/20/2015	31.09	22.37	-	-	-	-	8.72	9:22	
	07/28/2015	31.09	22.15	-	-	-	24.98	8.94	11:05	
	08/04/2015	31.09	22.04	-	-	-	24.91	9.05	13:08	
	08/05/2015	31.09	22.07	-	-	-	24.93	9.02	9:16	
	08/11/2015	31.09	22.04	-	-	-	24.91	9.05	10:10	
	08/18/2015	31.09	22.05	-	-	-	-	9.04	9:50	
	08/24/2015	31.09	22.08	-	-	-	-	9.01	9:53	
	09/02/2015	31.09	22.26	22.25	0.01	TRACE	24.92	8.83	9:28	
	09/09/2015	31.09	22.33	-	-	-	24.92	8.76	10:28	
	09/17/2015	31.09	22.56	-	-	-	24.97	8.53	10:19	
	09/23/2015	31.09	22.57	-	-	-	-	8.52	10:11	
	09/28/2015	31.09	22.59	-	-	-	24.91	8.50	9:30	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
RW-1	10/10/2014	NR	26.93	-	-	-	-	-	-	
	10/13/2014	NR	27.09	-	-	-	-	-	-	
	10/20/2014	NR	27.27	-	-	-	40.65	-	-	
	10/27/2014	31.19	27.35	-	-	-	-	3.84	-	
	11/07/2014	31.19	27.10	-	-	-	-	4.09	-	
	11/12/2014	31.19	27.15	-	-	-	-	4.04	-	
	11/21/2014	31.19	27.83	-	-	-	-	3.36	-	
	11/26/2014	31.19	27.42	-	-	-	-	3.77	-	
	12/05/2014	31.19	27.25	-	-	-	-	3.94	-	
	12/11/2014	31.19	27.09	-	-	-	-	4.10	-	
	12/16/2014	31.19	26.98	-	-	-	-	4.21	-	
	12/23/2014	31.19	26.98	-	-	-	-	4.21	-	
	12/30/2014	31.19	27.38	-	-	-	-	3.81	-	
	01/09/2015	31.19	27.37	-	-	-	-	3.82	-	
	01/16/2015	31.19	27.08	-	-	-	-	4.11	-	
	01/19/2015	31.19	27.07	-	-	-	-	4.12	-	
	01/26/2015	31.19	27.03	-	-	-	-	4.16	-	
	02/03/2015	31.19	27.80	-	-	-	40.75	3.39	-	
	02/09/2015	31.19	27.18	-	-	-	-	4.01	-	
	02/18/2015	31.19	27.22	-	-	-	-	3.97	-	
	02/24/2015	31.19	27.42	-	-	-	40.35	3.77	13:49	
	03/04/2015	31.19	27.27	-	-	-	-	3.92	14:12	
	03/11/2015	31.19	26.90	-	-	-	-	4.29	12:42	
	03/18/2015	31.19	27.04	-	-	-	-	4.15	11:02	
	03/26/2015	31.19	26.87	-	-	-	40.70	4.32	11:35	
	04/02/2015	31.19	27.02	-	-	-	40.60	4.17	11:23	
	04/08/2015	31.19	27.30	-	-	-	40.55	3.89	8:45	
	04/13/2015	31.19	27.18	-	-	-	-	4.01	10:38	
	04/23/2015	31.19	26.67	-	-	-	40.65	4.52	11:52	
	04/29/2015	31.19	26.87	-	-	-	40.70	4.32	14:19	
	05/04/2015	31.19	26.72	-	-	-	-	4.47	11:36	
	05/11/2015	31.19	26.70	-	-	-	40.78	4.49	15:03	
	05/12/2015	31.19	26.92	-	-	-	40.63	4.27	14:15	
	05/21/2015	31.19	26.90	-	-	-	40.70	4.29	12:20	
	05/28/2015	31.19	27.11	-	-	-	40.60	4.08	11:43	
	06/02/2015	31.19	26.79	-	-	-	-	4.40	13:01	
	06/09/2015	31.19	26.57	-	-	-	-	4.62	10:27	
	06/16/2015	31.19	26.60	-	-	-	-	4.59	11:21	
	06/26/2015	31.19	26.52	-	-	-	40.50	4.67	10:37	
	07/01/2015	31.19	26.07	-	-	-	-	5.12	12:12	
	08/04/2015	31.19	26.30	-	-	-	40.66	4.89	12:16	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
RW-1 (cont.)	08/05/2015	31.19	26.67	-	-	-	40.65	4.52	9:08	
RW-05S	07/08/2015	NR	22.72	-	-	-	-	-	11:25	
	07/13/2015	31.38	22.57	-	-	-	26.03	8.81	9:34	
	07/20/2015	31.38	21.82	-	-	-	-	9.56	9:28	
	07/28/2015	31.38	21.77	-	-	-	26.07	9.61	11:21	
	08/05/2015	31.38	21.87	-	-	-	26.03	9.51	9:27	
	08/11/2015	31.38	21.95	-	-	-	26.06	9.43	10:05	
	08/18/2015	31.38	22.17	-	-	-	-	9.21	10:27	
	08/24/2015	31.38	22.42	-	-	-	-	8.96	10:20	
	09/02/2015	31.38	22.47	-	-	-	26.05	8.91	9:49	
	09/09/2015	31.38	22.60	-	-	-	26.07	8.78	10:25	
	09/17/2015	31.38	22.69	-	-	-	26.07	8.69	10:30	
	09/23/2015	31.38	22.69	-	-	-	-	8.69	10:37	
	09/28/2015	31.38	22.78	-	-	-	26.07	8.60	9:26	
RW-25S	07/08/2015	NR	DRY	-	-	-	24.64	-	11:43	
	07/13/2015	30.97	DRY	-	-	-	24.65	-	9:39	
	07/20/2015	30.97	DRY	-	-	-	-	-	9:40	
	07/28/2015	30.97	DRY	-	-	-	24.71	-	10:47	
	08/04/2015	30.97	DRY	-	-	-	24.64	-	13:06	
	08/11/2015	30.97	DRY	-	-	-	-	-	11:25	
	08/18/2015	30.97	24.62	-	-	-	-	6.35	10:36	
	08/24/2015	30.97	24.56	-	-	-	-	6.41	10:33	
	09/02/2015	30.97	NR	24.51	-	0.01	24.69	NA	10:23	
	09/09/2015	30.97	NR	24.50	-	0.01	24.69	NA	11:00	
	09/17/2015	30.97	NR	24.54	-	-	24.65	NA	10:50	
	09/23/2015	30.97	24.62	24.50	0.12	0.01	24.62	6.35	10:56	
	09/28/2015	30.97	NR	24.57	TRACE	TRACE	24.65	NA	9:55	
RW-28S	07/08/2015	NR	26.40	-	-	-	-	-	10:42	
	07/13/2015	31.35	25.20	-	-	-	26.66	6.15	9:11	
	07/20/2015	31.35	24.14	-	-	-	-	7.21	8:55	
	07/28/2015	31.35	23.92	-	-	-	26.73	7.43	10:04	
	08/04/2015	31.35	23.97	-	-	-	26.67	7.38	13:21	
	08/05/2015	31.35	24.98	-	-	-	26.66	6.37	8:18	
	08/11/2015	31.35	24.03	-	-	-	26.65	7.32	9:42	
	08/18/2015	31.35	24.13	-	-	-	-	7.22	10:00	
	08/24/2015	31.35	24.18	-	-	-	-	7.17	10:03	
	09/02/2015	31.35	24.31	-	-	-	26.68	7.04	9:10	
	09/09/2015	31.35	24.41	-	-	-	26.65	6.94	9:58	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
RW-28S (cont.)	09/17/2015	31.35	24.55	-	-	-	26.69	6.80	9:51	
	09/23/2015	31.35	24.58	-	-	-	-	6.77	10:21	
	09/28/2015	31.35	24.65	-	-	-	26.60	6.70	9:40	
RW-30S	06/26/2015	NR	Dry	-	-	-	28.40	-	9:28	
	07/01/2015	NR	24.02	-	-	-	-	-	12:03	
	07/08/2015	NR	25.39	-	-	-	-	-	10:51	
	07/13/2015	31.32	26.60	-	-	-	28.40	4.72	9:12	
	07/20/2015	31.32	26.07	-	-	-	-	5.25	9:01	
	07/28/2015	31.32	26.04	-	-	-	28.48	5.28	10:13	
	08/04/2015	31.32	26.07	-	-	-	28.40	5.25	13:25	
	08/05/2015	31.32	26.05	-	-	-	28.42	5.27	8:20	
	08/11/2015	31.32	26.42	-	-	-	28.44	4.90	9:44	
	08/18/2015	31.32	26.31	-	-	-	-	5.01	9:53	
	08/24/2015	31.32	26.28	-	-	-	-	5.04	9:56	
	09/02/2015	31.32	26.37	26.36	0.01	TRACE	28.45	4.95	9:14	
	09/09/2015	31.32	26.38	-	-	-	28.43	4.94	10:08	
	09/17/2015	31.32	26.52	-	-	-	28.46	4.80	10:05	
	09/23/2015	31.32	26.47	-	-	-	-	4.85	10:15	
	09/28/2015	31.32	26.42	-	-	-	28.41	4.90	9:37	
RW-116S	07/08/2015	NR	22.48	-	-	-	-	-	11:28	
	07/13/2015	31.80	22.03	-	-	-	26.20	9.77	9:24	
	07/20/2015	31.80	21.77	-	-	-	-	10.03	9:10	
	07/28/2015	31.44	21.46	-	-	-	25.90	9.98	10:31	
	08/04/2015	31.44	21.55	-	-	-	25.82	9.89	13:11	
	08/05/2015	31.44	21.57	-	-	-	25.82	9.87	9:05	
	08/11/2015	31.44	21.72	-	-	-	24.88	9.72	10:31	
	08/18/2015	31.44	21.79	-	-	-	-	9.65	10:13	
	08/24/2015	31.44	21.90	-	-	-	-	9.54	10:16	
	09/02/2015	31.44	22.06	-	-	-	25.86	9.38	10:05	
	09/09/2015	31.44	22.18	-	-	-	25.89	9.26	10:12	
	09/17/2015	31.44	22.31	-	-	-	25.89	9.13	10:14	
	09/23/2015	31.44	22.35	-	-	-	-	9.09	10:34	
	09/28/2015	31.44	22.42	-	-	-	25.84	9.02	9:20	
RW-117S	07/08/2015	NR	22.53	-	-	-	-	-	11:08	
	07/13/2015	31.81	22.27	-	-	-	24.25	9.54	9:22	
	07/20/2015	31.81	21.97	-	-	-	-	9.84	9:07	
	07/28/2015	31.81	21.86	-	-	-	24.34	9.95	9:30	
	08/04/2015	31.81	21.94	-	-	-	24.23	9.87	13:15	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
RW-117S (cont.)	08/05/2015	31.81	21.96	-	-	-	24.27	9.85	9:20	
	08/11/2015	31.81	22.06	-	-	-	24.30	9.75	10:28	
	08/18/2015	31.81	22.16	-	-	-	-	9.65	10:10	
	08/24/2015	31.81	22.25	-	-	-	-	9.56	10:13	
	09/02/2015	31.81	22.40	-	-	-	24.30	9.41	10:10	
	09/09/2015	31.81	22.51	TRACE	TRACE	TRACE	24.31	9.30	10:10	
	09/17/2015	31.81	22.61	-	-	-	24.31	9.20	10:12	
	09/23/2015	31.81	22.61	-	-	-	-	9.20	10:31	
	09/28/2015	31.81	22.66	-	-	-	24.29	9.15	9:18	
RW-118S	07/08/2015	NR	21.79	-	-	-	-	-	11:03	
	07/13/2015	31.09	21.64	-	-	-	24.90	9.45	9:20	
	07/20/2015	31.09	21.27	-	-	-	-	9.82	9:04	
	07/28/2015	31.09	21.22	-	-	-	25.00	9.87	9:39	
	08/04/2015	31.09	21.28	-	-	-	24.93	9.81	13:18	
	08/11/2015	31.09	21.44	-	-	-	24.96	9.65	10:33	
	08/18/2015	31.09	21.52	-	-	-	-	9.57	10:07	
	08/24/2015	31.09	21.62	-	-	-	-	9.47	10:10	
	09/02/2015	31.09	21.76	-	-	-	24.97	9.33	10:13	
	09/09/2015	31.09	21.56	-	-	-	24.95	9.53	10:07	
	09/17/2015	31.09	21.96	-	-	-	25.01	9.13	10:10	
	09/23/2015	31.09	21.97	-	-	-	-	9.12	10:28	
	09/28/2015	31.09	22.03	-	-	-	24.95	9.06	9:16	
RW-119S	07/08/2015	NR	21.80	-	-	-	-	-	11:46	
	07/13/2015	30.38	21.83	-	-	-	26.15	8.55	9:32	
	07/20/2015	30.38	21.53	-	-	-	-	8.85	9:34	
	07/28/2015	30.38	21.51	-	-	-	26.25	8.87	9:48	
	08/04/2015	30.38	21.50	-	-	-	26.15	8.88	10:37	
	08/11/2015	30.38	21.53	-	-	-	26.15	8.85	9:53	
	08/18/2015	30.38	21.73	-	-	-	-	8.65	10:33	
	08/24/2015	30.38	21.82	-	-	-	-	8.56	10:40	
	09/02/2015	30.38	22.01	-	-	-	26.17	8.37	9:38	
	09/09/2015	30.38	22.09	-	-	-	26.20	8.29	10:17	
	09/17/2015	30.38	22.34	-	-	-	26.21	8.04	10:22	
	09/23/2015	30.38	22.35	-	-	-	-	8.03	10:49	
	09/28/2015	30.38	22.32	-	-	-	26.20	8.06	9:33	
SP-1	02/24/2015	30.87	27.08	-	-	-	-	3.79	13:59	
SP-2	10/01/2014	NR	27.23	-	-	-	35.45	-	-	
	10/10/2014	NR	27.10	-	-	-	-	-	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-02	12/18/2013	20.60	15.52	-	-	-	-	5.08	-	
	01/08/2014	20.60	15.08	-	-	-	-	5.52	-	
	03/07/2014	20.60	14.81	-	-	-	-	5.79	-	
	03/13/2014	20.60	14.22	-	-	-	-	6.38	-	
	03/20/2014	20.60	13.39	-	-	-	-	7.21	-	
	03/27/2014	20.60	14.31	-	-	-	-	6.29	-	
	04/03/2014	20.60	13.25	-	-	-	-	7.35	-	
	04/08/2014	20.60	13.74	-	-	-	-	6.86	-	
	04/17/2014	20.60	13.70	-	-	-	-	6.90	-	
	04/22/2014	20.60	13.62	-	-	-	-	6.98	-	
	04/29/2014	20.60	13.96	-	-	-	-	6.64	-	
	05/05/2014	20.60	13.55	-	-	-	-	7.05	-	
	05/12/2014	20.60	14.25	-	-	-	-	6.35	-	
	05/19/2014	20.60	13.63	-	-	-	-	6.97	-	
	05/27/2014	20.60	14.31	-	-	-	-	6.29	-	
	06/02/2014	20.60	14.34	-	-	-	-	6.26	-	
	06/09/2014	20.60	14.71	-	-	-	-	5.89	-	
	06/16/2014	20.60	14.30	-	-	-	-	6.30	-	
	06/23/2014	20.60	14.48	-	-	-	-	6.12	-	
	07/02/2014	20.60	14.77	-	-	-	-	5.83	-	
	07/07/2014	20.60	15.08	-	-	-	21.28	5.52	-	
	07/14/2014	20.60	15.02	-	-	-	-	5.58	-	
	07/31/2014	20.60	15.40	-	-	-	21.22	5.20	-	
	08/08/2014	20.60	15.40	-	-	-	-	5.20	-	
	08/11/2014	20.60	15.28	-	-	-	-	5.32	-	
	08/15/2014	20.60	14.84	-	-	-	21.15	5.76	-	
	08/18/2014	20.60	15.06	-	-	-	-	5.54	-	
	08/25/2014	NR	14.71	-	-	-	-	-	-	
	09/02/2014	NR	15.18	-	-	-	-	-	-	
	09/15/2014	NR	14.90	-	-	-	-	-	-	
	09/22/2014	NR	15.00	-	-	-	-	-	-	
	10/01/2014	NR	15.22	-	-	-	21.12	-	-	
	10/13/2014	NR	14.92	-	-	-	-	-	-	
	10/20/2014	NR	15.10	-	-	-	20.99	-	-	
	02/24/2015	16.11	14.34	-	-	-	-	1.77	15:01	
	05/11/2015	16.11	14.38	-	-	-	20.80	1.73	15:18	
	08/04/2015	16.11	15.08	-	-	-	20.87	1.03	12:15	
TW-03	12/18/2013	14.87	9.08	-	-	-	-	5.79	-	
	01/08/2014	14.87	9.42	-	-	-	-	5.45	-	
	03/07/2014	14.87	7.66	-	-	-	-	7.21	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-03 (cont.)	03/13/2014	14.87	8.09	-	-	-	-	6.78	-	
	03/20/2014	14.87	7.50	-	-	-	-	7.37	-	
	03/27/2014	14.87	8.47	-	-	-	-	6.40	-	
	04/03/2014	14.87	6.99	-	-	-	-	7.88	-	
	04/08/2014	14.87	7.64	-	-	-	-	7.23	-	
	04/17/2014	14.87	7.33	-	-	-	-	7.54	-	
	04/22/2014	14.87	7.64	-	-	-	-	7.23	-	
	04/29/2014	14.87	7.36	-	-	-	-	7.51	-	
	05/05/2014	14.87	7.58	-	-	-	-	7.29	-	
	05/12/2014	14.87	7.93	-	-	-	-	6.94	-	
	05/19/2014	14.87	8.42	-	-	-	-	6.45	-	
	05/27/2014	14.87	7.69	-	-	-	-	7.18	-	
	06/02/2014	14.87	8.00	-	-	-	-	6.87	-	
	06/09/2014	14.87	7.77	-	-	-	-	7.10	-	
	06/16/2014	14.87	7.60	-	-	-	-	7.27	-	
	06/23/2014	14.87	7.68	-	-	-	-	7.19	-	
	07/02/2014	14.87	7.97	-	-	-	-	6.90	-	
	07/07/2014	14.87	8.31	-	-	-	13.45	6.56	-	
	07/14/2014	14.87	7.55	-	-	-	-	7.32	-	
	07/25/2014	14.87	8.45	-	-	-	13.30	6.42	-	
	07/31/2014	14.87	8.14	-	-	-	13.35	6.73	-	
	08/08/2014	14.87	8.39	-	-	-	-	6.48	-	
	08/11/2014	14.87	8.12	-	-	-	-	6.75	-	
	08/15/2014	14.87	8.10	-	-	-	13.40	6.77	-	
	08/18/2014	14.87	8.25	-	-	-	-	6.62	-	
	08/25/2014	10.40	7.85	-	-	-	-	2.55	-	
	09/02/2014	10.40	8.52	-	-	-	-	1.88	-	
	09/15/2014	10.40	8.33	-	-	-	-	2.07	-	
	09/22/2014	10.40	8.26	-	-	-	-	2.14	-	
	10/01/2014	10.40	8.35	-	-	-	13.15	2.05	-	
	10/13/2014	10.40	8.18	-	-	-	-	2.22	-	
	10/20/2014	10.40	8.50	-	-	-	13.14	1.90	-	
	02/24/2015	10.40	8.57	-	-	-	-	1.83	14:49	
	05/11/2015	10.40	7.74	-	-	-	13.10	2.66	15:23	
	08/04/2015	10.40	7.82	-	-	-	13.14	2.58	12:13	
TW-04	12/18/2013	13.26	6.25	-	-	-	-	7.01	-	
	01/08/2014	13.26	6.71	-	-	-	-	6.55	-	
	03/07/2014	13.26	6.06	-	-	-	-	7.20	-	
	03/13/2014	13.26	6.26	-	-	-	-	7.00	-	
	03/20/2014	13.26	6.17	-	-	-	-	7.09	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-04 (cont.)	03/27/2014	13.26	6.55	-	-	-	-	6.71	-	
	04/03/2014	13.26	4.64	-	-	-	-	8.62	-	
	04/08/2014	13.26	5.38	-	-	-	-	7.88	-	
	04/17/2014	13.26	5.60	-	-	-	-	7.66	-	
	04/22/2014	13.26	5.56	-	-	-	-	7.70	-	
	04/29/2014	13.26	5.91	-	-	-	-	7.35	-	
	05/05/2014	13.26	5.06	-	-	-	-	8.20	-	
	05/12/2014	13.26	5.82	-	-	-	-	7.44	-	
	05/19/2014	13.26	4.61	-	-	-	-	8.65	-	
	05/27/2014	13.26	5.66	-	-	-	-	7.60	-	
	06/02/2014	13.26	5.83	-	-	-	-	7.43	-	
	06/09/2014	13.26	5.87	-	-	-	-	7.39	-	
	06/16/2014	13.26	5.21	-	-	-	-	8.05	-	
	06/23/2014	13.26	5.68	-	-	-	-	7.58	-	
	07/02/2014	13.26	5.96	-	-	-	-	7.30	-	
	07/07/2014	13.26	6.18	-	-	-	13.77	7.08	-	
	07/14/2014	13.26	5.80	-	-	-	-	7.46	-	
	07/25/2014	13.26	6.20	-	-	-	13.70	7.06	-	
	07/31/2014	13.26	6.08	-	-	-	13.76	7.18	-	
	08/08/2014	13.26	6.21	-	-	-	-	7.05	-	
	08/11/2014	13.26	6.19	-	-	-	-	7.07	-	
	08/15/2014	13.26	5.99	-	-	-	13.75	7.27	-	
	08/18/2014	13.26	5.92	-	-	-	-	7.34	-	
	08/25/2014	9.49	5.87	-	-	-	-	3.62	-	
	09/02/2014	9.49	6.25	-	-	-	-	3.24	-	
	09/15/2014	9.49	6.17	-	-	-	-	3.32	-	
	09/22/2014	9.49	6.20	-	-	-	-	3.29	-	
	10/01/2014	9.49	6.23	-	-	-	13.55	3.26	-	
	10/10/2014	9.49	6.18	-	-	-	-	3.31	-	
	10/13/2014	9.49	6.19	-	-	-	-	3.30	-	
	10/20/2014	9.49	6.28	-	-	-	13.40	3.21	-	
	10/27/2014	9.49	6.04	-	-	-	-	3.45	-	
	11/07/2014	9.49	6.27	-	-	-	-	3.22	-	
	11/12/2014	9.49	6.19	-	-	-	-	3.30	-	
	11/21/2014	9.49	6.78	-	-	-	-	2.71	-	
	11/26/2014	9.49	6.33	-	-	-	-	3.16	-	
	12/05/2014	9.49	5.75	-	-	-	-	3.74	-	
	12/11/2014	9.49	5.60	-	-	-	-	3.89	-	
	12/16/2014	9.49	5.83	-	-	-	-	3.66	-	
	12/23/2014	9.49	5.82	-	-	-	-	3.67	-	
	12/30/2014	9.49	5.73	-	-	-	-	3.76	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-04 (cont.)	01/09/2015	9.49	6.06	-	-	-	-	3.43	-	
	01/16/2015	9.49	5.64	-	-	-	-	3.85	-	
	01/19/2015	9.49	5.37	-	-	-	-	4.12	-	
	01/26/2015	9.49	4.78	-	-	-	-	4.71	-	
	02/03/2015	9.49	6.06	-	-	-	13.21	3.43	-	
	02/09/2015	9.49	6.08	-	-	-	-	3.41	-	
	02/18/2015	9.49	6.19	-	-	-	-	3.30	-	
	02/24/2015	9.49	6.21	-	-	-	-	3.28	15:00	
	03/04/2015	9.49	6.11	-	-	-	-	3.38	11:45	
	03/11/2015	9.49	3.93	-	-	-	-	5.56	12:00	
	03/18/2015	9.49	5.40	-	-	-	-	4.09	10:23	
	03/26/2015	9.49	5.75	-	-	-	13.20	3.74	12:21	
	04/02/2015	9.49	5.85	-	-	-	13.25	3.64	10:28	
	04/08/2015	9.49	6.20	-	-	-	13.25	3.29	10:00	
	04/13/2015	9.49	6.28	-	-	-	-	3.21	9:55	
	04/23/2015	9.49	5.44	-	-	-	13.25	4.05	10:43	
	04/29/2015	9.49	5.85	-	-	-	13.25	3.64	13:15	
	05/04/2015	9.49	5.75	-	-	-		3.74	10:50	
	05/11/2015	9.49	5.83	-	-	-	13.20	3.66	15:33	
	05/21/2015	9.49	5.89	-	-	-	13.27	3.60	13:05	
	05/28/2015	9.49	6.28	-	-	-	13.25	3.21	10:55	
	06/02/2015	9.49	5.01	-	-	-	-	4.48	12:15	
	06/09/2015	9.49	5.17	-	-	-	-	4.32	9:45	
	06/16/2015	9.49	5.67	-	-	-	-	3.82	10:35	
	06/26/2015	9.49	4.98	-	-	-	13.20	4.51	8:45	
	07/01/2015	9.49	3.57	-	-	-	-	5.92	11:35	
	07/08/2015	9.49	4.57	-	-	-	-	4.92	10:20	
	07/13/2015	9.49	4.28	-	-	-	-	5.21	8:53	
	07/20/2015	9.49	5.32	-	-	-	-	4.17	8:40	
	08/04/2015	9.49	5.62	-	-	-	13.70	3.87	12:02	
	08/18/2015	9.49	5.88	-	-	-	-	3.61	9:20	
	08/24/2015	9.49	5.76	-	-	-	-	3.73	9:40	
	09/02/2015	9.49	5.92	-	-	-	13.20	3.57	11:36	
	09/09/2015	9.49	6.06	-	-	-	13.18	3.43	14:09	
	09/17/2015	9.49	6.11	-	-	-	13.21	3.38	11:48	
	09/23/2015	9.49	6.08	-	-	-	-	3.41	10:00	
	09/28/2015	9.49	5.61	-	-	-	13.08	3.88	10:36	
TW-05	12/18/2013	13.73	6.45	-	-	-	-	7.28	-	
	01/08/2014	13.73	6.98	-	-	-	-	6.75	-	
	03/07/2014	13.73	6.34	-	-	-	-	7.39	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-05 (cont.)	03/13/2014	13.73	6.49	-	-	-	-	7.24	-	
	03/20/2014	13.73	6.04	-	-	-	-	7.69	-	
	03/27/2014	13.73	6.68	-	-	-	-	7.05	-	
	04/03/2014	13.73	4.29	-	-	-	-	9.44	-	
	04/08/2014	13.73	5.36	-	-	-	-	8.37	-	
	04/17/2014	13.73	5.33	-	-	-	-	8.40	-	
	04/22/2014	13.73	5.65	-	-	-	-	8.08	-	
	04/29/2014	13.73	6.06	-	-	-	-	7.67	-	
	05/05/2014	13.73	4.91	-	-	-	-	8.82	-	
	05/12/2014	13.73	6.01	-	-	-	-	7.72	-	
	05/19/2014	13.73	4.65	-	-	-	-	9.08	-	
	05/27/2014	13.73	5.91	-	-	-	-	7.82	-	
	06/02/2014	13.73	6.07	-	-	-	-	7.66	-	
	06/09/2014	13.73	6.11	-	-	-	-	7.62	-	
	06/16/2014	13.73	5.28	-	-	-	-	8.45	-	
	06/23/2014	13.73	5.95	-	-	-	-	7.78	-	
	07/02/2014	13.73	6.28	-	-	-	-	7.45	-	
	07/07/2014	13.73	6.49	-	-	-	12.06	7.24	-	
	07/14/2014	13.73	6.06	-	-	-	-	7.67	-	
	07/25/2014	13.73	5.43	-	-	-	12.08	8.30	-	
	07/31/2014	13.73	6.50	-	-	-	12.10	7.23	-	
	08/08/2014	13.73	6.56	-	-	-	-	7.17	-	
	08/11/2014	13.73	6.51	-	-	-	-	7.22	-	
	08/15/2014	13.73	5.91	-	-	-	11.95	7.82	-	
	08/18/2014	13.73	6.14	-	-	-	-	7.59	-	
	08/25/2014	9.64	6.13	-	-	-	-	3.51	-	
	09/02/2014	9.64	6.59	-	-	-	-	3.05	-	
	09/15/2014	9.64	6.57	-	-	-	-	3.07	-	
	09/22/2014	9.64	6.58	-	-	-	-	3.06	-	
	10/01/2014	9.64	6.63	-	-	-	11.74	3.01	-	
	10/10/2014	9.64	6.52	-	-	-	-	3.12	-	
	10/13/2014	9.64	6.58	-	-	-	-	3.06	-	
	10/20/2014	9.64	6.60	-	-	-	12.63	3.04	-	
	10/27/2014	9.64	6.23	-	-	-	-	3.41	-	
	11/07/2014	9.64	6.58	-	-	-	-	3.06	-	
	11/12/2014	9.64	6.56	-	-	-	-	3.08	-	
	11/21/2014	9.64	7.07	-	-	-	-	2.57	-	
	11/26/2014	9.64	6.67	-	-	-	-	2.97	-	
	12/05/2014	9.64	5.57	-	-	-	-	4.07	-	
	12/11/2014	9.64	5.38	-	-	-	-	4.26	-	
	12/16/2014	9.64	5.86	-	-	-	-	3.78	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-05 (cont.)	12/23/2014	9.64	6.08	-	-	-	-	3.56	-	
	12/30/2014	9.64	5.50	-	-	-	-	4.14	-	
	01/09/2015	9.64	6.27	-	-	-	-	3.37	-	
	01/16/2015	9.64	5.48	-	-	-	-	4.16	-	
	01/19/2015	9.64	5.08	-	-	-	-	4.56	-	
	01/26/2015	9.64	4.30	-	-	-	-	5.34	-	
	02/03/2015	9.64	6.20	-	-	-	11.88	3.44	-	
	02/09/2015	9.64	6.38	-	-	-	-	3.26	-	
	02/18/2015	9.64	6.64	-	-	-	-	3.00	-	
	02/24/2015	9.64	6.61	-	-	-	-	3.03	14:57	
	03/04/2015	9.64	6.27	-	-	-	-	3.37	12:15	
	03/11/2015	9.64	3.15	-	-	-	-	6.49	12:03	
	03/18/2015	9.64	4.61	-	-	-	-	5.03	10:26	
	03/26/2015	9.64	5.94	-	-	-	12.10	3.70	12:25	
	04/02/2015	9.64	6.00	-	-	-	12.10	3.64	10:30	
	04/08/2015	9.64	6.41	-	-	-	12.14	3.23	10:05	
	04/13/2015	9.64	6.53	-	-	-	-	3.11	9:58	
	04/23/2015	9.64	5.48	-	-	-	12.20	4.16	10:45	
	04/29/2015	9.64	5.99	-	-	-	12.20	3.65	13:17	
	05/04/2015	9.64	5.94	-	-	-	-	3.70	10:53	
	05/11/2015	9.64	6.12	-	-	-	12.30	3.52	15:39	
	05/21/2015	9.64	6.15	-	-	-	12.48	3.49	13:07	
	05/28/2015	9.64	6.56	-	-	-	12.50	3.08	10:57	
	06/02/2015	9.64	4.05	-	-	-	-	5.59	12:18	
	06/09/2015	9.64	4.63	-	-	-	-	5.01	9:48	
	06/16/2015	9.64	5.99	-	-	-	-	3.65	10:38	
	06/26/2015	9.64	4.52	-	-	-	12.80	5.12	8:47	
	07/01/2015	9.64	1.82	-	-	-	-	7.82	11:38	
	07/08/2015	9.64	4.22	-	-	-	-	5.42	10:23	
	07/13/2015	9.64	4.24	-	-	-	-	5.40	8:55	
	07/20/2015	9.64	5.64	-	-	-	-	4.00	8:43	
	07/28/2015	9.64	6.01	-	-	-	12.42	3.63	13:15	
	08/04/2015	9.64	6.07	-	-	-	12.32	3.57	12:05	
	08/11/2015	9.64	5.56	-	-	-	12.54	4.08	12:30	
	08/18/2015	9.64	6.28	-	-	-	-	3.36	9:23	
	08/24/2015	9.64	6.23	-	-	-	-	3.41	9:43	
	09/02/2015	9.64	6.32	-	-	-	12.53	3.32	11:33	
	09/09/2015	9.64	6.73	-	-	-	12.55	2.91	14:06	
	09/17/2015	9.64	6.54	-	-	-	12.53	3.10	11:45	
	09/23/2015	9.64	6.41	-	-	-	-	3.23	10:03	
	09/28/2015	9.64	6.01	-	-	-	12.51	3.63	10:38	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-06	12/18/2013	13.97	6.21	-	-	-	-	7.76	-	
	01/08/2014	13.97	6.98	-	-	-	-	6.99	-	
	03/07/2014	13.97	6.40	-	-	-	-	7.57	-	
	03/13/2014	13.97	6.62	-	-	-	-	7.35	-	
	03/20/2014	13.97	6.26	-	-	-	-	7.71	-	
	03/27/2014	13.97	6.88	-	-	-	-	7.09	-	
	04/03/2014	13.97	4.81	-	-	-	-	9.16	-	
	04/08/2014	13.97	5.82	-	-	-	-	8.15	-	
	04/17/2014	13.97	5.41	-	-	-	-	8.56	-	
	04/22/2014	13.97	5.90	-	-	-	-	8.07	-	
	04/29/2014	13.97	6.30	-	-	-	-	7.67	-	
	05/05/2014	13.97	4.98	-	-	-	-	8.99	-	
	05/12/2014	13.97	6.18	-	-	-	-	7.79	-	
	05/19/2014	13.97	4.63	-	-	-	-	9.34	-	
	05/27/2014	13.97	6.79	-	-	-	-	7.18	-	
	06/02/2014	13.97	6.24	-	-	-	-	7.73	-	
	06/09/2014	13.97	6.31	-	-	-	-	7.66	-	
	06/16/2014	13.97	5.33	-	-	-	-	8.64	-	
	06/23/2014	13.97	6.12	-	-	-	-	7.85	-	
	07/02/2014	13.97	6.52	-	-	-	-	7.45	-	
	07/07/2014	13.97	6.70	-	-	-	12.60	7.27	-	
	07/14/2014	13.97	6.24	-	-	-	-	7.73	-	
	07/25/2014	13.97	6.65	-	-	-	12.60	7.32	-	
	08/08/2014	13.97	6.81	-	-	-	-	7.16	-	
	08/11/2014	13.97	6.71	-	-	-	-	7.26	-	
	08/15/2014	13.97	6.01	-	-	-	12.70	7.96	-	
	08/18/2014	13.97	6.33	-	-	-	-	7.64	-	
	08/25/2014	9.86	6.37	-	-	-	-	3.49	-	
	09/02/2014	9.86	6.80	-	-	-	-	3.06	-	
	09/15/2014	9.86	6.79	-	-	-	-	3.07	-	
	09/22/2014	9.86	6.77	-	-	-	-	3.09	-	
	10/01/2014	9.86	6.88	-	-	-	12.60	2.98	-	
	10/10/2014	9.86	6.77	-	-	-	-	3.09	-	
	10/13/2014	9.86	6.85	-	-	-	-	3.01	-	
	10/20/2014	9.86	6.76	-	-	-	12.63	3.10	-	
	10/27/2014	9.86	6.39	-	-	-	-	3.47	-	
	11/07/2014	9.86	6.83	-	-	-	-	3.03	-	
	11/12/2014	9.86	6.85	-	-	-	-	3.01	-	
	11/21/2014	9.86	7.28	-	-	-	-	2.58	-	
	11/26/2014	9.86	7.02	-	-	-	-	2.84	-	
	12/05/2014	9.86	5.85	-	-	-	-	4.01	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-06 (cont.)	12/11/2014	9.86	5.75	-	-	-	-	4.11	-	
	12/16/2014	9.86	6.18	-	-	-	-	3.68	-	
	12/23/2014	9.86	6.36	-	-	-	-	3.50	-	
	12/30/2014	9.86	5.85	-	-	-	-	4.01	-	
	01/09/2015	9.86	6.52	-	-	-	-	3.34	-	
	01/16/2015	9.86	5.77	-	-	-	-	4.09	-	
	01/19/2015	9.86	5.46	-	-	-	-	4.40	-	
	01/26/2015	9.86	4.69	-	-	-	-	5.17	-	
	02/03/2015	9.86	6.39	-	-	-	12.58	3.47	-	
	02/09/2015	9.86	6.62	-	-	-	-	3.24	-	
	02/18/2015	9.86	6.89	-	-	-	-	2.97	-	
	02/24/2015	9.86	6.90	-	-	-	-	2.96	14:54	
	03/04/2015	9.86	6.43	-	-	-	-	3.43	13:00	
	03/11/2015	9.86	4.47	-	-	-	-	5.39	12:06	
	03/18/2015	9.86	5.33	-	-	-	-	4.53	10:29	
	03/26/2015	9.86	6.13	-	-	-	12.60	3.73	12:27	
	04/02/2015	9.86	6.20	-	-	-	12.65	3.66	10:32	
	04/08/2015	9.86	6.66	-	-	-	12.62	3.20	10:15	
	04/13/2015	9.86	6.76	-	-	-	-	3.10	10:01	
	04/23/2015	9.86	5.62	-	-	-	12.60	4.24	10:47	
	04/29/2015	9.86	6.22	-	-	-	12.65	3.64	13:19	
	05/04/2015	9.86	6.14	-	-	-	-	3.72	10:56	
	05/11/2015	9.86	6.38	-	-	-	12.70	3.48	15:40	
	05/21/2015	9.86	6.24	-	-	-	12.65	3.62	13:09	
	05/28/2015	9.86	6.79	-	-	-	12.60	3.07	10:59	
	06/02/2015	9.86	4.41	-	-	-	-	5.45	12:21	
	06/09/2015	9.86	5.28	-	-	-	-	4.58	9:51	
	06/16/2015	9.86	6.24	-	-	-	-	3.62	10:41	
	06/26/2015	9.86	5.08	-	-	-	12.70	4.78	8:49	
	07/01/2015	9.86	3.55	-	-	-	-	6.31	11:41	
	07/08/2015	9.86	4.88	-	-	-	-	4.98	10:26	
	07/13/2015	9.86	4.78	-	-	-	-	5.08	8:55	
	07/20/2015	9.86	5.93	-	-	-	-	3.93	8:46	
	07/28/2015	9.86	6.31	-	-	-	12.61	3.55	12:55	
	08/04/2015	9.86	6.34	-	-	-	12.64	3.52	12:07	
	08/11/2015	9.86	6.15	-	-	-	12.64	3.71	12:35	
	08/18/2015	9.86	6.58	-	-	-	-	3.28	9:26	
	08/24/2015	9.86	6.51	-	-	-	-	3.35	9:46	
	09/02/2015	9.86	6.65	-	-	-	12.06	3.21	11:30	
	09/09/2015	9.86	6.02	-	-	-	12.66	3.84	14:03	
	09/17/2015	9.86	6.85	-	-	-	12.69	3.01	11:40	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-06 (cont.)	09/23/2015	9.86	6.69	-	-	-	-	3.17	10:06	
	09/28/2015	9.86	6.27	-	-	-	12.61	3.59	10:41	
TW-07	12/18/2013	14.00	7.56	-	-	-	-	6.44	-	
	01/08/2014	14.00	7.91	-	-	-	-	6.09	-	
	03/07/2014	14.00	6.91	-	-	-	-	7.09	-	
	03/13/2014	14.00	7.40	-	-	-	-	6.60	-	
	03/20/2014	14.00	6.78	-	-	-	-	7.22	-	
	03/27/2014	14.00	7.56	-	-	-	-	6.44	-	
	04/03/2014	14.00	5.67	-	-	-	-	8.33	-	
	04/08/2014	14.00	6.77	-	-	-	-	7.23	-	
	04/17/2014	14.00	5.51	-	-	-	-	8.49	-	
	04/22/2014	14.00	6.75	-	-	-	-	7.25	-	
	04/29/2014	14.00	6.60	-	-	-	-	7.40	-	
	05/05/2014	14.00	5.41	-	-	-	-	8.59	-	
	05/12/2014	14.00	6.89	-	-	-	-	7.11	-	
	05/19/2014	14.00	6.16	-	-	-	-	7.84	-	
	05/27/2014	14.00	6.70	-	-	-	-	7.30	-	
	06/02/2014	14.00	6.94	-	-	-	-	7.06	-	
	06/09/2014	14.00	7.81	-	-	-	-	6.19	-	
	06/16/2014	14.00	6.47	-	-	-	-	7.53	-	
	06/23/2014	14.00	6.69	-	-	-	-	7.31	-	
	07/02/2014	14.00	7.00	-	-	-	-	7.00	-	
	07/07/2014	14.00	7.27	-	-	-	13.42	6.73	-	
	07/14/2014	14.00	6.70	-	-	-	-	7.30	-	
	07/25/2014	14.00	7.33	-	-	-	13.30	6.67	-	
	07/31/2014	14.00	7.22	-	-	-	13.30	6.78	-	
	08/08/2014	14.00	7.39	-	-	-	-	6.61	-	
	08/11/2014	14.00	7.17	-	-	-	13.20	6.83	-	
	08/15/2014	14.00	7.05	-	-	-	-	6.95	-	
	08/18/2014	14.00	7.14	-	-	-	-	6.86	-	
	08/25/2014	9.88	6.87	-	-	-	-	3.01	-	
	09/02/2014	9.88	7.43	-	-	-	-	2.45	-	
	09/15/2014	9.88	7.33	-	-	-	-	2.55	-	
	09/22/2014	9.88	7.28	-	-	-	-	2.60	-	
	10/01/2014	9.88	7.38	-	-	-	12.98	2.50	-	
	10/13/2014	9.88	7.30	-	-	-	-	2.58	-	
	10/20/2014	9.88	7.49	-	-	-	12.97	2.39	-	
	02/24/2015	9.88	7.45	-	-	-	-	2.43	14:52	
	05/11/2015	9.88	6.92	-	-	-	12.70	2.96	15:27	
	08/04/2015	9.88	6.88	-	-	-	12.74	3.00	12:10	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-12S	12/18/2013	38.01	DRY	-	-	-	-	-	-	
	01/08/2014	38.01	DRY	-	-	-	-	-	-	
	03/07/2014	38.01	DRY	-	-	-	-	-	-	
	03/13/2014	38.01	DRY	-	-	-	-	-	-	
	03/20/2014	38.01	DRY	-	-	-	-	-	-	
	03/27/2014	38.01	DRY	-	-	-	-	-	-	
	04/03/2014	38.01	DRY	-	-	-	-	-	-	
	04/08/2014	38.01	DRY	-	-	-	-	-	-	
	04/17/2014	38.01	DRY	-	-	-	-	-	-	
	04/22/2014	38.01	DRY	-	-	-	-	-	-	
	04/29/2014	38.01	DRY	-	-	-	-	-	-	
	05/05/2014	38.01	DRY	-	-	-	-	-	-	
	05/12/2014	38.01	DRY	-	-	-	-	-	-	
	05/19/2014	38.01	DRY	-	-	-	-	-	-	
	06/02/2014	38.01	DRY	-	-	-	-	-	-	
	06/09/2014	38.01	DRY	-	-	-	-	-	-	
	06/16/2014	38.01	26.37	-	-	-	-	11.64	-	
	06/23/2014	38.01	26.37	-	-	-	-	11.64	-	
	07/02/2014	38.01	26.40	-	-	-	-	11.61	-	
	07/07/2014	38.01	26.40	-	-	-	26.60	11.61	-	
	07/14/2014	38.01	26.48	-	-	-	-	11.53	-	
	07/24/2014	38.01	26.48	-	-	-	-	11.53	-	
	07/31/2014	38.01	26.48	-	-	-	26.56	11.53	-	
	08/08/2014	38.01	26.49	-	-	-	26.60	11.52	-	
	08/11/2014	38.01	26.47	-	-	-	-	11.54	-	
	08/15/2014	38.01	26.47	-	-	-	26.58	11.54	-	
	08/18/2014	38.01	26.47	-	-	-	-	11.54	-	
	08/25/2014	NR	26.47	-	-	-	-	-	-	
	09/02/2014	NR	24.84	-	-	-	24.97	-	-	
	09/15/2014	NR	24.82	-	-	-	-	-	-	
	09/22/2014	NR	24.83	-	-	-	-	-	-	
	10/01/2014	NR	24.81	-	-	-	24.91	-	-	
	10/10/2014	NR	24.82	-	-	-	-	-	-	
	10/20/2014	NR	24.82	-	-	-	24.92	-	-	
	02/24/2015	31.33	24.81	-	-	-	-	6.52	15:47	
	05/11/2015	31.33	24.82	-	-	-	24.90	6.51	10:40	
	08/04/2015	31.33	24.78	-	-	-	25.00	6.55	10:25	
TW-14	01/17/2014	15.55	2.48	-	-	-	-	13.07	-	
	03/07/2014	15.55	2.29	-	-	-	-	13.26	-	
	03/13/2014	15.55	2.55	-	-	-	-	13.00	-	

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well	Date	Top of Casing (ft)	Depth to Water (ft)	Depth to LNAPL (ft)	LNAPL Thickness (ft)	Volume of LNAPL Recovered (gal)	Depth to Bottom - Measured Depth (ft)	Adjusted Groundwater Elevation (ft)	Time	Comments
TW-14 (cont.)	03/20/2014	15.55	2.25	-	-	-	-	13.30	-	
	03/27/2014	15.55	2.42	-	-	-	-	13.13	-	
	04/03/2014	15.55	2.31	-	-	-	-	13.24	-	
	04/08/2014	15.55	2.27	-	-	-	-	13.28	-	
	04/17/2014	15.55	2.26	-	-	-	-	13.29	-	
	04/22/2014	15.55	2.48	-	-	-	-	13.07	-	
	04/29/2014	15.55	2.66	-	-	-	-	12.89	-	
	05/05/2014	15.55	2.56	-	-	-	-	12.99	-	
	05/12/2014	15.55	2.58	-	-	-	-	12.97	-	
	05/19/2014	15.55	2.38	-	-	-	-	13.17	-	
	06/02/2014	15.55	2.52	-	-	-	-	13.03	-	
	06/09/2014	15.55	2.50	-	-	-	-	13.05	-	
	06/16/2014	15.55	2.31	-	-	-	-	13.24	-	
	06/23/2014	15.55	2.44	-	-	-	-	13.11	-	
	07/02/2014	15.55	4.63	-	-	-	-	10.92	-	
	07/07/2014	15.55	4.65	-	-	-	7.27	10.90	-	
	07/14/2014	15.55	4.40	-	-	-	-	11.15	-	
	07/24/2014	15.55	4.46	-	-	-	-	11.09	-	
	07/31/2014	15.55	4.63	-	-	-	7.39	10.92	-	
	08/08/2014	15.55	4.43	-	-	-	7.39	11.12	-	
	08/11/2014	15.55	4.57	-	-	-	-	10.98	-	
	08/15/2014	15.55	4.36	-	-	-	7.39	11.19	-	
	08/18/2014	15.55	4.49	-	-	-	-	11.06	-	
	08/25/2014	11.61	3.01	-	-	-	-	8.60	-	
	09/02/2014	11.61	3.03	-	-	-	-	8.58	-	
	09/15/2014	11.61	3.19	-	-	-	-	8.42	-	
	09/22/2014	11.61	3.38	-	-	-	-	8.23	-	
	10/01/2014	11.61	3.50	-	-	-	5.90	8.11	-	
	10/10/2014	11.61	3.67	-	-	-	-	7.94	-	
	10/20/2014	11.61	3.02	-	-	-	5.90	8.59	-	
	02/24/2015	11.61	2.67	-	-	-	-	8.94	15:29	
	02/26/2015	11.61	2.68	-	-	-	5.90	8.93	12:00	
	05/11/2015	11.61	3.28	-	-	-	6.90	8.33	10:30	
	08/04/2015	11.61	3.37	-	-	-	5.98	8.24	10:31	
	08/11/2015	11.61	3.65	-	-	-	6.00	7.96	12:00	
	08/18/2015	11.61	3.83	-	-	-	-	7.78	9:15	

Notes:
Specific gravity was tested from MW-05 and MW-25, and the average specific gravity was used.
Name changes for the following wells should be noted: MW-05 to RW-05, MW-25 to RW-25, MW-31 to RW-31, MW-51 to RW-51, and MW-72 to RW-72

Table 2

GROUNDWATER GAUGING DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

-	= Not available
ft	= Feet
gal	= gallons
DRY	= No / Insufficient water
LNAPL	= Light Non-Aqueous Phase Liquid
NA	= Not applicable
NR	= Not recorded
TRACE	= LNAPL thickness is less than 0.01 feet

Table 3

EFR EVENT DATA SUMMARY

Potomac River Generating Station
1400 North Royal Street
Alexandria, VA

Date		7/13/2015				8/21/2015
Extraction Well		MW-05	MW-25S	MW-25	MW-51	MW-05
Type of Event		Vacuum Truck				
Duration	min	210	75	75	75	240
Initial Depth to LNAPL	feet	22.98	21.74	25.89	25.90	23.15
Initial Depth to Water	feet	24.16	21.89	26.13	26.03	23.46
LNAPL Thickness	feet	1.18	0.15	0.24	0.13	0.31
Drop Tube Intake Depth	feet	26.16	24.00	28.15	28.00	27.00
Average Vacuum Applied	"Hg	20.8	17	22	20.67	19.83
Average Drop Tube Vacuum	"Hg	22.6	20	23.25	21.33	18.71
Average Vacuum On Well	"Hg	11.1	1.5	4.125	1.67	10.83
Average Vapor Flow Rate	scfm	NM	38.0	13.0	NM	NM
Groundwater Recovered	gallons	73	52	220	96	77
Groundwater Recovery Rate	gpm	0.3	0.7	2.9	1.3	0.3
Maximum Groundwater Drawdown	feet	3.2	2.3	2.3	2.1	3.9
C_1-C_4 Hydrocarbon Concentration	mg/m^3	71,000	12,000	<18	71	42,000
>C_4-C_{10} Hydrocarbon Concentration	mg/m^3	530	140	<35	<35	830
Vapor Phase C_1-C_4 Hydrocarbon Recovery Rate[1]	lb/day	NM	41	NM	NM	NM
Vapor Phase >C_4-C_{10} Hydrocarbon Recovery Rate[1]	lb/day	NM	0.5	NM	NM	NM
Total Vapor Phase Hydrocarbon Recovery[2]	pounds	NM	2.16	NM	NM	NM
Dissolved Phase TPH-DRO Concentration	µg/L	92,000	1,100,000	97,000	7,300	140,000
Dissolved Phase TPH-DRO Hydrocarbon Recovery[3]	pounds	0.06	0.48	0.18	0.01	0.09
Liquid Phase Recovery	pounds	- (sheen)[5]	- (sheen)[5]	- (sheen)[5]	- (sheen)[5]	- (sheen)[5]
Total Hydrocarbon Recovery	pounds	0.06	2.63	0.18	0.01	0.09
	gallons[4]	0.008	0.357	0.024	0.001	0.012

Notes:
MW = monitoring well
min = minute
LNAPL = light non-aqueous phase liquid
"Hg = inches of Mercury
scfm = standard cubic feet per minute
NM = not measured
gpm = gallons per minute
mg/m^3 = milligrams per cubic meter
lb/day = pounds per day
TPH-DRO = total petroleum hydrocarbons-diesel range organics
µg/L = micrograms per liter
[1] = Vapor phase recovery rate (lb/day) = conc. (mg/m^3) x flow (scfm) x 1lb/454,000mg x $0.0283m^3/ft^3$ x 1440 min/day
[2] = Vapor phase recovery (pounds) = recovery rate (lbs/day) x duration (min) x 1day/1440 min
[3] = Dissolved phase recovery (lb) = conc. (µg/L) x volume (gal) x 1lb/454,000,000 µg x 3.785 L/gal
[4] = One gallon of diesel fuel is equal to approximately 7.37 pounds.
[5] = LNAPL was detected within the vacuum truck but the thickness was not measurable.

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-01S	10/10/2014	10.2	6.3	-	-	0.53	6.68	17.69	-95.0	880	-
	10/20/2014	1.0	6.3	10.1	10.3	-	-	-	-	-	-
	10/22/2014	-	-	-	-	0.80	6.63	17.81	-91.6	369	-
	2/24/2015	8.4	3.0	12.2	26.6	0.10	6.53	16.31	-172.6	724	-
	5/11/2015	64.8	1.6	10.8	27.8	-	-	-	-	-	-
	8/4/2015	11.4	8.9	7.2	9.2	-	-	-	-	-	-
MW-05 / RW-05	10/13/2014	15.9	13.0	-	-	-	-	-	-	-	-
	10/15/2014	137.0	9.6	-	-	-	-	-	-	-	-
	2/24/2015	11.4	1.0	15.9	25.3	-	-	-	-	-	-
	5/11/2015	90.2	5.8	11.1	19.6	-	-	-	-	-	-
	8/4/2015	71.9	18.2	1.9	2.1	-	-	-	-	-	-
MW-08S	10/13/2014	21.0	14.5	-	-	0.89	6.68	18.18	-123.6	1488	-
	10/13/2014	-	-	-	-	0.81	6.70	18.26	-108.0	1386	-
	10/14/2014	-	-	-	-	0.16	6.77	18.18	-129.0	1424	-
	10/15/2014	8.7	20.4	-	-	0.83	6.68	18.29	-105.8	1325	-
	10/15/2014	-	-	-	-	0.28	6.66	18.23	-113.1	1408	-
	10/20/2014	15.9	10.9	6.2	1.9	-	-	-	-	-	-
	10/22/2014	-	-	-	-	1.24	6.59	18.27	-98.8	1276	-
	2/24/2015	49.3	0.4	13.8	15.4	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.09	6.69	16.81	-137.5	1236	-
MW-10S	10/13/2014	23.1	17.0	-	-	0.75	6.59	18.17	-117.6	1202	-
	10/13/2014	-	-	-	-	0.60	6.60	18.20	-113.0	1185	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-10S (cont.)	10/15/2014	8.3	20.4	-	-	0.41	6.54	18.23	-118.5	1185	-
	10/15/2014	-	-	-	-	0.60	6.56	18.30	-104.5	1189	-
	10/16/2014	18.5	20.9	-	-	-	-	-	-	-	-
	10/20/2014	25.2	15.2	3.7	0.2	-	-	-	-	-	-
	10/22/2014	-	-	-	-	1.30	6.48	18.44	-72.7	1002	-
	2/24/2015	54.5	1.0	14.7	3.4	-	-	-	-	-	-
	5/11/2015	22.6	6.5	9.2	7.6	-	-	-	-	-	-
	8/4/2015	53.6	4.2	10.6	7.6	0.02	6.73	16.52	-90.0	1440	-
MW-11	10/13/2014	5.4	19.0	-	-	2.30	6.27	18.16	56.2	324	-
	10/13/2014	-	-	-	-	3.23	6.14	18.29	48.6	349	-
	10/15/2014	23.6	15.3	-	-	-	-	-	-	-	-
	10/20/2014	22.0	11.6	6.3	1.9	-	-	-	-	-	-
	10/22/2014	-	-	-	-	0.38	5.73	18.38	160.2	323	-
	2/24/2015	3.2	19.3	3.7	0.1	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.12	5.60	17.83	62.6	370	-
	5/11/2015	0.6	20.6	0.2	0.1	0.07	5.66	17.27	91.2	390	-
	8/4/2015	4.3	2.5	15.0	26.8	0.09	6.66	18.45	-39.8	1	-
MW-14	10/13/2014	15.9	17.2	-	-	2.79	6.00	18.13	68.0	368	-
	10/20/2014	82.4	14.4	3.7	1.3	-	-	-	-	-	-
	10/22/2014	-	-	-	-	0.26	5.79	18.43	216.2	310	-
	2/24/2015	188.0	14.4	0.9	0.4	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.84	6.25	17.90	-98.6	460	-
	5/11/2015	166.8	18.4	2.4	0.2	0.07	6.22	17.30	-69.6	420	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-14 (cont.)	8/4/2015	11.9	17.8	3.2	0.3	0.07	6.72	17.10	-69.4	1	-
MW-15S	10/13/2014	34.0	12.4	-	-	0.84	6.32	18.03	-17.1	647	-
	10/20/2014	18.2	2.2	11.6	0.0	-	-	-	-	-	-
	10/22/2014	-	-	-	-	0.88	6.48	17.61	-37.4	989	-
MW-16S	10/10/2014	9.0	7.2	-	-	-	-	-	-	-	-
	2/24/2015	0.0	5.5	12.4	0.1	1.54	6.11	14.50	60.2	2	-
MW-16	10/10/2014	11.1	6.9	-	-	0.46	5.88	17.50	162.4	707	-
	10/22/2014	-	-	-	-	0.87	5.79	17.75	211.0	681	30,200
	2/24/2015	0.0	20.9	0.3	0.1	2.62	5.92	17.57	101.8	1010	-
	5/11/2015	-	-	-	-	0.49	5.83	17.05	112.4	830	-
MW-25S	10/13/2014	-	-	-	-	0.96	6.46	18.51	-84.0	914	-
	10/13/2014	13.0	20.3	-	-	-	-	-	-	-	-
	10/15/2014	192.0	19.3	-	-	-	-	-	-	-	-
	10/16/2014	34.4	20.9	-	-	-	-	-	-	-	-
	10/20/2014	30.2	16.6	3.4	0.3	-	-	-	-	-	-
	2/24/2015	127.0	3.6	12.7	2.3	-	-	-	-	-	-
	5/11/2015	51.8	6.5	8.3	6.4	-	-	-	-	-	-
	8/4/2015	70.5	4.4	9.5	4.6	-	-	-	-	-	-
MW-25 / RW-25	10/13/2014	139.0	19.2	-	-	-	-	-	-	-	-
	10/14/2014	79.0	17.5	-	-	-	-	-	-	-	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-25 / RW-25 (cont.)	10/15/2014	8.4	20.9	-	-	-	-	-	-	-	-
	10/16/2014	28.2	14.3	-	-	-	-	-	-	-	-
	2/24/2015	121.0	15.4	5.5	1.3	-	-	-	-	-	-
	5/11/2015	263.0	11.6	6.7	0.6	-	-	-	-	-	-
	8/4/2015	118.4	15.8	3.7	0.4	-	-	-	-	-	-
MW-27	10/10/2014	41.5	17.7	-	-	0.28	6.55	17.74	-79.8	1075	-
	10/15/2014	7.3	20.9	-	-	0.02	6.51	17.97	-36.3	1057	-
	10/15/2014	21.9	16.1	-	-	1.67	6.37	18.18	44.5	831	-
	10/16/2014	21.9	16.1	-	-	-	-	-	-	-	-
	10/20/2014	25.3	14.3	6.5	8.6	-	-	-	-	-	-
	10/23/2014	-	-	-	-	0.54	6.46	17.97	743.0	153	1,540
	2/24/2015	21.1	2.3	12.2	13.6	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.06	6.61	15.83	-85.6	1228	-
	5/11/2015	127.3	8.1	7.9	0.0	0.08	6.54	14.84	-110.0	1300	-
	8/4/2015	28.5	1.3	13.2	16.6	0.03	6.68	15.93	-49.3	1260	-
RW-30S	10/10/2014	6.8	7.6	-	-	0.31	6.64	18.50	-59.9	1155	-
	10/15/2014	15.5	17.2	-	-	-	6.69	19.02	-114.8	1084	-
	10/15/2014	74.4	10.5	-	-	0.69	6.61	19.43	-60.0	1030	-
	10/20/2014	2.8	11.5	4.0	0.0	-	-	-	-	-	-
	2/24/2015	16.5	12.8	0.3	0.2	0.40	6.74	14.15	-51.7	742	-
	5/11/2015	49.6	13.4	2.9	0.0	0.81	6.7	13.04	7.0	680	-
	8/4/2015	18.3	16.0	0.5	1.1	1.96	7.12	16.90	-93.7	780	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-31 / RW-31	10/10/2014	120.5	6.2	-	-	0.39	6.97	18.62	-119.7	899	-
	10/15/2014	62.5	15.0	-	-	0.59	6.83	19.04	-119.9	848	-
	10/15/2014	0.0	20.9	-	-	0.90	6.61	19.57	-47.6	541	-
	10/20/2014	11.8	17.4	1.1	0.3	-	-	-	-	-	-
	10/23/2014	-	-	-	-	0.41	6.98	18.69	-15.9	791	728
	2/24/2015	179.0	2.1	0.2	0.3	0.02	7.08	14.47	-164.3	927	-
	5/11/2015	36.9	5.8	4.1	0.1	0.00	7.06	12.74	-129.3	1010	-
	8/4/2015	41.3	3.9	5.4	1.7	0.02	7.18	15.92	-13.7	1010	-
MW-33	10/10/2014	1.4	9.7	-	-	0.68	5.81	17.97	157.4	654	-
	10/15/2014	0.5	19.0	-	-	0.09	5.84	18.30	64.9	633	-
	10/15/2014	0.0	20.9	-	-	0.42	5.86	18.30	92.6	658	-
	10/20/2014	1.0	12.0	5.4	0.0	-	-	-	-	-	-
	10/23/2014	-	-	-	-	2.37	6.05	18.24	186.7	698	1,120
	2/24/2015	0.0	20.6	0.1	0.1	2.35	5.51	15.51	88.7	648	-
	5/11/2015	21.4	19.0	1.0	0.0	0.47	5.69	14.03	88.0	720	-
	8/4/2015	1.4	3.3	8.6	0.0	0.05	6.29	15.84	48.5	780	
MW-51S	10/13/2014	23.0	5.7	-	-	0.64	6.72	18.32	-120.0	1457	-
	10/13/2014	1.0	-	-	-	0.75	6.65	18.35	-78.8	1000	-
	10/14/2014	-	-	-	-	0.33	6.64	18.46	-71.8	1047	-
	10/15/2014	1.2	20.0	-	-	1.62	6.60	18.43	1.5	566	-
	10/15/2014	-	-	-	-	0.74	6.62	18.45	-84.6	1122	-
	10/20/2014	22.3	10.6	6.3	1.5	-	-	-	-	-	-
	10/22/2014	-	-	-	-	0.81	6.67	18.47	-93.7	1153	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-51S (cont.)	2/24/2015	9.9	0.9	13.5	27.2	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.08	6.70	16.75	-110.9	1968	-
	5/11/2015	40.8	1.2	12.1	28.3	0.02	6.74	16.21	-113.3	1830	-
	8/4/2015	15.2	0.7	13.2	27.5	0.04	6.82	16.33	-96.0	1440	-
MW-51 / RW-51	10/13/2014	135.0	18.0	-	-	-	-	-	-	-	-
	10/15/2014	100.8	14.0	-	-	0.33	6.60	18.57	-86.9	1014	-
	10/20/2014	31.5	11.6	4.9	3.2	-	-	-	-	-	-
	2/24/2015	35.1	4.7	11.4	6.0	-	-	-	-	-	-
	5/11/2015	100.3	1.2	12.6	5.1	-	-	-	-	-	-
	8/4/2015	104.3	19.6	1.0	1.6	-	-	-	-	-	-
MW-52	10/10/2014	5.4	16.3	-	-	1.15	5.87	17.51	45.9	465	-
MW-70	10/10/2014	0.3	16.2	-	-	2.12	5.76	17.30	98.7	843	-
	2/24/2015	0.0	17.8	1.3	0.2	1.02	5.53	16.71	-36.2	9	-
	5/11/2015	-	-	-	-	0.40	5.49	16.51	120.7	790	-
	8/4/2015	-	-	-	-	0.46	5.72	16.24	77.5	820	
MW-72S	10/10/2014	21.7	5.8	-	-	0.55	6.42	18.41	-98.2	1331	-
	10/15/2014	14.5	14.0	-	-	0.04	6.40	18.56	-85.4	1340	-
	10/15/2014	-	-	-	-	1.70	6.47	18.70	-53.0	1246	-
	10/16/2014	95.0	7.8	-	-	-	-	-	-	-	-
	10/20/2014	38.8	9.3	7.4	4.2	-	-	-	-	-	-
	10/22/2014	-	-	-	-	1.92	6.39	17.99	-21.2	904	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-72S (cont.)	2/24/2015	30.6	5.4	11.5	1.6	0.09	6.54	16.13	-101.9	1325	-
	5/11/2015	65.0	6.5	9.4	3.3	0.02	6.49	14.58	-110.6	1340	-
	8/4/2015	8.0	8.2	6.9	0.4	0.11	6.71	16.20	-56.9	1710	-
MW-72 / RW-72	10/10/2014	12.2	6.6	-	-	0.48	5.47	17.86	32.6	743	-
	10/15/2014	14.8	16.8	-	-	0.14	5.41	18.04	110.3	733	-
	10/15/2014	-	-	-	-	2.99	5.75	18.09	108.9	739	-
	10/16/2014	6.9	5.2	-	-	-	-	-	-	-	-
	10/20/2014	10.5	2.0	16.8	13.0	-	-	-	-	-	-
	10/22/2014	-	-	-	-	1.77	5.86	17.73	146.2	533	29,800
	2/24/2015	13.3	14.2	6.9	0.1	0.58	5.48	17.43	82.8	877	-
	5/11/2015	64.5	20.6	0.2	0.0	0.03	5.82	15.99	-21.9	1080	-
	8/4/2015	6.9	12.7	5.0	3.2	0.02	6.68	16.31	-57.3	1880	-
MW-100S	10/10/2014	6.5	6.8	-	-	0.40	5.62	18.36	11.8	915	-
	2/24/2015	0.0	17.2	3.5	0.2	4.78	5.79	16.07	25.5	2	-
MW-100	10/10/2014	0.3	20.4	-	-	2.23	5.38	17.60	148.8	531	-
	2/24/2015	0.0	20.4	0.6	0.2	1.02	5.53	16.80	27.5	309	-
MW-102	10/10/2014	0.6	17.7	-	-	2.44	6.10	17.15	68.2	295	-
MW-103	10/10/2014	8.5	19.4	-	-	1.72	6.41	19.90	71.6	610	-
	10/23/2014	-	-	-	-	7.32	6.15	19.14	149.3	598	-
	2/24/2015	0.0	19.5	2.4	0.3	-	-	-	-	-	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-103 (cont.)	2/25/2015	-	-	-	-	5.27	6.17	5.08	85.9	720	-
	5/11/2015	-	-	-	-	0.13	5.95	12.40	82.3	680	-
MW-104	10/10/2014	5.8	18.9	-	-	1.98	6.90	19.47	6.1	452	-
	10/21/2014	-	-	-	-	2.17	6.93	18.83	102.6	526	3,250
	2/24/2015	0.0	15.1	1.1	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	3.75	7.07	9.30	50.4	496	-
	5/11/2015	-	-	-	-	1.24	6.89	12.25	54.8	740	-
MW-105	10/10/2014	11.5	19.0	-	-	3.96	6.90	19.03	56.8	427	-
	10/21/2014	-	-	-	-	4.47	6.89	19.20	155.1	393	2,520
	5/11/2015	-	-	-	-	0.42	5.38	11.11	98.1	27900	-
MW-106	10/10/2014	9.2	17.1	-	-	1.20	4.66	18.99	122.5	2231	-
	10/14/2014	4.3	18.3	-	-	-	-	-	-	-	-
	10/20/2014	0.2	15.5	3.8	0.0	-	-	-	-	-	-
	10/23/2014	-	-	-	-	1.29	5.20	18.35	97.7	1529	-
	2/24/2015	0.0	7.1	5.4	0.1	1.03	4.63	9.81	62.0	2156	-
	5/11/2015	0.7	0.2	7.6	0.2	0.03	5.00	11.73	100.8	2010	-
	8/4/2015	1.0	12.6	4.5	0.0	0.09	5.66	17.62	31.8	2080	-
MW-107	10/10/2014	10.5	11.8	-	-	0.62	3.51	18.90	348.4	2063	-
	10/15/2014	7.3	13.7	-	-	1.51	3.63	19.54	393.0	1047	-
	10/15/2014	-	-	-	-	2.52	3.76	19.36	428.9	1117	-
	10/20/2014	0.3	7.3	9.4	0.0	-	-	-	-	-	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-107 (cont.)	10/23/2014	-	-	-	-	3.40	2.90	19.05	480.1	1462	-
	2/24/2015	0.0	19.3	1.5	0.1	7.33	3.01	11.73	338.5	15	-
	5/11/2015	0.8	9.1	6.7	0.0	0.40	3.36	12.51	425.7	2010	-
	8/4/2015	0.5	7.9	8.2	0.0	0.31	3.69	18.19	347.8	2360	-
MW-108	10/10/2014	9.5	11.6	-	-	-	-	-	-	-	-
MW-109S	10/10/2014	50.0	11.3	-	-	1.43	6.35	18.20	-83.5	827	-
	10/20/2014	13.8	3.9	13.2	0.0	-	-	-	-	-	-
	10/21/2014	-	-	-	-	0.35	6.03	18.29	59.2	769	-
	2/24/2015	12.9	1.3	14.9	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	1.35	6.19	13.93	36.7	607	-
	5/11/2015	4.0	13.8	4.8	0.0	0.33	5.96	12.89	124.7	460	-
MW-109	10/10/2014	11.8	19.1	-	-	1.65	6.03	17.98	35.0	247	-
	10/20/2014	0.2	20.8	0.6	0.0	-	-	-	-	-	-
	10/21/2014	-	-	-	-	0.86	5.81	18.04	133.5	261	-
	2/24/2015	6.2	18.5	3.2	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.71	5.74	15.75	137.9	248	-
MW-110S	10/10/2014	9.9	14.4	-	-	0.50	6.32	18.38	-87.8	651	-
	2/24/2015	12.7	4.3	12.8	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	1.65	6.39	13.79	-19.5	849	-
MW-110	10/10/2014	13.1	16.4	-	-	1.30	5.39	17.98	117.8	215	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-110 (cont.)	2/24/2015	5.8	19.4	1.0	0.4	-	-	-	-	-	-
	2/25/2015	-	-	-	-	1.70	5.48	15.49	168.1	245	-
MW-111	10/10/2014	7.3	16.9	-	-	1.70	5.82	17.98	75.9	247	-
	2/24/2015	0.0	18.7	1.7	0.2	-	-	-	-	-	-
	2/25/2015	-	-	-	-	1.21	6.05	15.24	122.6	368	-
MW-112S	10/10/2014	25.0	14.7	-	-	1.95	5.46	18.26	148.5	369	-
	10/20/2014	0.0	12.0	7.9	0.0	-	-	-	-	-	-
	10/21/2014	-	-	-	-	2.50	5.38	18.27	172.9	333	-
	2/24/2015	16.8	6.6	9.7	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	3.92	5.41	13.06	207.5	347	-
	5/11/2015	2.1	16.3	3.3	0.0	3.37	5.21	13.22	197.2	360	-
MW-112	10/10/2014	14.8	16.3	-	-	2.14	5.56	17.93	157.3	162	-
	2/24/2015	12.3	19.2	1.3	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	4.34	5.54	15.13	203.8	171	-
MW-113	10/10/2014	6.3	19.2	-	-	6.17	6.35	17.97	83.2	352	-
	2/24/2015	0.0	19.9	1.6	0.2	-	-	-	-	-	-
	2/25/2015	-	-	-	-	5.96	6.73	14.72	73.5	428	-
MW-114	10/10/2014	9.0	6.3	-	-	1.50	5.83	17.65	78.0	310	-
	10/20/2014	0.1	16.0	2.1	0.1	-	-	-	-	-	-
	10/21/2014	-	-	-	-	1.23	6.04	17.81	154.1	262	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
MW-114 (cont.)	2/24/2015	0.0	20.6	0.3	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	8.72	6.10	12.05	113.7	326	-
	5/11/2015	0.0	19.4	1.0	0.0	3.99	5.99	15.33	199.7	300	-
MW-121	8/4/2015	-	-	-	-	0.02	7.00	17.04	-13.1	890	-
MW-122	8/4/2015					0.06	7.04	16.73	-6.3	1020	-
MW-123S	8/4/2015	-	-	-	-	2.66	12.52	16.99	-53.2	15080	-
RW-05S	8/4/2015	-	-	-	-	0.00	8.88	15.65	-469.6	1960	-
RW-1	10/13/2014	130.0	19.0	-	-	1.34	6.92	18.45	136.4	495	-
	10/13/2014	79.0	18.9	-	-	3.41	6.41	18.31	158.0	473	-
	10/14/2014	55.0	18.9	-	-	0.53	6.49	18.46	129.6	475	-
	10/15/2014	80.7	19.3	-	-	1.99	6.29	18.43	60.4	292	-
	10/15/2014	-	-	-	-	1.06	6.31	18.49	96.9	314	-
	10/20/2014	29.2	16.4	3.2	2.4	-	-	-	-	-	-
	10/22/2014	-	-	-	-	2.14	6.50	18.07	85.5	311	-
	2/24/2015	178.0	3.2	4.2	0.2	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.03	6.76	17.88	-86.4	900	-
RW-25S	8/4/2015	3.9	2.1	14.7	59.9	DRY					
RW-28S	8/4/2015	48.5	13.8	1.4	0.3	0.17	6.22	16.59	-12.0	1610	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
RW-116S	8/4/2015	3.8	13.8	3.9	0.6	0.07	6.68	16.35	-77.4	1710	-
RW-117S	8/4/2015	3.2	20.5	0.0	0.0	0.27	6.92	16.29	-76.5	1740	-
RW-118S	8/4/2015	19.6	6.4	7.3	0.1	0.14	6.78	16.32	-59.8	1350	-
RW-119S	8/4/2015	2.4	12.8	3.4	2.1	0.03	6.69	16.60	-15.9	1020	-
TW-02	10/13/2014	0.3	17.4	-	-	1.01	6.43	18.32	-	523	-
	10/23/2014	-	-	-	-	0.65	6.70	17.24	-63.8	1189	-
	2/24/2015	0.0	19.9	0.3	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	1.56	6.24	8.82	96.2	991	-
	5/11/2015	-	-	-	-	1.62	6.60	21.64	-49.5	1230	-
	8/5/2015	-	-	-	-	0.27	6.82	18.28	-68.9	792	31.9
TW-03	10/13/2014	0.3	19.5	-	-	1.86	5.73	19.23	-	503	-
	10/23/2014	-	-	-	-	0.71	6.12	18.54	38.1	489	-
	2/24/2015	0.0	3.1	10.4	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.75	6.21	8.92	64.8	609	-
	5/11/2015	0.0	8.5	10.2	0.0	2.03	5.77	20.61	110.5	480	-
	8/4/2015	0.0	7.8	14.3	0.0	0.26	5.40	21.76	80.4	602	70.6
TW-04	10/13/2014	2.0	19.2	-	-	1.67	5.73	19.08	-	1344	-
	10/23/2014	-	-	-	-	0.70	5.76	18.95	35.0	1232	-
	2/24/2015	1.2	15.7	4.4	0.3	-	-	-	-	-	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
TW-04 (cont.)	2/25/2015	-	-	-	-	2.36	5.86	6.96	65.1	1862	-
	5/11/2015	-	-	-	-	1.92	6.19	19.77	-22.7	1390	-
	8/4/2015	-	-	-	-	0.16	6.23	19.04	-35.7	1203	210
TW-05	10/13/2014	129.3	17.0	-	-	1.26	5.23	18.64	61.2	1204	-
	10/15/2014	8.7	20.5	-	-	-	-	-	-	-	-
	10/20/2014	16.0	20.6	0.1	0.0	-	-	-	-	-	-
	10/23/2014	-	-	-	-	0.85	5.73	19.04	49.2	1121	-
	2/24/2015	16.0	11.1	8.6	0.7	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.85	6.19	7.42	37.1	992	-
	5/11/2015	22.1	4.6	12.9	0.0	0.15	5.60	18.61	54.0	800	-
	8/4/2015	8.2	7.2	13.3	0.0	0.38	5.86	19.61	21.5	901	87.0
TW-06	10/13/2014	39.8	14.4	-	-	1.31	6.42	18.99	-	983	-
	10/15/2014	78.9	11.0	-	-	1.33	6.54	21.65	-65.0	873	-
	10/15/2014	-	-	-	-	0.31	6.28	19.79	-46.8	986	-
	10/20/2014	0.8	5.4	12.0	0.0	-	-	-	-	-	-
	10/23/2014	-	-	-	-	0.84	6.51	18.95	-68.8	823	-
	2/24/2015	0.7	5.0	8.9	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	0.84	6.75	7.20	-32.9	882	-
	5/11/2015	-	-	-	-	1.33	6.49	18.61	-69.1	710	-
	8/4/2015	-	-	-	-	0.22	6.17	19.07	-36.8	975	30.5
TW-07	10/13/2014	33.5	16.4	-	-	1.40	4.96	19.08	-	580	-
	10/15/2014	15.6	15.4	-	-	0.40	4.94	20.81	97.9	569	-

Table 4

HISTORICAL GROUNDWATER FIELD PARAMETERS DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Head Space Photo Ionization Detector (ppm)	Head Space Oxygen (%)	Head Space Carbon Dioxide (%)	Head Space Methane (%)	Dissolved Oxygen (mg/L)	Well pH	Well Temperature (deg C)	ORP (mV)	Specific Conductance (µS/cm)	Turbidity (NTU)
TW-07 (cont.)	10/20/2014	0.0	14.6	5.0	0.0	-	-	-	-	-	-
	10/23/2014	-	-	-	-	0.41	4.99	19.04	139.5	415	-
	2/24/2015	0.0	14.4	7.2	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	1.53	5.07	7.15	244.8	640	-
	5/11/2015	0.0	9.0	11.0	0.0	2.02	4.70	20.64	202.2	660	-
	8/4/2015	0.0	7.2	16.9	0.0	0.20	4.39	22.88	150.0	629	65.8
TW-12S	10/10/2014	0.8	18.5	-	-	-	-	-	-	-	-
	2/24/2015	0.0	15.0	2.8	0.3	-	-	-	-	-	-
TW-14	10/10/2014	2.3	19.5	-	-	-	-	-	-	-	-
	10/20/2014	0.0	20.0	0.7	0.0	-	-	-	-	-	-
	10/23/2014	-	-	-	-	1.99	7.48	19.13	-47.2	562	-
	2/24/2015	0.0	20.3	0.3	0.3	-	-	-	-	-	-
	2/25/2015	-	-	-	-	3.80	7.18	3.96	-6.1	465	-
	5/11/2015	-	-	-	-	1.16	7.14	22.53	-114.6	760	-
	8/6/2015	-	-	-	-	0.73	6.88	24.20	-107.8	828	-

Notes:
Name changes for the following wells should be noted: MW-05 to RW-05, MW-25 to RW-25, MW-31 to RW-31, MW-51 to RW-51, and MW-72 to RW-72

-	= Not available	mg/L	= Milligrams per liter
%	= Percent	mV	= Millivolts
µS/cm	= Microsiemens per centimeter	ORP	= Oxidation-Reduction Potential
deg C	= Degrees Celsius	ppm	= Parts per million

Table 5

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
MW-01S	8/15/2014	-	-	-	-	-	-	-	-	-	2,670
	10/22/2014	-	-	-	-	-	-	-	-	-	23,000
MW-08S	8/15/2014	-	-	-	-	-	-	-	-	-	7,540
	10/22/2014	-	-	-	-	-	-	-	-	-	52,000
	2/26/2015	-	-	-	-	-	-	-	-	-	22,000
	5/12/2015	-	-	-	-	-	-	-	-	-	27,000
	8/4/2015	-	-	-	-	-	-	-	-	-	14,000
MW-10S	8/15/2014	-	-	-	-	-	-	-	-	-	36,000
	10/22/2014	-	-	-	-	-	-	-	-	-	100,000
MW-11	8/16/2014	-	-	-	-	-	-	-	-	-	423
	10/22/2014	-	-	-	-	-	-	-	-	-	840
	2/26/2015	-	-	-	-	-	-	-	-	-	920
	5/12/2015	2	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	900
	8/5/2015	-	-	-	-	-	-	-	-	-	5,300
MW-14	8/15/2014	-	-	-	-	-	-	-	-	-	305
	10/22/2014	-	-	-	-	-	-	-	-	-	2,100
	2/25/2015	-	-	-	-	-	-	-	-	-	6,000
	5/12/2015	-	-	-	-	-	-	-	-	-	5,500
	8/5/2015	-	-	-	-	-	-	-	-	-	7,300
MW-15S	8/15/2014	-	-	-	-	-	-	-	-	-	909

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
MW-15S (cont.)	10/22/2014	-	-	-	-	-	-	-	-	-	2,800
	2/26/2015	-	-	-	-	-	-	-	-	-	2,800
	5/12/2015	-	-	-	-	-	-	-	-	-	1,800
	8/4/2015	-	-	-	-	-	-	-	-	-	5,900
MW-16S	8/16/2014	-	-	-	-	-	-	-	-	-	1,720
	9/9/2015	-	-	-	-	-	-	-	-	-	100
MW-16	8/15/2014	-	-	-	-	-	-	-	-	-	<300
	10/22/2014	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.02	<45
	2/25/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.030	<45
	5/12/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	<45
	8/5/2015	-	-	-	-	-	-	-	-	-	<45
MW-25S	8/15/2014	-	-	-	-	-	-	-	-	-	49,000
	12/5/2014	-	-	-	-	-	-	-	-	-	840,000
	1/9/2015	-	-	-	-	-	-	-	-	-	2,200,000
MW-25 / RW-25	8/13/2014	-	-	-	-	-	-	-	-	-	1,280
	12/5/2014	-	-	-	-	-	-	-	-	-	50,000
	1/9/2015	-	-	-	-	-	-	-	-	-	56,000
MW-27	8/16/2014	-	-	-	-	-	-	-	-	-	1,490
	10/23/2014	0.5	<0.5	2	2	<0.5	2	<0.5	<0.5	6	1,900
	2/25/2015	<0.5	<0.5	1	0.5	<0.5	<2	<0.5	<0.5	8.3	1,700

Table 5

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
MW-27 (cont.)	5/13/2015	<0.5	<0.5	2	1	<0.5	2 J	<0.5	<0.5	30	19,000
	8/5/2015	-	-	-	-	-	-	-	-	-	2,100
MW-30S	8/15/2014	-	-	-	-	-	-	-	-	-	7,040
	10/23/2014	<0.5	<0.5	<0.5	<0.5	<0.5	3	<0.5	<0.5	-	2,900
	2/25/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	3.9	3,500
	5/13/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	3,200
MW-31 / RW-31	8/16/2014	-	-	-	-	-	-	-	-	-	27,200
	10/23/2014	<0.5	<0.5	0.6	0.6	<0.5	<2	<0.5	<0.5	4	7,200
	2/25/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	2.7	1,800
	5/13/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	3 J	14,000
	8/5/2015	-	-	-	-	-	-	-	-	-	2,400
MW-33	8/15/2014	-	-	-	-	-	-	-	-	-	440
	10/23/2014	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.02	<45
	2/25/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.030	<45
	5/13/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.1	<45
	8/5/2015	-	-	-	-	-	-	-	-	-	<45
MW-51S	8/15/2014	-	-	-	-	-	-	-	-	-	1,590
	10/22/2014	-	-	-	-	-	-	-	-	-	8,400
	2/26/2015	-	-	-	-	-	-	-	-	-	7,100
	5/13/2015	-	-	-	-	-	-	-	-	-	17,000
	8/5/2015	-	-	-	-	-	-	-	-	-	11,000

Table 5

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
MW-51 / RW-51	8/11/2014	-	-	-	-	-	-	-	-	-	1,180
	8/13/2014	-	-	-	-	-	-	-	-	-	1,650
	8/16/2014	-	-	-	-	-	-	-	-	-	281,000
MW-52	8/15/2014	-	-	-	-	-	-	-	-	-	<600
	10/22/2014	-	-	-	-	-	-	-	-	-	120
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
	8/5/2015	-	-	-	-	-	-	-	-	-	110
MW-70	8/15/2014	-	-	-	-	-	-	-	-	-	<153
	10/21/2014	-	-	-	-	-	-	-	-	-	<45
	2/26/2015	-	-	-	-	-	-	-	-	-	3,200
	5/12/2015	-	-	-	-	-	-	-	-	-	100
	8/5/2015	-	-	-	-	-	-	-	-	-	<45
MW-72S	8/15/2014	-	-	-	-	-	-	-	-	-	5,980
	10/22/2014	-	-	-	-	-	-	-	-	-	3,300
	2/25/2015	-	-	-	-	-	-	-	-	-	3,400
	5/13/2015	13	<0.5	24	<0.5	<0.5	<2	<0.5	<0.5	16.00	4,000
	8/5/2015	-	-	-	-	-	-	-	-	-	3,700
MW-72 / RW-72	8/11/2014	-	-	-	-	-	-	-	-	-	<300
	8/13/2014	-	-	-	-	-	-	-	-	-	1,100
	8/16/2014	-	-	-	-	-	-	-	-	-	1,340
	10/22/2014	41	<0.5	1	66	0.6	2	<0.5	<0.5	61	2,000

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
MW-72 (cont.)	2/25/2015	8	<0.5	<0.5	3	<0.5	<2	<0.5	<0.5	<0.030	590
	5/13/2015	13	<0.5	<0.5	6	<0.5	<2	<0.5	<0.5	13.00	630
	8/5/2015	-	-	-	-	-	-	-	-	-	3,900
MW-100S	8/15/2014	-	-	-	-	-	-	-	-	-	<300
	10/21/2014	-	-	-	-	-	-	-	-	-	<45
	2/26/2015	-	-	-	-	-	-	-	-	-	690
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
	8/5/2015	-	-	-	-	-	-	-	-	-	<45
MW-100	8/15/2014	-	-	-	-	-	-	-	-	-	<152
	10/21/2014	-	-	-	-	-	-	-	-	-	60
	2/25/2015	-	-	-	-	-	-	-	-	-	300
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
	8/5/2015	-	-	-	-	-	-	-	-	-	<45
MW-102	8/15/2014	-	-	-	-	-	-	-	-	-	<1,500
	10/21/2014	-	-	-	-	-	-	-	-	-	<45
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
	8/5/2015	-	-	-	-	-	-	-	-	-	<45
MW-103	8/15/2014	-	-	-	-	-	-	-	-	-	479
	10/21/2014	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.02	54
	2/26/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.033	<45
	5/12/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	<45

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
MW-103 (cont.)	8/5/2015	-	-	-	-	-	-	-	-	-	<45
MW-104	8/15/2014	-	-	-	-	-	-	-	-	-	1,630
	10/21/2014	<0.5	<0.5	0.7	2	<0.5	<2	<0.5	<0.5	1	150
	2/26/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.030	<45
	5/12/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	<45
	8/5/2015	-	-	-	-	-	-	-	-	-	<45
MW-105	8/15/2014	-	-	-	-	-	-	-	-	-	<1,500
	10/21/2014	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	0.06	<45
	5/12/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	<45
	8/5/2015	-	-	-	-	-	-	-	-	-	<45
MW-106	8/15/2014	-	-	-	-	-	-	-	-	-	89,200
	10/22/2014	<0.5	<0.5	1	<0.5	<0.5	<2	<0.5	<0.5	23	2,000
	2/25/2015	<0.5	<0.5	2	<0.5	<0.5	<2	<0.5	<0.5	4.1	9,500
	5/12/2015	<0.5	<0.5	5	<0.5	<0.5	<2	<0.5	<0.5	2 J	7,800
	8/5/2015	-	-	-	-	-	-	-	-	-	2,300
MW-107	8/16/2014	-	-	-	-	-	-	-	-	-	8,540
	10/22/2014	<0.5	<0.5	2	2	<0.5	<2	<0.5	<0.5	0.9	840
	2/25/2015	1	<0.5	0.7	0.7	<0.5	<2	<0.5	<0.5	-	480
	5/12/2015	<0.5	<0.5	2	3	<0.5	<2	<0.5	<0.5	5.00	150
	8/5/2015	-	-	-	-	-	-	-	-	-	280

Table 5

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
MW-109S	8/21/2014	-	-	-	-	-	-	-	-	-	7,500
	10/20/2014	-	-	-	-	-	-	-	-	-	12,000
	2/26/2015	-	-	-	-	-	-	-	-	-	1,800
	5/12/2015	<0.5	<0.5	<0.5	<0.5	<0.5	4 J	<0.5	<0.5	<1	180
MW-109	8/21/2014	-	-	-	-	-	-	-	-	-	<600
	10/20/2014	-	-	-	-	-	-	-	-	-	200
	2/26/2015	-	-	-	-	-	-	-	-	-	100
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
MW-110S	8/25/2014	-	-	-	-	-	-	-	-	-	6,630
	10/20/2014	-	-	-	-	-	-	-	-	-	8,500
	2/26/2015	-	-	-	-	-	-	-	-	-	6,700
	5/12/2015	-	-	-	-	-	-	-	-	-	2,300
MW-110	8/25/2014	-	-	-	-	-	-	-	-	-	<153
	10/20/2014	-	-	-	-	-	-	-	-	-	<45
	2/26/2015	-	-	-	-	-	-	-	-	-	<45
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
MW-111	8/21/2014	-	-	-	-	-	-	-	-	-	<600
	10/20/2014	-	-	-	-	-	-	-	-	-	<45
	2/26/2015	-	-	-	-	-	-	-	-	-	260
	5/12/2015	-	-	-	-	-	-	-	-	-	150

Table 5

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
MW-112S	8/15/2014	-	-	-	-	-	-	-	-	-	<1,500
	10/20/2014	-	-	-	-	-	-	-	-	-	380
	2/26/2015	-	-	-	-	-	-	-	-	-	<45
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
MW-112	8/15/2014	-	-	-	-	-	-	-	-	-	<1,500
	10/20/2014	-	-	-	-	-	-	-	-	-	<45
	2/26/2015	-	-	-	-	-	-	-	-	-	<45
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
MW-113	8/21/2014	-	-	-	-	-	-	-	-	-	<600
	10/20/2014	-	-	-	-	-	-	-	-	-	61
	2/26/2015	-	-	-	-	-	-	-	-	-	90
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
MW-114	8/25/2014	-	-	-	-	-	-	-	-	-	<600
	10/20/2014	-	-	-	-	-	-	-	-	-	<45
	2/26/2015	-	-	-	-	-	-	-	-	-	<45
	5/12/2015	-	-	-	-	-	-	-	-	-	<45
MW-121	8/4/2015	-	-	-	-	-	-	-	-	-	9,400
MW-122	8/4/2015	-	-	-	-	-	-	-	-	-	2,000
MW-123S	8/5/2015	-	-	-	-	-	-	-	-	-	2,400

Table 5

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
RW-1	10/22/2014	-	-	-	-	-	-	-	-	-	30,000
	2/26/2015	-	-	-	-	-	-	-	-	-	6,200
	5/12/2015	-	-	-	-	-	-	-	-	-	8,400
	8/5/2015	-	-	-	-	-	-	-	-	-	2,500
RW-05S	8/5/2015	-	-	-	-	-	-	-	-	-	6,900
RW-28S	8/5/2015	-	-	-	-	-	-	-	-	-	2,300
RW-30S	8/5/2015	-	-	-	-	-	-	-	-	-	890
RW-116S	8/5/2015	-	-	-	-	-	-	-	-	-	7,000
RW-117S	8/5/2015	-	-	-	-	-	-	-	-	-	6,600
RW-118S	8/5/2015	-	-	-	-	-	-	-	-	-	8,200
RW-119S	8/5/2015	-	-	-	-	-	-	-	-	-	2,700
TW-01	12/16/2013	14.3	ND	13.1	63.5	1.55	-	-	-	119	14,100
	7/7/2014	-	-	-	-	-	-	-	-	-	27,400
TW-02	12/16/2013	ND	ND	ND	ND	0.791	-	-	-	ND	584
	7/7/2014	-	-	-	-	-	-	-	-	-	<1,160
	8/15/2014	-	-	-	-	-	-	-	-	-	<600

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
TW-02 (cont.)	10/23/2014	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	60
	3/4/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	0.20	<45
	5/13/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	<45
	8/5/2015	-	-	-	-	-	-	-	-	-	<45
TW-03	12/16/2013	ND	ND	ND	ND	ND	-	-	-	ND	351
	7/7/2014	-	-	-	-	-	-	-	-	-	<1,160
	8/15/2014	-	-	-	-	-	-	-	-	-	<1,500
	10/23/2014	0.7	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	49
	3/4/2015	1	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.030	180
	5/13/2015	1	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	200
	8/5/2015	-	-	-	-	-	-	-	-	-	150
TW-04	12/16/2013	2.2	ND	3.45	7.11	ND	-	-	-	27.7	2,000
	7/7/2014	-	-	-	-	-	-	-	-	-	1,270
	8/15/2014	-	-	-	-	-	-	-	-	-	1,610
	10/23/2014	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	0.3	160
	3/4/2015	1	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	1	940
	5/13/2015	1 J	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	700
	8/6/2015	-	-	-	-	-	-	-	-	-	1,000
TW-05	12/16/2013	7.68	ND	62.8	40.3	ND	-	-	-	240	136,000
	7/7/2014	-	-	-	-	-	-	-	-	-	66,300
	8/15/2014	-	-	-	-	-	-	-	-	-	271,000
	10/23/2014	4	<0.5	14	<0.5	<0.5	<2	<0.5	<0.5	21	29,000

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
TW-05 (cont.)	3/4/2015	2	<0.50	1	<0.5	<0.5	<2	<0.5	<0.5	3	2,200
	5/13/2015	3	<0.50	<0.50	<0.5	<0.5	<2	<0.5	<0.5	1 J	1,100
	8/6/2015	-	-	-	-	-	-	-	-	-	790
TW-06	12/16/2013	1.09	ND	20.3	7.86	ND	-	-	-	174	47,000
	7/7/2014	-	-	-	-	-	-	-	-	-	113,000
	8/15/2014	-	-	-	-	-	-	-	-	-	147,000
	10/23/2014	0.8	<0.5	11	1	<0.5	<2	<0.5	<0.5	5	16,000
	3/4/2015	2	<0.5	6	<0.5	<0.5	<2	<0.5	<0.5	2.2	2,200
	5/13/2015	2	<0.5	4	<0.5	<0.5	<2	<0.5	<0.5	4	2,300
	8/6/2015	-	-	-	-	-	-	-	-	-	1,400
TW-07	12/16/2013	2.38	ND	0.969	ND	ND	-	-	-	34	3,290
	7/7/2014	-	-	-	-	-	-	-	-	-	41,500
	8/15/2014	-	-	-	-	-	-	-	-	-	19,600
	10/23/2014	2	<0.5	0.6	<0.5	<0.5	<2	<0.5	<0.5	6	4,700
	3/4/2015	9	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	2.2	670
	5/13/2015	10	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	3 J	320
	8/5/2015	-	-	-	-	-	-	-	-	-	220
TW-08S	7/7/2014	-	-	-	-	-	-	-	-	-	29,500
TW-09S	7/7/2014	-	-	-	-	-	-	-	-	-	2,330,000
TW-10	12/18/2013	2.51	ND	19.7	4.99	ND	-	-	-	131	3,040

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes, Total (µg/L)	Methyl tert-butyl ether (µg/L)	tert-Butyl alcohol (µg/L)	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	Naphthalene (µg/L)	TPH-DRO (µg/L)
TW-10 (cont.)	7/7/2014	-	-	-	-	-	-	-	-	-	23,400
TW-11	12/18/2013	1.55	0.664	8.3	9.67	0.578	-	-	-	263	170,000
	7/7/2014	-	-	-	-	-	-	-	-	-	117,000
TW-13	12/18/2013	6.06	ND	44.5	137	ND	-	-	-	239	3,580
	7/7/2014	-	-	-	-	-	-	-	-	-	17,500
TW-14	1/17/2014	ND	ND	ND	ND	0.536	-	-	-	ND	2,290
	7/7/2014	-	-	-	-	-	-	-	-	-	16,000
	8/15/2014	-	-	-	-	-	-	-	-	-	3,900
	10/21/2014	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	-	670
	2/26/2015	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.030	120
	5/12/2015	1.00	<0.5	<0.5	<0.5	<0.5	7.00	<0.5	<0.5	<1	2,000
	8/11/2015	-	-	-	-	-	-	-	-	-	3,700

Notes:
During the 3rd Quarter 2015 sampling event, MW-109S, MW-109, MW-110S, MW-110, MW-111, MW-112S, MW-112, MW-113, and MW-114 were not sampled, as their locations in the basement of the plant were inaccessible due to unsafe conditions. MW-01S, MW-05, MW-10S, MW-25S, MW-25, and MW-51 were not sampled due to the presence of LNAPL. RW-25S and MW-108 were not sampled, as the wells were dry. TW-12S was not sampled, as the well contained an insufficient volume of water. TW-14 and MW-16S were not sampled during the quarterly sampling event, and were later sampled during weekly gauging events.

Name changes for the following wells should be noted: MW-05 to RW-05, MW-25 to RW-25, MW-31 to RW-31, MW-51 to RW-51, and MW-72 to RW-72

Table 5

HISTORICAL GROUNDWATER ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

-	= Not available
<#	= Less than the method detection limit
µg/L	= Micrograms per liter
J	= Detected between the Method Detection Limit and the Reporting Limit; therefore, result is an estimated value.
ND	= Non-detect
TPH-DRO	= Total Petroleum Hydrocarbons, Diesel Range Organics C10-C28

Table 6

HISTORICAL GROUNDWATER BIOSTIMULATION ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Methane (µg/L)	Sulfate as SO4 (mg/L)	Nitrate Nitrogen (mg/L)	Nitrite Nitrogen (mg/L)	Alkalinity, Carbonate (mg/L as CaCO3)	Ferrous Iron (mg/L)	Manganese (mg/L)
MW-01S	10/22/2014	4200	130	0.044 J	0.037 J	306	31.4	-
MW-10S	10/22/2014	1,100	33.1	<0.040	0.037 J	461	62.8	-
MW-11	10/22/2014	120	71.9	<0.040	<0.015	55	0.059	-
	2/26/2015	200	79.8	<0.040	<0.015	39	0.37	1.64
	5/12/2015	280	70.5	<0.040	<0.015	40.8	0.75	1.73
	8/6/2015	450	118	<0.040	0.049 J	356	21.9	5.67
MW-14	2/25/2015	230	51.4	0.7	<0.015	63	2.5	8.66
	5/12/2015	660	44.3	0.6	0.023 J	76.8	6.3	8.54
	8/6/2015	1,800	45.9	0.15	0.11	304	18	15.1
MW-31 / RW-31	10/23/2014	4,300	57.2	<0.040	<0.015	416	2.6	-
	2/25/2015	5,000	69.7	<0.040	<0.015	487	9.3	9.84
	5/13/2015	5,700	70.1	<0.040	<0.015	510	15.4	10.8
	8/5/2015	5,400	85.3	<0.040	<0.015	482	10	5.52
MW-33	10/23/2014	43	253	1.9	<0.015	119	0.068	-
	2/25/2015	9.8	235	2.5	<0.015	55.6	0.030 J	1.23
	5/13/2015	7.3	254	2	<0.015	81.7	0.075	0.975
	8/5/2015	17	253	1.8	<0.015	97.7	<0.010	0.605
MW-51S	10/22/2014	7,100	36.3	0.047 J	<0.015	564	28.7	-
	2/26/2015	8,900	6.2	<0.040	0.12	518	82.4	4.49
	5/13/2015	11,000	<1.5	<0.040	0.2	676	77.3	1.74
	8/6/2015	10,000	26.1	<0.040	0.046	480	48.3	1.03
MW-70	2/26/2015	<3.0	361	0.71	<0.015	35.1	0.048 J	2.62
	5/12/2015	3.4 J	357	0.7	<0.015	40.7	<0.50	6.13
	8/6/2015	<3.0	365	0.73	<0.015	29.6	0.089	1.29
MW-72S	10/22/2014	4,400	80.3	0.093 J	0.019 J	328	9.1	-
	2/25/2015	3,600	64.5	<0.040	<0.015	615	16.7	8.49
	5/13/2015	4,100	130	<0.040	0.097	597	24.6	8.46
	8/5/2015	2,300	207	<0.040	0.067	697	30.7	11.7
MW-72 / RW-72	10/22/2014	2,200	389	<0.040	<0.015	65.5	0.33	-
	2/25/2015	490	396	<0.040	<0.015	72.7	4.8	18.8
	5/13/2015	540	434	<0.040	0.057	101	10.8	17.5
	8/5/2015	1,400	393	<0.040	<0.015	548	14.3	13.5
MW-106	2/25/2015	260	1600	<0.040	0.021 J	<7.0	122	2.23
	5/12/2015	960	1160	<0.040	0.15	<0.70	50.1	1.49
	8/5/2015	2,100	1,010	<0.040	<0.015	35.1	32.7	1.38
MW-109S	10/20/2014	1,000	18.8	<0.040	0.037 J	368	8	-
	2/26/2015	140	55.4	<0.040	<0.015	196	3.1	2.64
	5/12/2015	11	62.7	<0.040	<0.015	126	0.5	2.34

Table 6

HISTORICAL GROUNDWATER BIOSTIMULATION ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Well ID	Sample Date	Methane (µg/L)	Sulfate as SO4 (mg/L)	Nitrate Nitrogen (mg/L)	Nitrite Nitrogen (mg/L)	Alkalinity, Carbonate (mg/L as CaCO3)	Ferrous Iron (mg/L)	Manganese (mg/L)
MW-112S	10/20/2014	4.1 J	99	0.71	<0.015	25	0.13	-
	2/26/2015	<3.0	86.7	2.3	<0.015	13.3	0.029 J	0.649
	5/12/2015	<3.0	98.9	2.5	<0.015	13.8	<0.010	0.597
MW-114	10/20/2014	16	40.5	1.5	0.16	66.7	0.066	-
	2/26/2015	<3.0	42.7	1.7	<0.015	68	0.016 J	0.102
	5/12/2015	<3.0	42.4	1.7	<0.015	68.2	0.035 J	0.0465
TW-03	3/4/2015	2,500	269	<0.040	0.083	49.7	29.7	5.24
	5/13/2015	2,200	298	<0.040	0.13	39	24.6	4.32
	8/6/2015	1,800	289	<0.040	0.07	<0.70	32.3	4.61
TW-05	3/4/2015	2,800	367	<0.040	0.13	89.4	72.6	5.28
	5/13/2015	1,300	463	0.052 J	0.18	66.2	58.6	4.77
	8/6/2015	3,000	388	-	-	-	-	-
	8/13/2015	-	-	<0.040	0.091	16.1	84.5	3.55
TW-07	3/4/2015	1,300	258	<0.040	0.034 J	1.6 J	14.1	4.3
	5/13/2015	800	323	<0.040	0.046 J	1.1 J	9.5	5.62
	8/6/2015	2,700	304	<0.040	0.018 J	2.7	8.7	4.51

Note: MW-109S, MW-112S and MW-114 were not sampled for biostimulation parameters during the 3rd Quarter 2015 sampling event as their locations in the basement of the plant were inaccessible due to unsafe conditions.

Name changes for the following wells should be noted: MW-05 to RW-05, MW-25 to RW-25, MW-31 to RW-31, MW-51 to RW-51, and MW-72 to RW-72

J = Detected between the Method Detection Limit and the Reporting Limit; therefore, result is an estimated value.

<# = Less than the method detection limit of #

µg/L = Micrograms per liter

mg/L = Milligrams per liter

Table 7

SOIL ANALYTICAL DATA SUMMARY

Potomac River Generating Station
1400 North Royal St
Alexandria, VA

Monitoring Well / Boring	Sample Depth (ft)	Date	TPH-DRO (mg/kg)	Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Total Xylenes (ug/kg)	Napthalene (ug/kg)
RW-30S	28.25 - 29	06/23/2015	340	<23	<46	<46	<46	150 J
RW-117S	29 - 30	06/23/2015	220	64 J	<67	81 J	<67	660
MW-122	23 - 24	06/24/2015	4,300	<21	<42	160 J	490	2,500
MW-118S (RW-118S)	23.5 - 24.5	06/25/2015	500	<0.5	<1	38	33	140
RW-116S	23.5 - 24.5	06/25/2015	5,200	84 J	<88	870	820	1,100
RW-119S	24.5 - 25	06/26/2015	2,100	<20	<40	880	660	4,000
RW-05S	24 - 25	06/29/2015	2,600	<27	<53	170 J	610	1,700
MW-120 (RW-25S)	27 - 28	06/30/2015	220	<20	<40	<40	87 J	620
MW-121	24 - 25	07/01/2015	3,900	70 J	<43	71 J	1,400	4,800
RW-28S	26.5 - 27	07/06/2015	18	1 J	<0.8	19	3 J	53
MW-123	24 - 25	07/07/2015	1,300	28 J	<39	780	860	3,400

Notes:

ft = Feet
- = Not available
<# = Less than the method detection limit
µg/kg = Micrograms per kilogram
mg/kg = Milligrams per kilogram
J = Detected between the Method Detection Limit and the Reporting Limit; therefore, result is an estimated value.
ND = Non-detect
TPH-DRO = Total Petroleum Hydrocarbons, Diesel Range Organics C10-C28

ATTACHMENTS

ATTACHMENT A

Purge Water and Soil Waste Manifests

24 Hour Emergency Service
(410) 636-3700
DAY: Monday
DATE: 7-13-15
ARRIVAL TIME: 8 am

TRIUMVIRATE ENVIRONMENTAL

☑ Baltimore, MD Office 410-636-3700 ☐ Ashland, VA Office 540-288-1176

Job No.: 325950
SHEET: 1
OF: 1

JOB CONTACT: GES Jeff Plummer
JOB PHONE 443-871-6466
JOB DESCRIPTION pump wells Ground water
SUPERVISOR: Andy Leslie
PROJECT MGR. Craig Childress
CHANGE ORDER: YES NO

LABOR: S = SUPERVISOR, F = FOREMAN, E = EQUIPMENT OPERATOR, T = TECHNICIAN

Position	Employee Name	Unit #	Pre-Trip/ Load	Travel To Job	Onsite	Travel From Job	Lunch/ Break	Office/ Compliance	Total Time
S	A. Leslie	7011	1.0	2.0	8.5	2.0		.5	14

EQUIPMENT / PURCHASES

Type	Unit #	Start Time	Stop Time	Total Hours	Rental Co. / Supplier	Purchase Order No.
Vac Truck	7011	5 am				

WASTE INFORMATION

Destination 1500 Carbon Ave

	Amount	Shipping Document #	Taken to Destination	Left on Site
Liquid Bulk	844 GLS.	B01 325950	☑	☐
Sludge Bulk	GLS.		☐	☐
Bags of Debris/PPE	Each		☐	☐
Liquid	Drums		☐	☐
Solid	Drums		☐	☐
	Pounds		☐	☐
	TNS./YDS.		☐	☐
Other			☐	☐

TRIUMVIRATE

PRINT NAME: Andy Leslie
SIGNATURE: Andrew Leslie
DATE: 7-13-15

CUSTOMER

PRINT NAME: X Jeff Plummer
SIGNATURE: X JPlummer
DATE: 7-13-15

TRIUMVIRATE ENVIRONMENTAL BILL OF LADING

STRAIGHT BILL OF LADING

ORIGINAL - NOT NEGOTIABLE

BOL Document Number: BOL325950

TRANSPORTER:	US EPA ID Number:	Phone:
1 Triumvirate Environmental, Inc.	MAC300016672	800-966-9282
2		

GENERATOR:	US EPA ID Number:	Phone:
NRG PO River 1400 North Royal Street Alexandria, VA 22314	VAD000731588	(800) 220-3606 x3706

FACILITY:	US EPA ID Number:	Phone:
~~Spirit Services, Inc.~~ Triumvirate ~~16232 Elliott Parkway~~ 1500 Carbon Ave ~~Williamsport, MD 21795~~ Baltimore 21226	MDR000507863	(704) 568-1290

Received: Andy Leslie (Print Name) _____ (Signature) 7/14/2015 (Date)

HM	Description of Articles or Proper Shipping Name	Containers No.	Size	Type	Weight	Unit Wt/Vol.
	Non-RCRA, Non-DOT Regulated Materials - Liquids (PETROLEUM IMPACTED WATER)	001 x	Tanker	TT	844	G
		x				
		x				
		x				

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation:

	Print Name	Signature	Date
GENERATOR: ON BEHALF OF NRG PO River	Jeff Plummer	J Plummer	7.13.15
TRANSPORTER: 1 Triumvirate Environmental, Inc.	Andy Leslie	Andrew Leslie	7.13.15
2			

ER #: (800) 966-9282

ERIP: Triumvirate Environmental, Inc.

Monitored at all times the Hazardous Materials is in transportation including storage to transportation. (172.604)

24 Hour Emergency Service
(410) 636-3700
DAY: Friday
DATE: 8-21-15

TRIUMVIRATE ENVIRONMENTAL

☑ Baltimore, MD Office 410-636-3700 ☐ Salisbury, MD Office 410-543-1559
☐ Stafford, VA Office 540-288-1176

Job No.: 326357
SHEET: 1
OF: 1

JOB LOCATION: 1400 N. Royal St. Alexandria, VA
CONTACT: Jeff Plummer
PHONE: 443-871-6466
JOB DESCRIPTION: Pump out

BILL TO:
CONTACT:
PHONE:

LABOR: S = SUPERVISOR, F = FOREMAN, E = EQUIPMENT OPERATOR, T = TECHNICIAN

Position	Employee Name	Unit #	Pre-Trip	Travel To Job	Onsite	Travel From Job	Lunch/ Break	Office/ Compliance	Total Time
EO	D. Anderson	7011	.5	1.5	5.5	1.5		.5	9.5
EO	S. McCutcheon	7011	.5	1.5	5.5	1.5		.5	9.5

EQUIPMENT/PURCHASES

Type	Unit #	Start Time	Stop Time	Total Hours	Rental Co./Supplier	Purchase Order No.
VAC	7011	6:30	3:00	8.5		

SUBCONTRACTORS

Subcontractor	Service/Quantity	Onsite	Purchase Order No.

WASTE INFORMATION

Destination 1500 Carbon Ave. TEI

	Amount		Shipping Document #	Taken to Destination	Left on Site
Liquid Bulk	246	GLS.	326357	☑	☐
Sludge Bulk		GLS.		☐	☐
Bags of Debris/PPE		Each		☐	☐
Liquid		Drums		☐	☐
Solid		Drums		☐	☐
		Pounds		☐	☐
		TNS./YDS.		☐	☐
Other				☐	☐

TRIUMVIRATE
PRINT NAME: Davar Anderson
SIGNATURE: Davar Anderson
DATE: 8-21-15

CUSTOMER
PRINT NAME: Jeff Plummer
SIGNATURE: J Plummer
DATE: 8-21-15

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Tank #4 56"

TRIUMVIRATE ENVIRONMENTAL BILL OF LADING

STRAIGHT BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

BOL Document Number: BOL326357

TRANSPORTER:	US EPA ID Number:	Phone:
1 Triumvirate Environmental, Inc. 2	MAC300016672	800-966-9282

GENERATOR:	US EPA ID Number:	Phone:
NRG PO River 1400 North Royal Street Alexandria, VA 22314	VAD000731588	(800) 220-3606 x3706

FACILITY:	US EPA ID Number:	Phone:
Triumvirate Environmental - Baltimore, LLC 1500 Carbon Avenue Baltimore, MD 21226	MDD093002384	(410) 636-3700

Received: Mike Morgan (Print Name) [signature] (Signature) 8/21/15 (Date)

HM	Description of Articles or Proper Shipping Name	Containers No.	Size	Type	Weight	Unit Wt/Vol.
	Non-RCRA, Non-DOT Regulated Materials - Liquids (PETROLEUM IMPACTED WATER) B 0" A 9"	001 x	Tanker	TT 246		G
			x			
			x			
			x			

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

	Print Name	Signature	Date
GENERATOR: NRG PO River	on behalf of NRG Jeff Plummer	[signature]	8-21-15
TRANSPORTER: 1 Triumvirate Environmental, Inc. 2	Davar Anderson	[signature]	8-21-15

ER #: (800) 966-9282
ERIP: Triumvirate Environmental, Inc.

Monitored at all times the Hazardous Materials is in transportation including storage to transportation. (172.604)

Clean Earth of Greater Washington, LLC

Ticket: 700000263887

	Date	Time	Scale
In:	7/8/2015	07:55:27	Scale C
Out:	7/8/2015	07:56:30	P.T.

	Lbs	Tns
Gross:	62740	31.37
Tare:	34500	17.25
Net:	28240	14.12

Manifest: 820775
Vehicle ID: 19CHEE1964
Vehicle Permit:
Customer: GROUNDWATER & ENVIRONMENT
Generator EPA#:
Generator: NRG Potomac River LLC
Gen Address: 8301 Professional Pl Suite 230
Landover, MD 20785

Facility Approval#: 143190087
Job Name: NRG Potomac River LLC
Job Address: 1400 North Royal Street
Alexandria, VA 22314

Origin	Materials & Services	Quantity	Unit
Alexandria (City)	Soil Treatment Type III	14.12	Tns

Contaminate Type: Petroleum Impacted Soils
Treatment Type: Not Applicable
Fac Waste Code: Not Applicable
Storage Area: Treatment Pad
Comment:

Driver: DENNIS

Facility: Slaughter, Taylor

GENERATOR

CLEANEARTH

Manifest # 820775

GLOBAL JOB NUMBER: 134336 **FACILITY APPROVAL NUMBER:** 1431 900 87

Please Check One:

- ☐ Clean Earth of Carteret, 24 Middlesex Avenue, Carteret, NJ 07008, Ph: 732-541-8909
- ☐ Clean Earth of Maryland, 1469 Oak Ridge Place, Hagerstown, MD 21740, Ph: 301-791-6220
- ☐ Clean Earth of New Castle, 94 Pyles Lane, New Castle, DE 19720, Ph: 302-427-6633
- ☒ Other: GREATER WASHINGTON 6250 DAVIS HOUSE RD UPPER MARLBORO MD
- ☐ Clean Earth of Philadelphia, 3201 S. 61st Street, Philadelphia, PA 19153, Ph: 215-724-5520
- ☐ Clean Earth of North Jersey, 115 Jacobus Avenue, Kearny, NJ 07032, Ph: 973-344-4004
- ☐ Clean Earth of Southeast Pennsylvania, 7 Steel Road East, Morrisville, PA 19067, Ph: 215-428-1700

Non-Hazardous Material Manifest

(Type or Print Clearly)

GENERATOR'S NAME & SITE ADDRESS: NRG POTOMAC RIVER LLC 1405 NORTH ROYAL STREET ALEXANDRIA VIRGINIA 22314	GROSS WEIGHT: ☐Tons ☐Yards	LIQUID 5240 lb
	TARE WEIGHT: ☐Tons ☐Yards	2-08-2015 9:15
GENERATOR'S PHONE: 866 222 7786	NET WEIGHT: ☐Tons ☐Yards	14.12

DESCRIPTION OF MATERIAL/SAMPLE ID AND LOCATION

OIL-DIRT

GENERATOR'S CERTIFICATION – Incomplete and/or unsigned manifests will cause the load to be delayed and/or rejected.

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, is not a DOT hazardous substance as defined by 49 CFR Part 172 or any applicable state law, has been fully and accurately described above, classified, packaged and is in proper condition for transportation according to all applicable state and federal regulations.

Name: Nick Guglielmi as agent of NRG Title: Environmental Scientist

Signature: [signature] Date and Time: 7-8-15

TRANSPORTER

Company: CHEETAH SERVICES Phone Number: 540-3999

Address: 820 FL Hwy Leesburg MD Truck # and License Plate: 1964 Bied Co

Driver: DENNIS (Type or Print Clearly) SW Haulers Permit #: 1187 (applicable state permit #)

I hereby certify that the above named material was picked up at the site listed above.

Driver Signature: [signature] Date and Time: 7-8-15

DESTINATION

I hereby certify that the above named material was delivered without incident to the facility noted above.

Driver Signature: [signature] Date and Time: 7-8-15

I hereby certify that the above named material has been accepted at the above referenced facility.

Authorized Signature: [signature] Date and Time: 7-8

GENERATOR

Clean Earth of Greater Washington, LLC

Ticket: 700000266076

	Date	Time	Scale
In:	7/14/2015	08:10:37	Manual
Out:	7/14/2015	08:11:10	P.T.

	Lbs	Tns
Gross:	36040	18.02
Tare:	34500	17.25
Net:	1540	0.77

Manifest: 820774
Vehicle ID: 19CHEE1964
Vehicle Permit:
Customer: GROUNDWATER & ENVIRONMENT
Generator EPA#:
Generator: NRG Potomac River LLC
Gen Address: 8301 Professional Pl Suite 230
Landover, MD 20785

Facility Approval#: 143190087
Job Name: NRG Potomac River LLC
Job Address: 1400 North Royal Street
Alexandria, VA 22314

Origin	Materials & Services	Quantity	Unit
Alexandria (City)	Soil Treatment Type III	0.77	Tns

Contaminate Type: Petroleum Impacted Soils
Treatment Type: Not Applicable
Fac Waste Code: Not Applicable
Storage Area: Treatment Pad
Comment:

Driver: DENNIS

Facility: Slaughter, Taylor

GENERATOR

CLEANEARTH

Manifest # 820774

GLOBAL JOB NUMBER: 134336 **FACILITY APPROVAL NUMBER:** 1431 90087

Please Check One:

- ☐ Clean Earth of Carteret, 24 Middlesex Avenue, Carteret, NJ 07008, Ph: 732-541-8909
- ☐ Clean Earth of Maryland, 1469 Oak Ridge Place, Hagerstown, MD 21740, Ph: 301-791-6220
- ☐ Clean Earth of New Castle, 94 Pyles Lane, New Castle, DE 19720, Ph: 302-427-6633
- ☒ Other: CLEAN EARTH LOCATED BELOW GREEN POWER HOUSE ON LATTER MARLBORO MD
- ☐ Clean Earth of Philadelphia, 3201 S. 61st Street, Philadelphia, PA 19153, Ph: 215-724-5520
- ☐ Clean Earth of North Jersey, 115 Jacobus Avenue, Kearny, NJ 07032, Ph: 973-344-4004
- ☐ Clean Earth of Southeast Pennsylvania, 7 Steel Road East, Morrisville, PA 19067, Ph: 215-428-1700

Non-Hazardous Material Manifest

(Type or Print Clearly)

GENERATOR'S NAME & SITE ADDRESS:	GROSS WEIGHT: ☐Tons ☐Yards	
POTOMAC RIVER POWER PLANT 1400 NORTH ROYAL STREET ALEXANDRIA VIRGINIA 22314	TARE WEIGHT: ☐Tons ☐Yards	2-14-2015 8:00 AM
GENERATOR'S PHONE: 703 836 1719	NET WEIGHT: ☐Tons ☐Yards	.77

DESCRIPTION OF MATERIAL/SAMPLE ID AND LOCATION

DILL DIRT

GENERATOR'S CERTIFICATION – Incomplete and/or unsigned manifests will cause the load to be delayed and/or rejected.

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, is not a DOT hazardous substance as defined by 49 CFR Part 172 or any applicable state law, has been fully and accurately described above, classified, packaged and is in proper condition for transportation according to all applicable state and federal regulations.

Name: IBRAHIM SANUSI Title: SECURITY GUARD

Signature: Date and Time: 2-14-15

TRANSPORTER

Company: CHEETAH TRUCKING Phone Number: 410-840-3999

Address: 850 FOX HWY KEYMAR MD Truck # and License Plate: 1964 18180 CO

Driver: DEMMI SW Haulers Permit #: 11874

(Type or Print Clearly) (applicable state permit #)

I hereby certify that the above named material was picked up at the site listed above.

Driver Signature: Date and Time: 11874

DESTINATION

I hereby certify that the above named material was delivered without incident to the facility noted above.

Driver Signature: Date and Time: 11874

I hereby certify that the above named material has been accepted at the above referenced facility.

Authorized Signature: Date and Time: 2-14

GENERATOR

ATTACHMENT B

Laboratory Analytical Reports and Chain of Custody Documentation

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

July 22, 2015

Project: NRG PRGS

Submittal Date: 07/09/2015
Group Number: 1575607
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-121 24-25 Grab Soil	7960737
RW-28S 26.5-27 Grab Soil	7960738
MW-123 24-25 Grab Soil	7960739

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution
ELECTRONIC COPY TO	GES Inc.	Attn: Andrea Taylorson-Collins

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

(717) 556-7323

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MW-121 24-25 Grab Soil
NRG - PRGS

LL Sample # SW 7960737
LL Group # 1575607
Account # 08390

Project Name: NRG PRGS

Collected: 07/01/2015 14:30 by NG

Submitted: 07/09/2015 17:25
Reported: 07/22/2015 20:15

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NG121

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**		**ug/kg**	
10237	Benzene	71-43-2	70	J	21	38.05
10237	Ethylbenzene	100-41-4	71	J	43	38.05
10237	Naphthalene	91-20-3	4,800		43	38.05
10237	Toluene	108-88-3	N.D.		43	38.05
10237	Xylene (Total)	1330-20-7	1,400		43	38.05
GC Miscellaneous	**SW-846 8015B**		**mg/kg**		**mg/kg**	
10941	TPH-DRO soil C10-C28 microwave	n.a.	3,900		89	20
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	
00111	Moisture	n.a.	10.9		0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	8260 BTEX+Naphthalene Soil	SW-846 8260B	1	R151951AA	07/14/2015 20:18	Anita M Dale	38.05
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201519038209	07/01/2015 14:30	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201519038209	07/01/2015 14:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201519038209	07/01/2015 14:30	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	2	201519038209	07/01/2015 14:30	Client Supplied	1
10941	TPH-DRO soil C10-C28 microwave	SW-846 8015B	1	151940011A	07/15/2015 09:53	Christine E Dolman	20
10942	Microwave Extraction-DRO soils	SW-846 3546	1	151940011A	07/13/2015 19:00	David V Hershey Jr	1
00111	Moisture	SM 2540 G-1997	1	15195820004A	07/14/2015 21:26	Scott W Freisher	1

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: RW-28S 26.5-27 Grab Soil
NRG - PRGS

LL Sample # SW 7960738
LL Group # 1575607
Account # 08390

Project Name: NRG PRGS

Collected: 07/06/2015 10:00 by NG

Submitted: 07/09/2015 17:25
Reported: 07/22/2015 20:15

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NG28S

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**		**ug/kg**	
10237	Benzene	71-43-2	1	J	0.4	0.73
10237	Ethylbenzene	100-41-4	19		0.8	0.73
10237	Naphthalene	91-20-3	53		0.8	0.73
10237	Toluene	108-88-3	N.D.		0.8	0.73
10237	Xylene (Total)	1330-20-7	3	J	0.8	0.73
GC Miscellaneous	**SW-846 8015B**		**mg/kg**		**mg/kg**	
10941	TPH-DRO soil C10-C28 microwave	n.a.	18		5.5	1
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	
00111	Moisture	n.a.	13.4		0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	8260 BTEX+Naphthalene Soil	SW-846 8260B	1	X151961AA	07/15/2015 17:00	Angela D Sneeringer	0.73
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201519038209	07/06/2015 10:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201519038209	07/06/2015 10:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201519038209	07/06/2015 10:00	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	2	201519038209	07/06/2015 10:00	Client Supplied	1
10941	TPH-DRO soil C10-C28 microwave	SW-846 8015B	1	151940011A	07/14/2015 14:57	Christine E Dolman	1
10942	Microwave Extraction-DRO soils	SW-846 3546	1	151940011A	07/13/2015 19:00	David V Hershey Jr	1
00111	Moisture	SM 2540 G-1997	1	15195820004A	07/14/2015 21:26	Scott W Freisher	1

eurofins
Lancaster Laboratories Environmental
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MW-123 24-25 Grab Soil
NRG - PRGS

LL Sample # SW 7960739
LL Group # 1575607
Account # 08390

Project Name: NRG PRGS

Collected: 07/07/2015 10:15 by NG

Submitted: 07/09/2015 17:25
Reported: 07/22/2015 20:15

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NG123

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/kg**		**ug/kg**	
10237	Benzene	71-43-2	28	J	20	36.66
10237	Ethylbenzene	100-41-4	780		39	36.66
10237	Naphthalene	91-20-3	3,400		39	36.66
10237	Toluene	108-88-3	N.D.		39	36.66
10237	Xylene (Total)	1330-20-7	860		39	36.66
GC Miscellaneous	**SW-846 8015B**		**mg/kg**		**mg/kg**	
10941	TPH-DRO soil C10-C28 microwave	n.a.	1,300		21	5
Wet Chemistry	**SM 2540 G-1997**		**%**		**%**	
00111	Moisture	n.a.	6.8		0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	8260 BTEX+Naphthalene Soil	SW-846 8260B	1	Q151971AA	07/16/2015 14:52	Anita M Dale	36.66
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	1	201519038209	07/07/2015 10:15	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035A	2	201519038209	07/07/2015 10:15	Client Supplied	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201519038209	07/07/2015 10:15	Client Supplied	1
10941	TPH-DRO soil C10-C28 microwave	SW-846 8015B	1	151940011A	07/15/2015 10:31	Christine E Dolman	5
10942	Microwave Extraction-DRO soils	SW-846 3546	1	151940011A	07/13/2015 19:00	David V Hershey Jr	1
00111	Moisture	SM 2540 G-1997	1	15195820004A	07/14/2015 21:26	Scott W Freisher	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1575607
Reported: 07/22/2015 20:15

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Q151971AA	Sample number(s): 7960739							
Benzene	N.D.	25.	ug/kg	99	102	80-120	3	30
Ethylbenzene	N.D.	50.	ug/kg	90	93	80-120	3	30
Naphthalene	N.D.	50.	ug/kg	85	93	64-120	9	30
Toluene	N.D.	50.	ug/kg	96	101	80-120	5	30
Xylene (Total)	N.D.	50.	ug/kg	89	92	80-120	4	30
Batch number: R151951AA	Sample number(s): 7960737							
Benzene	N.D.	25.	ug/kg	99	109	80-120	10	30
Ethylbenzene	N.D.	50.	ug/kg	105	116	80-120	10	30
Naphthalene	N.D.	50.	ug/kg	78	88	64-120	12	30
Toluene	N.D.	50.	ug/kg	105	113	80-120	7	30
Xylene (Total)	N.D.	50.	ug/kg	103	111	80-120	8	30
Batch number: X151961AA	Sample number(s): 7960738							
Benzene	N.D.	0.5	ug/kg	101	100	80-120	1	30
Ethylbenzene	N.D.	1.	ug/kg	99	98	80-120	1	30
Naphthalene	N.D.	1.	ug/kg	88	91	64-120	4	30
Toluene	N.D.	1.	ug/kg	102	100	80-120	2	30
Xylene (Total)	N.D.	1.	ug/kg	97	97	80-120	0	30
Batch number: 151940011A	Sample number(s): 7960737-7960739							
TPH-DRO soil C10-C28 microwave	N.D.	4.0	mg/kg	96		81-121		
Batch number: 15195820004A	Sample number(s): 7960737-7960739							
Moisture				100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: R151951AA	Sample number(s): 7960737 UNSPK: P956420								
Benzene	113	100	55-143	15	30				
Ethylbenzene	123	118	44-141	7	30				
Naphthalene	90	79	10-138	15	30				
Toluene	124	142	50-146	12	30				
Xylene (Total)	118	120	44-136	1	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: GES, Inc. Group Number: 1575607
Reported: 07/22/2015 20:15

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 151940011A	Sample number(s): 7960737-7960739 UNSPK: P960740 BKG: P960740								
TPH-DRO soil C10-C28 microwave	92		35-129			N.D.	N.D.	0 (1)	20
Batch number: 15195820004A	Sample number(s): 7960737-7960739 BKG: P959474								
Moisture						15.1	14.9	1	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260 BTEX+Naphthalene Soil
Batch number: Q151971AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7960739	85	89	84	90
Blank	92	96	91	86
LCS	98	104	94	89
LCSD	97	97	93	89
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260 BTEX+Naphthalene Soil
Batch number: R151951AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7960737	69	71	78	90
Blank	82	85	93	89
LCS	83	85	92	90
LCSD	89	90	97	94
MS	62	66	71	72
MSD	67	68	75	77
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260 BTEX+Naphthalene Soil
Batch number: X151961AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7960738	101	97	109	114
Blank	98	99	99	94
LCS	97	98	101	99
LCSD	99	99	101	99
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TPH-DRO soil C10-C28 microwave
Batch number: 151940011A

	Orthoterphenyl
7960737	125
7960738	87
7960739	130
Blank	92
DUP	93

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: GES, Inc.
Reported: 07/22/2015 20:15

Group Number: 1575607

Surrogate Quality Control

LCS	90
MS	87
Limits:	54-145

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 1575607 Sample # 7960737-39

Client: Groundwater & Env. Services, Inc.																													
Project Name/#: NRG PRGS	Site ID #: NRG PRGS																												
Project Manager: Tony Christhilf	P.O. #: 0402925																												
Sampler: Nick Guglielmo	PWSID #:																												
Phone #: 800-220-3606 x 3762	Quote #: 212032A																												
State where sample(s) were collected: 1400 North Royal St., Alexandria, VA																													
	Collection				Matrix					Analyses Requested																			
										Preservation Codes																			
Sample Identification	Date	Time	Grab	Composite	Soil	Water	Other:	Total # of Containers		TPH-DRO C10-C28 (SW-846 8015B)	BTEX, Naphthalene (SW-846 8260B)																		
					Sediment ☐	Potable ☐ Ground ☐	NPDES ☐ Surface ☐			H	H	H	None	N	None	None	S	H	None	N	H	N	B	N				
MW-121 24-25	7-1	1430	X		X			4		X	X																		
RW-28S 26.5-27	7-6	1000	X		X			4		X	X																		
MW-123 24-25	7-7	1015	X		X			4		X	X																		

For Lab Use Only
SF #: _____
SCR #: _____

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
O = Other

Remarks

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

EQEDD Name: NRG PRGS.*Lab report #*.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	7-8-15	1215	[signature]	7-8-15	1215
[signature]	7-8-15	1400	[signature]	7-8-15	1300
Denise Woodring	7-9-15	1330	[signature]	7/9/15	1320
[signature]	7/9/15	17			
			[signature]	7/9/15	1725

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 1.3 °C

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7045 0614

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Sample Administration Receipt Documentation Log

Doc Log ID: 85379

Group Number(s): 1575607

Client: GES

NRG PRGS

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	07/09/2015 17:25
Number of Packages:	1	Number of Projects:	3
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Jordan Woods (6698) at 17:41 on 07/09/2015

Samples Chilled Details: NRG PRGS

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.3	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details: NRG PRGS

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
MW-121	5	4	
RW-28S	5	4	

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

July 23, 2015

Project: NRG PRGS

Submittal Date: 07/14/2015
Group Number: 1576734
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-05 Grab Groundwater	7966261
MW-51 Grab Groundwater	7966262
MW-25S Grab Groundwater	7966263
MW-25 Grab Groundwater	7966264

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES, Inc. - VA	Attn: Anthony Christhilf
ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

(717) 556-7323

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Analysis Report

Sample Description: MW-05 Grab Groundwater
NRG - PRGS

LL Sample # WW 7966261
LL Group # 1576734
Account # 08390

Project Name: NRG PRGS

Collected: 07/13/2015 11:58 by JP

Submitted: 07/14/2015 18:30
Reported: 07/23/2015 13:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRG05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	92,000	45	5

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	151960003A	07/17/2015 21:22	Christine E Dolman	5
12059	Microextraction - DRO (waters)	SW-846 3511	1	151960003A	07/15/2015 13:00	Wanda F Oswald	1

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Analysis Report

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Sample Description: MW-51 Grab Groundwater
NRG - PRGS

LL Sample # WW 7966262
LL Group # 1576734
Account # 08390

Project Name: NRG PRGS

Collected: 07/13/2015 13:35 by JP

Submitted: 07/14/2015 18:30
Reported: 07/23/2015 13:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRG51

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	7,300	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	151960003A	07/16/2015 17:30	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	151960003A	07/15/2015 13:00	Wanda F Oswald	1

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Analysis Report

Sample Description: MW-25S Grab Groundwater
NRG - PRGS

LL Sample # WW 7966263
LL Group # 1576734
Account # 08390

Project Name: NRG PRGS

Collected: 07/13/2015 15:15 by JP

Submitted: 07/14/2015 18:30
Reported: 07/23/2015 13:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NG25S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	1,100,000	45	100

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	151960003A	07/17/2015 21:45	Christine E Dolman	100
12059	Microextraction - DRO (waters)	SW-846 3511	1	151960003A	07/15/2015 13:00	Wanda F Oswald	1

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Analysis Report

Sample Description: MW-25 Grab Groundwater
NRG - PRGS

LL Sample # WW 7966264
LL Group # 1576734
Account # 08390

Project Name: NRG PRGS

Collected: 07/13/2015 16:25 by JP

Submitted: 07/14/2015 18:30
Reported: 07/23/2015 13:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRG25

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	97,000	45	5

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	151960003A	07/17/2015 22:09	Christine E Dolman	5
12059	Microextraction - DRO (waters)	SW-846 3511	1	151960003A	07/15/2015 13:00	Wanda F Oswald	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1576734
Reported: 07/23/2015 13:40

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 151960003A	Sample number(s): 7966261-7966264							
DRO C10-C28	N.D.	45.	ug/l	95	97	69-115	1	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: DRO micro-ext 8015B
Batch number: 151960003A

	Orthoterphenyl
7966261	294*
7966262	114
7966263	2226*
7966264	585*
Blank	114
LCS	110
LCSD	111
Limits:	42-160

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 1576734 Sample # 7966261-64

Client: Groundwater & Environmental Services, Inc. (GES)	
Project Name/#: NRG PRGS	Site ID #: 0402925
Project Manager: Anthony Christhilf	P.O. #: 0402925
Sampler: Jeff Plummer	PWSID #:
Phone #: 800-220-3606 x3717	Quote #: 212032A
State where sample(s) were collected: 1400 N Royal St., Alexandria, VA	

For Lab Use Only
SF #: _____
SCR #: _____

Preservation Codes: H = HCl; T = Thiosulfate; N = HNO_3; B = NaOH; S = H_2SO_4; P = H_3PO_4; O = Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Sediment	Soil	Ground Water	Surface Water	Potable Water	NPDES Water	Other:	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B)	Remarks
MW-05	7-13-15	1158	X				X					2	X	EQEDD File Name:
MW-51	↓	1335	↓				↓					↓	↓	NRG PRGS.
MW-25S	↓	1515	↓				↓					↓	↓	Lab Report #.
MW-25	7-13-15	1625	X				X					2	X	25800.EQEDD.zip

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type VI (Raw Data Only) ☐ TX TRRP-13 ☐
NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

Relinquished by:	Date	Time	Received by:	Date	Time
Jeff Plummer	7-14-15	0615	Denise Woodring	7-14-15	0800
Denise Woodring	7-14-15	15:05	[illegible]	7/14/15	18:00
[illegible]	7/14/15	18:30			
			[illegible]	7/14/15	1830

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.5 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 86801

Group Number(s): 1576734

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	07/14/2015 18:30
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Patrick Engle (3472) at 20:21 on 07/14/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	0.5	DT	Wet	Y	Loose	N

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Lancaster, PA 17605-2425
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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

August 10, 2015

Project: NRG PRGS

Submittal Date: 07/14/2015
Group Number: 1576735
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-05 Grab Air	7966265
MW-51 Grab Air	7966266
MW-25S Grab Air	7966267
MW-25 Grab Air	7966268

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES, Inc. - VA	Attn: Anthony Christhilf
ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

(717) 556-7323

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Analysis Report

Sample Description: MW-05 Grab Air
NRG - PRGS

LL Sample # AQ 7966265
LL Group # 1576735
Account # 08390

Project Name: NRG PRGS

Collected: 07/13/2015 11:50 by JP

Submitted: 07/14/2015 18:30
Reported: 08/10/2015 23:06

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		mg/m3	mg/m3	
07090	C1-C4 Hydrocarbons as propane	n.a.	71,000	1,800	100
07090	>C4-C10 Hydrocarbons hexane	n.a.	530	35	1
The holding time was not met.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	C1-C4, >C4-C10 (as propane)	EPA 18 mod/EPA 25 mod	1	M1521830AA	08/06/2015 17:55	Jeffrey B Smith	1
07090	C1-C4, >C4-C10 (as propane)	EPA 18 mod/EPA 25 mod	1	M1521930AA	08/07/2015 13:56	Alexander D Sechrist	100

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Analysis Report

Sample Description: MW-51 Grab Air
NRG - PRGS

LL Sample # AQ 7966266
LL Group # 1576735
Account # 08390

Project Name: NRG PRGS

Collected: 07/13/2015 13:15 by JP

Submitted: 07/14/2015 18:30
Reported: 08/10/2015 23:06

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		mg/m3	mg/m3	
07090	C1-C4 Hydrocarbons as propane	n.a.	71	18	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	< 35	35	1

The holding time was not met.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	C1-C4, >C4-C10 (as propane)	EPA 18 mod/EPA 25 mod	1	M1521830AA	08/06/2015 18:24	Jeffrey B Smith	1

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Analysis Report

Sample Description: MW-25S Grab Air
NRG - PRGS

LL Sample # AQ 7966267
LL Group # 1576735
Account # 08390

Project Name: NRG PRGS

Collected: 07/13/2015 15:00 by JP

Submitted: 07/14/2015 18:30
Reported: 08/10/2015 23:06

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		mg/m3	mg/m3	
07090	C1-C4 Hydrocarbons as propane	n.a.	12,000	1,800	100
07090	>C4-C10 Hydrocarbons hexane	n.a.	140	35	1
The holding time was not met.					

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	C1-C4, >C4-C10 (as propane)	EPA 18 mod/EPA 25 mod	1	M1521830AA	08/06/2015 18:53	Jeffrey B Smith	1
07090	C1-C4, >C4-C10 (as propane)	EPA 18 mod/EPA 25 mod	1	M1521930AA	08/07/2015 14:25	Alexander D Sechrist	100

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Analysis Report

Sample Description: MW-25 Grab Air
NRG - PRGS

LL Sample # AQ 7966268
LL Group # 1576735
Account # 08390

Project Name: NRG PRGS

Collected: 07/13/2015 16:20 by JP

Submitted: 07/14/2015 18:30
Reported: 08/10/2015 23:06

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		mg/m3	mg/m3	
07090	C1-C4 Hydrocarbons as propane	n.a.	< 18	18	1
07090	>C4-C10 Hydrocarbons hexane	n.a.	< 35	35	1

The holding time was not met.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	C1-C4, >C4-C10 (as propane)	EPA 18 mod/EPA 25 mod	1	M1521830AA	08/06/2015 19:44	Jeffrey B Smith	1

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Quality Control Summary

Client Name: GES, Inc. Group Number: 1576735
Reported: 08/10/2015 23:06

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: M1521830AA	Sample number(s): 7966265-7966268							
C1-C4 Hydrocarbons as propane	< 18	18.	mg/m3					
>C4-C10 Hydrocarbons hexane	< 35	35.	mg/m3					
Batch number: M1521930AA	Sample number(s): 7966265,7966267							
C1-C4 Hydrocarbons as propane	< 18	18.	mg/m3					

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 1576735 Sample # 7966265-68

Client: Groundwater & Environmental Services, Inc. (GES)	
Project Name/#: NRG PRGS	Site ID #: 0402925
Project Manager: Anthony Christhilf	P.O. #: 0402925
Sampler: Jeff Plummer	PWSID #:
Phone #: 800-220-3606 x3717	Quote #: 212032A
State where sample(s) were collected: 1400 N Royal St., Alexandria, VA	

Matrix: Sediment ☐ Soil ☐ Ground ☐ Potable ☐ Surface ☐ NPDES ☐ Water Other: Airbag

Analyses Requested / Preservation Codes

For Lab Use Only: SF #: _____ SCR #: _____

Preservation Codes: H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, P = H_3PO_4, O = Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Sediment	Soil	Ground	Potable	Surface	NPDES	Water	Other: Airbag	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B)	Remarks
MW-05	7-13-15	1150	X									X	1	X	EQEDD file name:
MW-51	↓	1315	↓									↓	1	↓	NRG PRGS.
MW-25S	↓	1500	↓									↓	1	↓	lab report #.
MW-25	7-13-15	1620	X									X	1	X	25800.EQEDD.zip
															ELLE WILL REPORT
															C1-C4 AND 104-C10 BY
															EPA 18/25 PER
															A. CHRISTHILF
															KNP 7/15/15

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

Relinquished by:	Date	Time	Received by:	Date	Time
Jeff Plummer	7-14-15	0620	Denise Wooding	7-14-15	0800
Denise Wooding	7-14-15	15:05	[illegible]	7/14/15	1500
[illegible]	7/14/15	18:30			

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt NA °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 86799

Group Number(s): 1576735

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	07/14/2015 18:30
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	N/A	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	Yes
Missing Samples:	No	Air Quality Flow Controllers Present:	No
Extra Samples:	No	Air Quality Returns:	No
Discrepancy in Container Qty on COC:	No		

Unpacked by Patrick Engle (3472) at 20:19 on 07/14/2015

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Analysis Report

REVISED

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

October 09, 2015

Project: NRG PRGS

Submittal Date: 08/06/2015
Group Number: 1582782
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-122 Grab Groundwater	7995921
RW-119S Grab Groundwater	7995922
MW-121 Grab Groundwater	7995923
MW-15S Grab Groundwater	7995924
RW-118S Grab Groundwater	7995925
MW-08S Grab Groundwater	7995926

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

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Respectfully Submitted,

Kaitlin N. Plasterer
Specialist

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Analysis Report

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Sample Description: MW-122 Grab Groundwater
NRG PRGS

LL Sample # WW 7995921
LL Group # 1582782
Account # 08390

Project Name: NRG PRGS

Collected: 08/04/2015 14:20 by JP

Submitted: 08/06/2015 17:15
Reported: 10/09/2015 15:52

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MW122

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	2,000	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 17:42	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

REVISED

Sample Description: RW-119S Grab Groundwater NRG PRGS

LL Sample # WW 7995922
LL Group # 1582782
Account # 08390

Project Name: NRG PRGS

Collected: 08/04/2015 14:25 by JP

Submitted: 08/06/2015 17:15
Reported: 10/09/2015 15:52

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

RW119

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	2,700	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 18:05	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

REVISED

Sample Description: MW-121 Grab Groundwater
NRG PRGS

LL Sample # WW 7995923
LL Group # 1582782
Account # 08390

Project Name: NRG PRGS

Collected: 08/04/2015 14:30 by JP

Submitted: 08/06/2015 17:15
Reported: 10/09/2015 15:52

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MW121

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	9,400	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 18:29	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

REVISED

Sample Description: MW-15S Grab Groundwater
NRG PRGS

LL Sample # WW 7995924
LL Group # 1582782
Account # 08390

Project Name: NRG PRGS

Collected: 08/04/2015 14:35 by JP

Submitted: 08/06/2015 17:15
Reported: 10/09/2015 15:52

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MW-15

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	5,900	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 18:52	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

REVISED

Sample Description: RW-118S Grab Groundwater
NRG PRGS

LL Sample # WW 7995925
LL Group # 1582782
Account # 08390

Project Name: NRG PRGS

Collected: 08/04/2015 14:40 by JP

Submitted: 08/06/2015 17:15
Reported: 10/09/2015 15:52

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

RW118

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	8,200	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 19:16	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

REVISED

Sample Description: MW-08S Grab Groundwater
NRG PRGS

LL Sample # WW 7995926
LL Group # 1582782
Account # 08390

Project Name: NRG PRGS

Collected: 08/04/2015 14:45 by JP

Submitted: 08/06/2015 17:15
Reported: 10/09/2015 15:52

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

MW08S

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	14,000	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 19:39	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

REVISED

Quality Control Summary

Client Name: GES, Inc. Group Number: 1582782
Reported: 10/09/2015 15:52

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152250014A	Sample number(s): 7995921-7995926							
DRO C10-C28	N.D.	45.	ug/l	72	68*	69-115	5	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: DRO micro-ext 8015B
Batch number: 152250014A

	Orthoterphenyl
7995921	96
7995922	100
7995923	104
7995924	98
7995925	106
7995926	81
Blank	96
LCS	87
LCSD	75
Limits:	42-160

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 1582782 Sample # ~~7995921~~ 7995921-26 @ 8/7/15

Client: Groundwater & Env. Services, Inc.	
Project Name/#: NRG PRGS	Site ID #: NRG PRGS
Project Manager: Tony Christoff	P.O. #: 0402925
Sampler: Jeff Plummer	PWSID #:
Phone #: 800-220-3606 x 3717	Quote #: 212032A

State where sample(s) were collected: 1400 North Royal St., Alexandria, VA

Matrix: Soil ☐ Sediment ☐ Water: Potable ☐ Ground ☑ NPDES ☐ Surface ☐ Other:

Analyses Requested / Preservation Codes

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B) H	Alkalinity (SM 2320B) None	Nitrate NO3 -1 (EPA 353.2) S	Ferrous Iron Fe2+ (SM 3500-Fe B modified-1997) H	Sulfate SO42- (EPA 300.0) None	Manganese Mn2+ (EPA 6010B) N	Methane (RSKSOP-175 modified) H	Remarks
MW-122	8-4-15	1420	X		X	2	X							* Per M. Tidmore 10/8/15 AB
RW-119S	↓	1425	↓		↓	↓	↓							
MW-121	↓	1430	↓		↓	↓	↓							
~~MW-15~~ MW-15S*	↓	1435	↓		↓	↓	↓							
RW-118S	↓	1440	↓		↓	↓	↓							
MW-08S	8-4-15	1445	X		X	2	X							

Preservation Codes: H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, P = H_3PO_4, O = Other

For Lab Use Only: SF #: ____ SCR #: ____

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type VI (Raw Data Only) ☐ TX TRRP-13 ☐
NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD
EQEDD Name: NRG PRGS.*Lab report #*.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
Jeff Plummer	8-5-15	0700	Denise Woodring	8-5-15	0800
Denise Woodring	8-6-15	12:45	Hanguegu	8/6/15	12:45
Hanguegu	8/6/15	17:15			

Received by:	Date	Time
	8/6/15	1715

Relinquished by Commercial Carrier:

UPS ____ FedEx ____ Other ____

Temperature upon receipt 3.7-5.2 °C

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7045 0614

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Sample Administration Receipt Documentation Log

Doc Log ID: 94321

Group Number(s): 1582782

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	08/06/2015 17:15
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Katherine Metzger (2241) at 21:07 on 08/06/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	3.7	DT	Wet	Y	Bagged	N
2	DT121	5.2	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
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www.LancasterLabs.cor

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

September 01, 2015

Project: NRG PRGS

Submittal Date: 08/06/2015
Group Number: 1582783
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
TW-02 Grab Groundwater	7995927
TW-03 Grab Groundwater	7995928
TW-07 Grab Groundwater	7995929

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES, Inc. - VA	Attn: Anthony Christhilf
ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

(717) 556-7323

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Analysis Report

Sample Description: TW-02 Grab Groundwater
NRG PRGS

LL Sample # WW 7995927
LL Group # 1582783
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 10:50 by LK

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

TW-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 20:03	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: TW-03 Grab Groundwater
NRG PRGS

LL Sample # WW 7995928
LL Group # 1582783
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 13:30 by LK

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

TW-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous	**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	1,800	30	10
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	150	45	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese	7439-96-5	4.61	0.00080	1
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate	14808-79-8	289	15.0	50
	EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen	14797-65-0	0.070	0.015	1
	SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5	n.a.	N.D.	0.70	1
	SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron	n.a.	32.3	1.0	100

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152220001A	08/11/2015 10:36	Kristen N Brandt	10
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 20:27	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/09/2015 22:38	Tara L Snyder	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/09/2015 03:50	Clinton M Wilson	50
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:05	Joseph E McKenzie	1

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Analysis Report

Sample Description: TW-03 Grab Groundwater
NRG PRGS

LL Sample # WW 7995928
LL Group # 1582783
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 13:30 by LK

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

TW-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101A	08/07/2015 02:18	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003205A	08/12/2015 03:13	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	100

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Analysis Report

Sample Description: TW-07 Grab Groundwater
NRG PRGS

LL Sample # WW 7995929
LL Group # 1582783
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 15:30 by LK

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

TW-07

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous	**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	2,700	60	20
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	220	45	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Sufficient sample was not available to repeat the analysis.				
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese	7439-96-5	4.51	0.00080	1
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate	14808-79-8	304	15.0	50
	EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen	14797-65-0	0.018 J	0.015	1
	SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5	n.a.	2.7	0.70	1
	SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron	n.a.	8.7	0.50	50

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152220001A	08/11/2015 10:53	Kristen N Brandt	20
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 20:50	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/09/2015 22:42	Tara L Snyder	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/09/2015 04:05	Clinton M Wilson	50
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:09	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101A	08/07/2015 02:19	James S Mathiot	1

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Analysis Report

Sample Description: TW-07 Grab Groundwater
NRG PRGS

LL Sample # WW 7995929
LL Group # 1582783
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 15:30 by LK

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

TW-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003202A	08/11/2015 17:41	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	50

Quality Control Summary

Client Name: GES, Inc. Group Number: 1582783
Reported: 09/01/2015 14:36

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152220001A	Sample number(s): 7995928-7995929							
Methane	N.D.	3.0	ug/l	99		85-115		
Batch number: 152250014A	Sample number(s): 7995927-7995929							
DRO C10-C28	N.D.	45.	ug/l	72	68*	69-115	5	20
Batch number: 152191848002	Sample number(s): 7995928-7995929							
Manganese	N.D.	0.00080	mg/l	103		80-120		
Batch number: 15219105101A	Sample number(s): 7995928-7995929							
Nitrite Nitrogen	N.D.	0.015	mg/l	101		90-110		
Batch number: 15220987122A	Sample number(s): 7995928-7995929							
Sulfate	N.D.	0.30	mg/l	103	102	90-110	1	20
Batch number: 15221106103B	Sample number(s): 7995928-7995929							
Nitrate Nitrogen	N.D.	0.040	mg/l	94		90-110		
Batch number: 15223003202A	Sample number(s): 7995929							
Total Alkalinity to pH 4.5	N.D.	0.70	mg/l as CaCO3	101		90-110		
Batch number: 15223003205A	Sample number(s): 7995928							
Total Alkalinity to pH 4.5	N.D.	0.70	mg/l as CaCO3	101		90-110		
Batch number: 15223834401A	Sample number(s): 7995928-7995929							
Ferrous Iron	N.D.	0.010	mg/l	102		93-105		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 152220001A	Sample number(s): 7995928-7995929 UNSPK: 7995928								
Methane	-271 (2)	-74 (2)	46-129	7	20				
Batch number: 152191848002	Sample number(s): 7995928-7995929 UNSPK: P995126 BKG: P995126								

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: GES, Inc. Group Number: 1582783
Reported: 09/01/2015 14:36

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Manganese	98	102	75-125	3	20	0.118	0.123	4	20
Batch number: 15219105101A	Sample number(s): 7995928-7995929 UNSPK: P995910 BKG: P995910								
Nitrite Nitrogen	102		90-110			0.030 J	0.025 J	19 (1)	20
Batch number: 15220987122A	Sample number(s): 7995928-7995929 UNSPK: P996000 BKG: P996000								
Sulfate	94		90-110			45.9	46.1	0	15
Batch number: 15221106103B	Sample number(s): 7995928-7995929 UNSPK: 7995928 BKG: 7995928								
Nitrate Nitrogen	90		90-110			N.D.	N.D.	0 (1)	2
Batch number: 15223003202A	Sample number(s): 7995929 UNSPK: P999965 BKG: P999965								
Total Alkalinity to pH 4.5	79*		90-110			152	153	0	5
Batch number: 15223003205A	Sample number(s): 7995928 UNSPK: P998542 BKG: P998542								
Total Alkalinity to pH 4.5	95	96	90-110	1	5	42.3	42.7	1	5
Batch number: 15223834401A	Sample number(s): 7995928-7995929 UNSPK: P996052 BKG: P996052								
Ferrous Iron	104	99	93-105	3	6	32.7	33.4	2	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Methane
Batch number: 152220001A

	Propene
7995928	87
7995929	93
Blank	94
LCS	97
MS	78
MSD	78
Limits:	47-116

Analysis Name: DRO micro-ext 8015B
Batch number: 152250014A

	Orthoterphenyl
7995927	113
7995928	101
7995929	95
Blank	96
LCS	87
LCSD	75
Limits:	42-160

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: GES, Inc.
Reported: 09/01/2015 14:36

Group Number: 1582783

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

ORIGINAL

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 8390 Group # 1582703 Sample # 7995927-29

Client: Groundwater & Env. Services, Inc.

Project Name/#: NRG PRGS | Site ID #: NRG PRGS

Project Manager: Tony Christoff | P.O. #: 0402925

Sampler: Lindsay Keeney | PWSID #:

Phone #: 800-220-3606 x 3717 | Quote #: 212032A

State where sample(s) were collected: **1400 North Royal St., Alexandria, VA**

For Lab Use Only: SF #: ____ SCR #: ____

Preservation Codes: H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, P = H_3PO_4, O = Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil	Matrix: Sediment	Matrix: Potable	Matrix: Ground	Matrix: NPDES	Matrix: Surface	Matrix: Other:	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B) (H)	Alkalinity (SM 2320B) (None)	Nitrate NO3 -1 (EPA 353.2) (S)	Ferrous Iron Fe2+ (SM 3500-Fe B modified-1997) (H)	Sulfate SO42- (EPA 300.0) (None)	Manganese Mn2+ (EPA 6010B) (N)	Methane (RSKSOP-175 modified) (H)	Remarks
TW-02	8-5-15	1050	x					x				2	x							Cooler 1
TW-03	↓	1330	x					x				11	x	x	x	x	x	x	x	Cooler 1 & 2
TW-07	↓	1530	x					x				11	x	x	x	x	x	x	x	Cooler 2
			x					x					x	x	x	x	x	x	x	

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

EQEDD Name: NRG PRGS.*Lab report #*.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-5-15	2000	Denise Wadding	8-6-15	0800
Denise Wadding	8-6-15	12:45	[signature]	8/6/15	12:45
[signature]	8/6/15	17:15			
			[signature]	8/6/15	1715

Relinquished by Commercial Carrier:

UPS ____ FedEx ____ Other ____

Temperature upon receipt 1.4-2.7 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 94320

Group Number(s): 1582783

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	08/06/2015 17:15
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Katherine Metzger (2241) at 21:06 on 08/06/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	8013596-IR	1.4	IR	Wet	Y	Loose	N
2	8013596-IR	2.7	IR	Wet	Y	Loose	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
TW-07	9	11	

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Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

September 01, 2015

Project: NRG PRGS

Submittal Date: 08/06/2015
Group Number: 1582794
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-11 Grab Groundwater	7995999
MW-14 Grab Groundwater	7996000
MW-51S Grab Groundwater	7996001
MW-123S Grab Groundwater	7996002
RW-1 Grab Groundwater	7996003
RW-116S Grab Groundwater	7996004
RW-117S Grab Groundwater	7996005
RW-05S Grab Groundwater	7996006
MW-102 Grab Groundwater	7996007
MW-103 Grab Groundwater	7996008
MW-104 Grab Groundwater	7996009
MW-105 Grab Groundwater	7996010
MW-100S Grab Groundwater	7996011
MW-100 Grab Groundwater	7996012
MW-52 Grab Groundwater	7996013
MW-16 Grab Groundwater	7996014
MW-70 Grab Groundwater	7996015

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES, Inc. - VA	Attn: Anthony Christhilf
ELECTRONIC	GES	Attn: Greg Reichart

COPY TO
ELECTRONIC COPY TO GES, Inc.-MD Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer
Specialist

(717) 556-7323

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Analysis Report

Sample Description: MW-11 Grab Groundwater
NRG PRGS

LL Sample # WW 7995999
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 11:45 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

11-MW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous	**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	450	3.0	1
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	5,300	45	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese	7439-96-5	5.67	0.00080	1
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate	14808-79-8	118	3.0	10
	EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen	14797-65-0	0.049 J	0.015	1
	SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5	n.a.	356	0.70	1
	SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron	n.a.	21.9	0.50	50

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152220001A	08/10/2015 16:16	Kristen N Brandt	1
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 21:14	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/09/2015 22:45	Tara L Snyder	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/09/2015 04:50	Clinton M Wilson	10
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:13	Joseph E McKenzie	1

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Analysis Report

Sample Description: MW-11 Grab Groundwater
NRG PRGS

LL Sample # WW 7995999
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 11:45 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

11-MW

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101A	08/07/2015 02:26	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003205A	08/12/2015 02:37	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	50

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Analysis Report

Sample Description: MW-14 Grab Groundwater
NRG PRGS

LL Sample # WW 7996000
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:00 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
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Odenton MD 21113

14-MW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous	**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	1,800	30	10
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	7,300	45	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese	7439-96-5	15.1	0.0040	5
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate	14808-79-8	45.9	1.5	5
	EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen	14797-55-8	0.15	0.040	1
00219	Nitrite Nitrogen	14797-65-0	0.11	0.015	1
	SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5	n.a.	304	0.70	1
	SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron	n.a.	18.0	1.0	100

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152220001A	08/11/2015 11:27	Kristen N Brandt	10
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 21:37	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/10/2015 11:53	Eric L Eby	5
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/09/2015 03:05	Clinton M Wilson	5
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:14	Joseph E McKenzie	1

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Analysis Report

Sample Description: MW-14 Grab Groundwater
NRG PRGS

LL Sample # WW 7996000
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:00 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

14-MW

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101A	08/07/2015 02:22	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003205A	08/12/2015 04:56	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	100

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Analysis Report

Sample Description: MW-51S Grab Groundwater
NRG PRGS

LL Sample # WW 7996001
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:15 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

51SMW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous	**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	10,000	150	50
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	11,000	45	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese	7439-96-5	1.03	0.00080	1
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate	14808-79-8	26.1	1.5	5
	EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen	14797-65-0	0.046 J	0.015	1
	SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5	n.a.	480	0.70	1
	SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron	n.a.	48.3	1.0	100

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152240014A	08/13/2015 10:38	Kristen N Brandt	50
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 22:01	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/09/2015 23:00	Tara L Snyder	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/09/2015 05:05	Clinton M Wilson	5
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:15	Joseph E McKenzie	1

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Analysis Report

Sample Description: MW-51S Grab Groundwater
NRG PRGS

LL Sample # WW 7996001
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:15 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

51SMW

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101A	08/07/2015 02:21	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003205A	08/12/2015 03:45	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	100

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Analysis Report

Sample Description: MW-123S Grab Groundwater
NRG PRGS

LL Sample # WW 7996002
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:30 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

123SM

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	2,400	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 22:24	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: RW-1 Grab Groundwater
NRG PRGS

LL Sample # WW 7996003
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:35 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

01-RW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	2,500	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 22:48	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: RW-116S Grab Groundwater
NRG PRGS

LL Sample # WW 7996004
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:40 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

116SR

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	7,000	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 23:11	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: RW-117S Grab Groundwater
NRG PRGS

LL Sample # WW 7996005
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:45 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

117SR

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	6,600	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 23:35	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: RW-05S Grab Groundwater
NRG PRGS

LL Sample # WW 7996006
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:50 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

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1350 Blair Dr
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05SRW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	6,900	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/14/2015 23:58	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-102 Grab Groundwater
NRG PRGS

LL Sample # WW 7996007
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 14:40 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

102MW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/15/2015 00:22	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-103 Grab Groundwater
NRG PRGS

LL Sample # WW 7996008
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 14:45 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

103MW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/15/2015 00:45	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-104 Grab Groundwater
NRG PRGS

LL Sample # WW 7996009
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 14:50 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

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M-104

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152250014A	08/15/2015 01:08	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152250014A	08/14/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-105 Grab Groundwater
NRG PRGS

LL Sample # WW 7996010
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 14:55 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
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1350 Blair Dr
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M-105

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 10:51	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-100S Grab Groundwater
NRG PRGS

LL Sample # WW 7996011
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 15:00 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

100S-

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 11:15	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-100 Grab Groundwater
NRG PRGS

LL Sample # WW 7996012
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 15:05 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

M-100

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 11:38	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-52 Grab Groundwater
NRG PRGS

LL Sample # WW 7996013
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 15:10 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

52--M

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	110	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 12:02	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-16 Grab Groundwater
NRG PRGS

LL Sample # WW 7996014
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 15:15 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

16--M

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 12:25	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-70 Grab Groundwater
NRG PRGS

LL Sample # WW 7996015
LL Group # 1582794
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 15:30 by JP

Submitted: 08/06/2015 17:15
Reported: 09/01/2015 14:36

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

70--M

CAT No.	Analysis Name		CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous		**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane		74-82-8	N.D.	3.0	1
GC Petroleum Hydrocarbons		**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28		n.a.	N.D.	45	1
Metals		**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese		7439-96-5	1.29	0.00080	1
Wet Chemistry		**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate		14808-79-8	365	15.0	50
		EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen		14797-55-8	0.73	0.040	1
00219	Nitrite Nitrogen		14797-65-0	N.D.	0.015	1
		SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5		n.a.	29.6	0.70	1
		SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron		n.a.	0.089	0.010	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152240014A	08/13/2015 10:56	Kristen N Brandt	1
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 12:49	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/09/2015 23:04	Tara L Snyder	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/09/2015 05:20	Clinton M Wilson	50
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:16	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101A	08/07/2015 02:27	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003201B	08/11/2015 15:54	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1582794
Reported: 09/01/2015 14:36

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152220001A	Sample number(s): 7995999-7996000							
Methane	N.D.	3.0	ug/l	99		85-115		
Batch number: 152240014A	Sample number(s): 7996001,7996015							
Methane	N.D.	3.0	ug/l	106		85-115		
Batch number: 152250014A	Sample number(s): 7995999-7996009							
DRO C10-C28	N.D.	45.	ug/l	72	68*	69-115	5	20
Batch number: 152270004A	Sample number(s): 7996010-7996015							
DRO C10-C28	N.D.	45.	ug/l	78	71	69-115	10	20
Batch number: 152191848002	Sample number(s): 7995999-7996001,7996015							
Manganese	N.D.	0.00080	mg/l	103		80-120		
Batch number: 15219105101A	Sample number(s): 7995999-7996001,7996015							
Nitrite Nitrogen	N.D.	0.015	mg/l	101		90-110		
Batch number: 15220987122A	Sample number(s): 7995999-7996001,7996015							
Sulfate	N.D.	0.30	mg/l	103	102	90-110	1	20
Batch number: 15221106103B	Sample number(s): 7995999-7996001,7996015							
Nitrate Nitrogen	N.D.	0.040	mg/l	94		90-110		
Batch number: 15223003201B	Sample number(s): 7996015							
Total Alkalinity to pH 4.5	N.D.	0.70	mg/l as CaCO3	101		90-110		
Batch number: 15223003205A	Sample number(s): 7995999-7996001							
Total Alkalinity to pH 4.5	N.D.	0.70	mg/l as CaCO3	101		90-110		
Batch number: 15223834401A	Sample number(s): 7995999-7996001,7996015							
Ferrous Iron	N.D.	0.010	mg/l	102		93-105		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup RPD

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: GES, Inc. Group Number: 1582794
Reported: 09/01/2015 14:36

Analysis Name	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD	Max
Batch number: 152220001A	Sample number(s): 7995999-7996000 UNSPK: P995928								
Methane	-271 (2)	-74 (2)	46-129	7	20				
Batch number: 152240014A	Sample number(s): 7996001,7996015 UNSPK: P997143								
Methane	-1013 (2)	-286 (2)	46-129	20	20				
Batch number: 152191848002	Sample number(s): 7995999-7996001,7996015 UNSPK: P995126 BKG: P995126								
Manganese	98	102	75-125	3	20	0.118	0.123	4	20
Batch number: 15219105101A	Sample number(s): 7995999-7996001,7996015 UNSPK: P995910 BKG: P995910								
Nitrite Nitrogen	102		90-110			0.030 J	0.025 J	19 (1)	20
Batch number: 15220987122A	Sample number(s): 7995999-7996001,7996015 UNSPK: 7996000 BKG: 7996000								
Sulfate	94		90-110			45.9	46.1	0	15
Batch number: 15221106103B	Sample number(s): 7995999-7996001,7996015 UNSPK: P995928 BKG: P995928								
Nitrate Nitrogen	90		90-110			N.D.	N.D.	0 (1)	2
Batch number: 15223003201B	Sample number(s): 7996015 UNSPK: P999966 BKG: 7996015								
Total Alkalinity to pH 4.5	98		90-110			29.6	29.7	0	5
Batch number: 15223003205A	Sample number(s): 7995999-7996001 UNSPK: P998542 BKG: P998542								
Total Alkalinity to pH 4.5	95	96	90-110	1	5	42.3	42.7	1	5
Batch number: 15223834401A	Sample number(s): 7995999-7996001,7996015 UNSPK: P996052 BKG: P996052								
Ferrous Iron	104	99	93-105	3	6	32.7	33.4	2	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Methane
Batch number: 152220001A

	Propene
7995999	69
7996000	91
Blank	94
LCS	97
MS	78
MSD	78
Limits:	47-116

Analysis Name: Methane
Batch number: 152240014A

	Propene
7996001	106
7996015	95
Blank	94
LCS	94
MS	82

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: GES, Inc. Group Number: 1582794
Reported: 09/01/2015 14:36

Surrogate Quality Control

MSD	79
Limits:	47-116

Analysis Name: DRO micro-ext 8015B
Batch number: 152250014A

	Orthoterphenyl
7995999	97
7996000	97
7996001	128
7996002	107
7996003	110
7996004	113
7996005	96
7996006	101
7996007	96
7996008	100
7996009	97
Blank	96
LCS	87
LCSD	75
Limits:	42-160

Analysis Name: DRO micro-ext 8015B
Batch number: 152270004A

	Orthoterphenyl
7996010	99
7996011	94
7996012	87
7996013	83
7996014	100
7996015	91
Blank	104
LCS	95
LCSD	90
Limits:	42-160

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 1582794 Sample # 7995999-6015

Client: Groundwater & Env. Services, Inc.

Project Name/#: NRG PRGS | Site ID #: NRG PRGS

Project Manager: Tony Christoff | P.O. #: 0402925

Sampler: Jeff Plummer | PWSID #:

Phone #: 800-220-3606 x 3717 | Quote #: 212032A

State where sample(s) were collected: **1400 North Royal St., Alexandria, VA**

For Lab Use Only: SF #: ____ SCR #: ____

Preservation Codes: H = HCl; T = Thiosulfate; N = HNO_3; B = NaOH; S = H_2SO_4; P = H_3PO_4; O = Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil	Matrix: Sediment	Matrix: Water (Ground / Potable / NPDES / Surface)	Matrix: Other:	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B) (H)	Alkalinity (SM 2320B) (None)	Nitrate NO3 -1 (EPA 353.2) (S)	Ferrous Iron Fe2+ (SM 3500-Fe B modified-1997) (H)	Sulfate SO42- (EPA 300.0) (None)	Manganese Mn2+ (EPA 6010B) (N)	Methane (RSKSOP-175 modified) (H)	Remarks
MW-11	8-5-15	1145	X				X		11	X	X	X	X	X	X	X	
MW-14		1200	X						11	X	X	X	X	X	X	X	
MW-51S		1215	X						12	X	X	X	X	X	X	X	
MW-123S		1230							2	X							
RW-1		1235							2	X							
RW-116S		1240							2	X							
RW-117S		1245							2	X							
RW-05S		1250							2	X							
MW-102		1440							2	X							
MW-103	8-5-15	1445	X				X		2	X							

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

EQEDD Name: NRG PRGS.*Lab report #*.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
Jeff Plummer	8-6-15	0700	Denise Woodring	8-6-15	0800
Denise Woodring	8-6-15	12:45	T Tanyuzgen	8/6/15	12:45
T Tanyuzgen	8/6/15	17:15			

Relinquished by Commercial Carrier:

UPS ____ FedEx ____ Other ____

Temperature upon receipt 3.7-5.2 °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 8390 Group # 1582794 Sample # 7995999-6015

Client: Groundwater & Env. Services, Inc.	
Project Name/#: NRG PRGS	Site ID #: NRG PRGS
Project Manager: Tony Christoff	P.O. #: 0402925
Sampler: Jeff Plummer	PWSID #:
Phone #: 800-220-3606 x 3717	Quote #: 212032A
State where sample(s) were collected: **1400 North Royal St., Alexandria, VA**	

Matrix: ☐ Sediment ☐ Soil ☑ Ground ☐ Potable ☐ Surface ☐ NPDES ☐ Water ☐ Other:

Analyses Requested — Preservation Codes

For Lab Use Only: SF #: _____ SCR #: _____

Sample Identification	Collection Date	Collection Time	Grab	Composite	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B) H	Alkalinity (SM 2320B) None	Nitrate NO3 -1 (EPA 353.2) S	Ferrous Iron Fe2+ (SM 3500-Fe B modified-1997) H	Sulfate SO42- (EPA 300.0) None	Manganese Mn2+ (EPA 6010B) N	Methane (RSKSOP-175 modified) H	Remarks
MW-104	8-5-15	1450	X		2	X							
MW-105		1455			2								
MW-100S		1500			2								
MW-100		1505			2								
MW-52		1510			2								
MW-16		1515			2								
MW-70	8-5-15	1530	X		11	X	X	X	X	X	X	X	

Preservation Codes: H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, P = H_3PO_4, O = Other

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type VI (Raw Data Only) ☐ TX TRRP-13 ☐
NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD
EQEDD Name: NRG PRGS.*Lab report #*.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
Jeff Plummer	8-6-15	0700	Denise Woodring	8-6-15	0800
Denise Woodring	8-6-15	12:45	[illegible]	8/6/15	12:45
[illegible]	8/6/15	17:15			
			[illegible]	8/6/15	1715

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt 3.7-5.2°C

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Sample Administration Receipt Documentation Log

Doc Log ID: 94321

Group Number(s): 1582794

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	08/06/2015 17:15
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Katherine Metzger (2241) at 21:07 on 08/06/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	3.7	DT	Wet	Y	Bagged	N
2	DT121	5.2	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.cor

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

August 20, 2015

Project: NRG PRGS

Submittal Date: 08/06/2015
Group Number: 1582796
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-27 Grab Groundwater	7996044
RW-28S Grab Groundwater	7996045
RW-30S Grab Groundwater	7996046
MW-72S Grab Groundwater	7996047
MW-72 Grab Groundwater	7996048
MW-31 Grab Groundwater	7996049
MW-33 Grab Groundwater	7996050
MW-107 Grab Groundwater	7996051
MW-106 Grab Groundwater	7996052

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES, Inc. - VA	Attn: Anthony Christhilf
ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

(717) 556-7323

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Lancaster Laboratories Environmental
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Analysis Report

Sample Description: MW-27 Grab Groundwater
NRG PRGS

LL Sample # WW 7996044
LL Group # 1582796
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 11:17 by MR

Submitted: 08/06/2015 17:15
Reported: 08/20/2015 14:03

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

27-MW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	2,100	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 13:12	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: RW-28S Grab Groundwater
NRG PRGS

LL Sample # WW 7996045
LL Group # 1582796
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 11:20 by MR

Submitted: 08/06/2015 17:15
Reported: 08/20/2015 14:03

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

28SRW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	2,300	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 14:46	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: RW-30S Grab Groundwater
NRG PRGS

LL Sample # WW 7996046
LL Group # 1582796
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 11:25 by MR

Submitted: 08/06/2015 17:15
Reported: 08/20/2015 14:03

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

30SRW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	890	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 15:10	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-72S Grab Groundwater
NRG PRGS

LL Sample # WW 7996047
LL Group # 1582796
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 11:49 by MR

Submitted: 08/06/2015 17:15
Reported: 08/20/2015 14:03

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

72SMW

CAT No.	Analysis Name		CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous		**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane		74-82-8	2,300	30	10
GC Petroleum Hydrocarbons		**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28		n.a.	3,700	45	1
Metals		**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese		7439-96-5	11.7	0.0040	5
Wet Chemistry		**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate		14808-79-8	207	6.0	20
		EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen		14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen		14797-65-0	0.067	0.015	1
		SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5		n.a.	697	0.70	1
		SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron		n.a.	30.7	1.0	100

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152240014A	08/13/2015 11:14	Kristen N Brandt	10
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 15:33	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/10/2015 11:56	Eric L Eby	5
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/11/2015 22:47	Drew M Gerhart	20
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:18	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101A	08/07/2015 02:28	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003205A	08/12/2015 04:49	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	100

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Analysis Report

Sample Description: MW-72 Grab Groundwater
NRG PRGS

LL Sample # WW 7996048
LL Group # 1582796
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:20 by MR

Submitted: 08/06/2015 17:15
Reported: 08/20/2015 14:03

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

72-MW

CAT No.	Analysis Name		CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous		**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane		74-82-8	1,400	30	10
GC Petroleum Hydrocarbons		**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28		n.a.	3,900	45	1
Metals		**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese		7439-96-5	13.5	0.0040	5
Wet Chemistry		**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate		14808-79-8	393	15.0	50
		EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen		14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen		14797-65-0	N.D.	0.015	1
		SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5		n.a.	548	0.70	1
		SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron		n.a.	14.3	1.0	100

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152240014A	08/13/2015 15:31	Kristen N Brandt	10
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 15:57	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/10/2015 11:59	Eric L Eby	5
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/09/2015 05:50	Clinton M Wilson	50
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:19	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101A	08/07/2015 02:29	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003201A	08/11/2015 16:08	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	100

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Analysis Report

Sample Description: MW-31 Grab Groundwater
NRG PRGS

LL Sample # WW 7996049
LL Group # 1582796
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 12:50 by MR

Submitted: 08/06/2015 17:15
Reported: 08/20/2015 14:03

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

31-MW

CAT No.	Analysis Name		CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous		**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane		74-82-8	5,400	60	20
GC Petroleum Hydrocarbons		**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28		n.a.	2,400	45	1
Metals		**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese		7439-96-5	5.52	0.00080	1
Wet Chemistry		**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate		14808-79-8	85.3	3.0	10
		EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen		14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen		14797-65-0	N.D.	0.015	1
		SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5		n.a.	482	0.70	1
		SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron		n.a.	10.0	0.50	50

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152240014A	08/13/2015 15:49	Kristen N Brandt	20
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 16:21	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/09/2015 23:15	Tara L Snyder	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/09/2015 06:05	Clinton M Wilson	10
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:20	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101B	08/07/2015 02:31	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003205A	08/12/2015 03:07	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	50

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Analysis Report

Sample Description: MW-33 Grab Groundwater
NRG PRGS

LL Sample # WW 7996050
LL Group # 1582796
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 13:20 by MR

Submitted: 08/06/2015 17:15
Reported: 08/20/2015 14:03

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

33-MW

CAT No.	Analysis Name		CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous		**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane		74-82-8	17	3.0	1
GC Petroleum Hydrocarbons		**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28		n.a.	N.D.	45	1
Metals		**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese		7439-96-5	0.605	0.00080	1
Wet Chemistry		**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate		14808-79-8	253	15.0	50
		EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen		14797-55-8	1.8	0.040	1
00219	Nitrite Nitrogen		14797-65-0	N.D.	0.015	1
		SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5		n.a.	97.7	0.70	1
		SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron		n.a.	N.D.	0.010	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152240014A	08/13/2015 12:09	Kristen N Brandt	1
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 16:44	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152191848002	08/09/2015 23:19	Tara L Snyder	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848002	08/09/2015 07:41	James L Mertz	1
00228	Sulfate	EPA 300.0	1	15220987122A	08/09/2015 06:20	Clinton M Wilson	50
00220	Nitrate Nitrogen	EPA 353.2	1	15221106103B	08/09/2015 16:21	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101B	08/07/2015 02:33	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003202A	08/11/2015 17:53	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	1

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Analysis Report

Sample Description: MW-107 Grab Groundwater
NRG PRGS

LL Sample # WW 7996051
LL Group # 1582796
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 14:05 by MR

Submitted: 08/06/2015 17:15
Reported: 08/20/2015 14:03

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

107MW

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	280	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 17:08	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1

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Analysis Report

Sample Description: MW-106 Grab Groundwater NRG PRGS

LL Sample # WW 7996052
LL Group # 1582796
Account # 08390

Project Name: NRG PRGS

Collected: 08/05/2015 14:20 by MR

Submitted: 08/06/2015 17:15
Reported: 08/20/2015 14:03

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

106MW

CAT No.	Analysis Name		CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous		**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane		74-82-8	2,100	30	10
GC Petroleum Hydrocarbons		**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28		n.a.	2,300	45	1
Metals		**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese		7439-96-5	1.38	0.00080	1
Wet Chemistry		**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate		14808-79-8	1,010	60.0	200
		EPA 353.2		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen		14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen		14797-65-0	N.D.	0.015	1
		SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5		n.a.	35.1	0.70	1
		SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron		n.a.	32.7	1.0	100

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152240014A	08/13/2015 16:08	Kristen N Brandt	10
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270004A	08/17/2015 17:31	Nicholas R Rossi	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270004A	08/16/2015 08:45	Maria Davenport	1
07058	Manganese	SW-846 6010B	1	152251848001	08/16/2015 17:46	Tara L Snyder	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152191848004	08/12/2015 10:18	Katlin N Cataldi	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	2	152251848001	08/14/2015 10:48	Katlin N Cataldi	1
00228	Sulfate	EPA 300.0	1	15220987601A	08/08/2015 20:36	Clinton M Wilson	200
00220	Nitrate Nitrogen	EPA 353.2	1	15228106101B	08/16/2015 14:24	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	15219105101B	08/07/2015 02:32	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15223003205A	08/12/2015 04:06	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15223834401A	08/11/2015 20:25	Lamont J McKellar	100

Quality Control Summary

Client Name: GES, Inc. Group Number: 1582796
Reported: 08/20/2015 14:03

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152240014A	Sample number(s): 7996047-7996050,7996052							
Methane	N.D.	3.0	ug/l	106		85-115		
Batch number: 152270004A	Sample number(s): 7996044-7996052							
DRO C10-C28	N.D.	45.	ug/l	78	71	69-115	10	20
Batch number: 152191848002	Sample number(s): 7996047-7996050							
Manganese	N.D.	0.00080	mg/l	103		80-120		
Batch number: 152251848001	Sample number(s): 7996052							
Manganese	N.D.	0.00080	mg/l	104		80-120		
Batch number: 15219105101A	Sample number(s): 7996047-7996048							
Nitrite Nitrogen	N.D.	0.015	mg/l	101		90-110		
Batch number: 15219105101B	Sample number(s): 7996049-7996050,7996052							
Nitrite Nitrogen	N.D.	0.015	mg/l	101		90-110		
Batch number: 15220987122A	Sample number(s): 7996047-7996050							
Sulfate	N.D.	0.30	mg/l	103	102	90-110	1	20
Batch number: 15220987601A	Sample number(s): 7996052							
Sulfate	N.D.	0.30	mg/l	99	99	90-110	1	20
Batch number: 15221106103B	Sample number(s): 7996047-7996050							
Nitrate Nitrogen	N.D.	0.040	mg/l	94		90-110		
Batch number: 15228106101B	Sample number(s): 7996052							
Nitrate Nitrogen	N.D.	0.040	mg/l	103		90-110		
Batch number: 15223003201A	Sample number(s): 7996048							
Total Alkalinity to pH 4.5	N.D.	0.70	mg/l as CaCO3	101		90-110		
Batch number: 15223003202A	Sample number(s): 7996050							
Total Alkalinity to pH 4.5	N.D.	0.70	mg/l as CaCO3	101		90-110		
Batch number: 15223003205A	Sample number(s): 7996047,7996049,7996052							
Total Alkalinity to pH 4.5	N.D.	0.70	mg/l as CaCO3	101		90-110		
Batch number: 15223834401A	Sample number(s): 7996047-7996050,7996052							
Ferrous Iron	N.D.	0.010	mg/l	102		93-105		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: GES, Inc. Group Number: 1582796
Reported: 08/20/2015 14:03

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 152240014A	Sample number(s): 7996047-7996050,7996052 UNSPK: P997143								
Methane	-1013 (2)	-286 (2)	46-129	20	20				
Batch number: 152191848002	Sample number(s): 7996047-7996050 UNSPK: P995126 BKG: P995126								
Manganese	98	102	75-125	3	20	0.118	0.123	4	20
Batch number: 152251848001	Sample number(s): 7996052 UNSPK: P003661 BKG: P003661								
Manganese	100	100	75-125	0	20	0.0053	0.0045 J	18 (1)	20
Batch number: 15219105101A	Sample number(s): 7996047-7996048 UNSPK: P995910 BKG: P995910								
Nitrite Nitrogen	102		90-110			0.030 J	0.025 J	19 (1)	20
Batch number: 15219105101B	Sample number(s): 7996049-7996050,7996052 UNSPK: 7996050 BKG: 7996050								
Nitrite Nitrogen	105		90-110			N.D.	N.D.	0 (1)	20
Batch number: 15220987122A	Sample number(s): 7996047-7996050 UNSPK: P996000 BKG: P996000								
Sulfate	94		90-110			45.9	46.1	0	15
Batch number: 15220987601A	Sample number(s): 7996052 UNSPK: P996522 BKG: P996522								
Sulfate	100		90-110			17.9	17.9	0 (1)	15
Batch number: 15221106103B	Sample number(s): 7996047-7996050 UNSPK: P995928 BKG: P995928								
Nitrate Nitrogen	90		90-110			N.D.	N.D.	0 (1)	2
Batch number: 15228106101B	Sample number(s): 7996052 UNSPK: P996520 BKG: P996520								
Nitrate Nitrogen	98		90-110			0.047 J	0.044 J	8* (1)	2
Batch number: 15223003201A	Sample number(s): 7996048 UNSPK: P999966 BKG: P999966								
Total Alkalinity to pH 4.5	98		90-110			119	119	0	5
Batch number: 15223003202A	Sample number(s): 7996050 UNSPK: P999965 BKG: P999965								
Total Alkalinity to pH 4.5	79*		90-110			152	153	0	5
Batch number: 15223003205A	Sample number(s): 7996047,7996049,7996052 UNSPK: P998542 BKG: P998542								
Total Alkalinity to pH 4.5	95	96	90-110	1	5	42.3	42.7	1	5
Batch number: 15223834401A	Sample number(s): 7996047-7996050,7996052 UNSPK: 7996052 BKG: 7996052								
Ferrous Iron	104	99	93-105	3	6	32.7	33.4	2	5

Surrogate Quality Control

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: GES, Inc. Group Number: 1582796
Reported: 08/20/2015 14:03

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Methane
Batch number: 152240014A

	Propene
7996047	94
7996048	97
7996049	107
7996050	90
7996052	99
Blank	94
LCS	94
MS	82
MSD	79
Limits:	47-116

Analysis Name: DRO micro-ext 8015B
Batch number: 152270004A

	Orthoterphenyl
7996044	104
7996045	105
7996046	100
7996047	114
7996048	107
7996049	99
7996050	101
7996051	96
7996052	81
Blank	104
LCS	95
LCSD	90
Limits:	42-160

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 1582796 Sample # 7996044-52

Client: Groundwater & Env. Services, Inc.	
Project Name/#: NRG PRGS	Site ID #: NRG PRGS
Project Manager: Tony Christoff	P.O. #: 0402925
Sampler: Matthew Ridgway	PWSID #:
Phone #: 800-220-3606 x 3717	Quote #: 212032A
State where sample(s) were collected: **1400 North Royal St., Alexandria, VA**	

Matrix: Sediment ☐ Ground ☑ Surface ☐ Potable ☐ NPDES ☐ Soil ☐ Water ☑ Other:

Analyses Requested — Preservation Codes

For Lab Use Only: SF #: _____ SCR #: _____

Preservation Codes: H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, P = H_3PO_4, O = Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B)	Alkalinity (SM 2320B)	Nitrate NO3 -1 (EPA 353.2)	Ferrous Iron Fe2+ (SM 3500-Fe B modified-1997)	Sulfate SO42- (EPA 300.0)	Manganese Mn2+ (EPA 6010B)	Methane (RSKSOP-175 modified)	metals MR						Remarks
							H	None	S	H	None	N	H							
MW-27	08/05/15	1117	X	~~X~~ MR	X	2	X													
RW-28S	08/05/15	1120	X		X	2	X													
RW-30s	8/5/15	1125	X	~~X~~ MR	X	2	X													
MW-72s	8/5/15	1149	X	~~X~~ MR	X	11	X	X	X	X	X	X	X							
MW-72	8/5/15	1220	X	~~X~~ MR	X	11	X	X	X	X	X	X	X							
MW-31	8/5/15	1250	X	~~X~~ MR	X	11	X	X	X	X	X	X	X							
MW-33	8/5/15	1320	X	~~X~~ MR	X	11	X	X	X	X	X	X	X	X						
MW-107	8/5/15	1405	X		X	2	X													
MW-106	8/5/15	1420	X		X	11	X	X	X	X	X	X	X							
	~~08/05/15~~	~~-MR~~																		

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

EQEDD Name: NRG PRGS.*Lab report #*.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
Matthew Ridgway	08/05/15	1453	Jeff Plummer	8-5-15	1453
Jeff Plummer	8-6-15	0700	Denise Woodring	8-6-15	0800
Denise Woodring	8-6-15	12:45	Stanguazzi	8/6/15	12:45
Stanguazzi	8/6/15	17:15			
				8/6/15	1715

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 3.7-5.2 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 94321

Group Number(s): 1582796

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	08/06/2015 17:15
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Katherine Metzger (2241) at 21:07 on 08/06/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	3.7	DT	Wet	Y	Bagged	N
2	DT121	5.2	DT	Wet	Y	Bagged	N

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Lancaster, PA 17605-2425

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

August 21, 2015

Project: NRG PRGS

Submittal Date: 08/07/2015
Group Number: 1583716
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
TW-04 Grab Groundwater	8001049
TW-05 Grab Groundwater	8001050
TW-06 Grab Groundwater	8001051
TW-06 MS Grab Groundwater	8001052
TW-06 MSD Grab Groundwater	8001053
TW-DUP Grab Groundwater	8001054
Rinse Blank Grab Water	8001055

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES, Inc. - VA	Attn: Anthony Christhilf
ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

(717) 556-7323

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Analysis Report

Sample Description: TW-04 Grab Groundwater
NRG PRGS

LL Sample # WW 8001049
LL Group # 1583716
Account # 08390

Project Name: NRG PRGS

Collected: 08/06/2015 13:00 by LK

Submitted: 08/07/2015 18:15
Reported: 08/21/2015 12:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRGT4

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	1,000	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270014A	08/18/2015 21:19	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270014A	08/17/2015 09:00	Maria Davenport	1

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Analysis Report

Sample Description: TW-05 Grab Groundwater
NRG PRGS

LL Sample # WW 8001050
LL Group # 1583716
Account # 08390

Project Name: NRG PRGS

Collected: 08/06/2015 15:00 by LK

Submitted: 08/07/2015 18:15
Reported: 08/21/2015 12:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRGT5

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Miscellaneous	**RSKSOP-175 modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	3,000	60	20
GC Petroleum Hydrocarbons	**SW-846 8015B**		**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	790	45	1
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00228	Sulfate	14808-79-8	388	30.0	100

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07105	Methane	RSKSOP-175 modified	1	152260019A	08/14/2015 18:10	Kristen N Brandt	20
12858	DRO micro-ext 8015B	SW-846 8015B	1	152270014A	08/18/2015 21:43	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152270014A	08/17/2015 09:00	Maria Davenport	1
00228	Sulfate	EPA 300.0	1	15227987122A	08/16/2015 10:15	Clinton M Wilson	100

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Analysis Report

Sample Description: TW-06 Grab Groundwater
NRG PRGS

LL Sample # WW 8001051
LL Group # 1583716
Account # 08390

Project Name: NRG PRGS

Collected: 08/06/2015 17:45 by LK

Submitted: 08/07/2015 18:15
Reported: 08/21/2015 12:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRGT6

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	1,400	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152290009A	08/18/2015 12:13	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152290009A	08/17/2015 23:00	David V Hershey Jr	1

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Analysis Report

Sample Description: TW-06 MS Grab Groundwater
NRG PRGS

LL Sample # WW 8001052
LL Group # 1583716
Account # 08390

Project Name: NRG PRGS

Collected: 08/06/2015 18:30 by LK

Submitted: 08/07/2015 18:15
Reported: 08/21/2015 12:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRGT6

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	2,900	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152290009A	08/18/2015 12:37	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152290009A	08/17/2015 23:00	David V Hershey Jr	1

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Analysis Report

Sample Description: TW-06 MSD Grab Groundwater
NRG PRGS

LL Sample # WW 8001053
LL Group # 1583716
Account # 08390

Project Name: NRG PRGS

Collected: 08/06/2015 18:30 by LK

Submitted: 08/07/2015 18:15
Reported: 08/21/2015 12:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRGT6

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	3,200	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152290009A	08/18/2015 13:00	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152290009A	08/17/2015 23:00	David V Hershey Jr	1

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Analysis Report

Sample Description: TW-DUP Grab Groundwater
NRG PRGS

LL Sample # WW 8001054
LL Group # 1583716
Account # 08390

Project Name: NRG PRGS

Collected: 08/06/2015 15:30 by LK

Submitted: 08/07/2015 18:15
Reported: 08/21/2015 12:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRGTD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	810	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152290009A	08/19/2015 02:00	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152290009A	08/17/2015 23:00	David V Hershey Jr	1

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Analysis Report

Sample Description: Rinse Blank Grab Water
NRG PRGS

LL Sample # WW 8001055
LL Group # 1583716
Account # 08390

Project Name: NRG PRGS

Collected: 08/06/2015 19:00 by LK

Submitted: 08/07/2015 18:15
Reported: 08/21/2015 12:40

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRGTR

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	N.D.	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152290009A	08/19/2015 02:24	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152290009A	08/17/2015 23:00	David V Hershey Jr	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1583716
Reported: 08/21/2015 12:40

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152260019A	Sample number(s): 8001050							
Methane	N.D.	3.0	ug/l	102		85-115		
Batch number: 152270014A	Sample number(s): 8001049-8001050							
DRO C10-C28	N.D.	45.	ug/l	74		69-115		
Batch number: 152290009A	Sample number(s): 8001051-8001055							
DRO C10-C28	N.D.	45.	ug/l	69		69-115		
Batch number: 15227987122A	Sample number(s): 8001050							
Sulfate	N.D.	0.30	mg/l	98	97	90-110	1	20

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 152260019A	Sample number(s): 8001050 UNSPK: P002318								
Methane	101	103	46-129	2	20				
Batch number: 152270014A	Sample number(s): 8001049-8001050 UNSPK: P999769								
DRO C10-C28	67	67	47-129	1	20				
Batch number: 152290009A	Sample number(s): 8001051-8001055 UNSPK: 8001051								
DRO C10-C28	54	65	47-129	9	20				
Batch number: 15227987122A	Sample number(s): 8001050 UNSPK: P001132 BKG: P001132								
Sulfate	95		90-110			19.6	19.4	1 (1)	15

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Methane
Batch number: 152260019A

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: GES, Inc. Group Number: 1583716
Reported: 08/21/2015 12:40

Surrogate Quality Control

	Propene
8001050	95
Blank	91
LCS	93
MS	86
MSD	89
Limits:	47-116

Analysis Name: DRO micro-ext 8015B
Batch number: 152270014A

	Orthoterphenyl
8001049	106
8001050	102
Blank	101
LCS	93
MS	89
MSD	92
Limits:	42-160

Analysis Name: DRO micro-ext 8015B
Batch number: 152290009A

	Orthoterphenyl
8001051	114
8001052	91
8001053	85
8001054	98
8001055	100
Blank	112
LCS	105
MS	91
MSD	85
Limits:	42-160

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

3 2

ORIGINAL

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 1583716 Sample # 8001049-55

Client: Groundwater & Env. Services, Inc.	
Project Name/#: NRG PRGS	Site ID #: NRG PRGS
Project Manager: Tony Christoff	P.O. #: 0402925
Sampler: Lindsay Keeney	PWSID #:
Phone #: 800-220-3606 x 3717	Quote #: 212032A
State where sample(s) were collected: 1400 North Royal St., Alexandria, VA	

Matrix: Sediment ☐ Ground ☑ Surface ☐ Soil ☐ Potable ☐ NPDES ☐ Other:

Preservation Codes: H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, P = H_3PO_4, O = Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other:	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B) H	Alkalinity (SM 2320B) None	Nitrate NO3 -1 (EPA 353.2) S	Ferrous Iron Fe2+ (SM 3500-Fe B modified-1997) H	Sulfate SO42- (EPA 300.0) None	Manganese Mn2+ (EPA 6010B) N	Methane (RSKSOP-175 modified) H	Remarks
TW-04	8-6-15	1300	x			x		2	x							Cooler 1
TW-05	↓	1500	x			x		11	x	~~x~~	~~x~~	~~x~~*	x	~~x~~*	x	Cooler 2
TW-06	↓	1745	x			x		2	x							Cooler 3
TW-DUP	↓	1530	x			x		11	x	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~	~~x~~*	Cooler 2
MS/MSD (TW-06) PER L. KEENEY	↓	1830	x			x		2	x							Cooler 3
Rinse Blank KNP 8/12/15	↓	1900	x					2	x							Cooler 4

*ANALYSES PER L. KEENEY. KNP 8/12/15

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

EQEDD Name: NRG PRGS.*Lab report* #.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-6-15	2200	Denise Woodring	8-7-15	0800
Denise Woodring	8-7-15	12:00	[signature]	8/7/15	12:00
[signature]	8/7/15	18:15			
			[signature]	8/7/15	1815

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 1.9-3.5 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 94860

Group Number(s): 1583716

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	08/07/2015 18:15
Number of Packages:	4	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Katherine Metzger (2241) at 19:59 on 08/07/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	3.5	DT	Wet	Y	Loose	N
2	DT121	2.5	DT	Wet	Y	Loose	N
3	DT121	1.9	DT	Wet	Y	Loose	N
4	DT121	4.2	DT	Wet	Y	Loose	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
TW-05	4	11	Only received 2 HCl vials and 2 unpreserved vials.
TW-DUP	4	11	Only received 2 HCl vials and 2 unpreserved vials.
TW-04	4	2	Received 2 HCl vials and 2 unpreserved vials.
TW-06	4	2	Received 2 HCl vials and 2 unpreserved vials.
MS/MSD	4	2	Received 2 HCl vials and 2 unpreserved vials.
RINSE BLANK	4	2	Received 2 HCl vials and 2 unpreserved vials.

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.cor

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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Measurement uncertainty values, as applicable, are available upon request.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

August 24, 2015

Project: NRG PRGS

Submittal Date: 08/12/2015
Group Number: 1584066
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
TW-14 Grab Groundwater	8002892

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

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Analysis Report

Sample Description: TW-14 Grab Groundwater
NRG PRGS

LL Sample # WW 8002892
LL Group # 1584066
Account # 08390

Project Name: NRG PRGS

Collected: 08/11/2015 12:00

Submitted: 08/12/2015 09:20
Reported: 08/24/2015 12:32

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

TW-14

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	3,700	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152300019A	08/20/2015 12:50	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152300019A	08/19/2015 09:00	Maria Davenport	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1584066
Reported: 08/24/2015 12:32

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152300019A	Sample number(s): 8002892							
DRO C10-C28	N.D.	45.	ug/l	80	72	69-115	8	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: DRO micro-ext 8015B
Batch number: 152300019A

	Orthoterphenyl
8002892	71
Blank	96
LCS	93
LCSD	94
Limits:	42-160

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 1584066 Sample # ~~7~~ 8002892 @ 8/12/15

Client: Groundwater & Env. Services, Inc.	
Project Name/#: NRG PRGS	Site ID #: NRG PRGS
Project Manager: Tony Christoff	P.O. #: 0402925
Sampler:	PWSID #:
Phone #: 800-220-3606 x 3717	Quote #: 212032A
State where sample(s) were collected: **1400 North Royal St., Alexandria, VA**	

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Sediment	Water (Ground / Potable / NPDES)	Surface	Other:	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B) (H)	Alkalinity (SM 2320B) (None)	Nitrate NO3 -1 (EPA 353.2) (S)	Ferrous Iron Fe2+ (SM 3500-Fe B modified-1997) (H)	Sulfate SO42- (EPA 300.0) (None)	Manganese Mn2+ (EPA 6010B) (N)	Methane (RSKSOP-175 modified) (H)	Remarks
TW-14	8/11/15	1200*	X				X				X							* TIME PER SAMPLE CONTAINERS KNP 8/14/15

Preservation Codes: H = HCl; N = HNO_3; S = H_2SO_4; O = Other; T = Thiosulfate; B = NaOH; P = H_3PO_4

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

EQEDD Name: NRG PRGS.*Lab report #*.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
Matthew Ridgway	8/11	1252			

Relinquished by Commercial Carrier:

UPS _____ FedEx ☒ Other _____

Temperature upon receipt 2.5 °C

For Lab Use Only

SF #: _____

SCR #: _____

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Sample Administration Receipt Documentation Log

Doc Log ID: 96037

Group Number(s): 1584066

Client: GES

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	08/12/2015 9:20
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	No
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Wesley Miller (2308) at 13:57 on 08/12/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	8013596-IR	2.5	IR	Wet	Y	Loose	N

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
TW-14	8/11/2015 12:00	No time listed on COC

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

August 21, 2015

Project: NRG PRGS

Submittal Date: 08/14/2015
Group Number: 1585051
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
TW-05 Grab Groundwater	8007860

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

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ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

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Analysis Report

Sample Description: TW-05 Grab Groundwater
NRG PRGS

LL Sample # WW 8007860
LL Group # 1585051
Account # 08390

Project Name: NRG PRGS

Collected: 08/13/2015 10:20 by JP

Submitted: 08/14/2015 18:20
Reported: 08/21/2015 13:04

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
Metals	**SW-846 6010B**		**mg/l**	**mg/l**	
07058	Manganese	7439-96-5	3.55	0.00080	1
Wet Chemistry	**EPA 353.2**		**mg/l**	**mg/l**	
00220	Nitrate Nitrogen	14797-55-8	N.D.	0.040	1
00219	Nitrite Nitrogen	14797-65-0	0.091	0.015	1
	SM 2320 B-1997		**mg/l as CaCO3**	**mg/l as CaCO3**	
12150	Total Alkalinity to pH 4.5	n.a.	16.1	0.70	1
	SM 3500-Fe B 1997		**mg/l**	**mg/l**	
08344	Ferrous Iron	n.a.	84.5	2.0	200

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07058	Manganese	SW-846 6010B	1	152311848003	08/20/2015 20:11	Suzanne M Will	1
01848	ICP-WW, 3005A (tot rec) - U3	SW-846 3005A	1	152311848003	08/20/2015 08:29	James L Mertz	1
00220	Nitrate Nitrogen	EPA 353.2	1	15231106102B	08/19/2015 15:21	Jonathan T Tomayko	1
00219	Nitrite Nitrogen	EPA 353.2	1	15227105101A	08/15/2015 01:35	James S Mathiot	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-1997	1	15231004203A	08/19/2015 20:50	Michele L Graham	1
08344	Ferrous Iron	SM 3500-Fe B 1997	1	15231834401A	08/19/2015 18:35	Daniel S Smith	200

Quality Control Summary

Client Name: GES, Inc. Group Number: 1585051
Reported: 08/21/2015 13:04

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152311848003	Sample number(s): 8007860							
Manganese	N.D.	0.00080	mg/l	101		80-120		
Batch number: 15227105101A	Sample number(s): 8007860							
Nitrite Nitrogen	N.D.	0.015	mg/l	98		90-110		
Batch number: 15231106102B	Sample number(s): 8007860							
Nitrate Nitrogen	N.D.	0.040	mg/l	100		90-110		
Batch number: 15231004203A	Sample number(s): 8007860							
Total Alkalinity to pH 4.5	N.D.	0.70	mg/l as CaCO3	101		90-110		
Batch number: 15231834401A	Sample number(s): 8007860							
Ferrous Iron	N.D.	0.010	mg/l	98		93-105		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 152311848003	Sample number(s): 8007860 UNSPK: P006951 BKG: P006951								
Manganese	95	96	75-125	1	20	0.0813	0.0821	1	20
Batch number: 15227105101A	Sample number(s): 8007860 UNSPK: 8007860 BKG: 8007860								
Nitrite Nitrogen	79*		90-110			0.091	0.092	1 (1)	20
Batch number: 15231106102B	Sample number(s): 8007860 UNSPK: P006753 BKG: P006753								
Nitrate Nitrogen	68*		90-110			0.057 J	0.056 J	1 (1)	2
Batch number: 15231004203A	Sample number(s): 8007860 UNSPK: P008892 BKG: P008892								
Total Alkalinity to pH 4.5	59*	56*	90-110	4	5	34.4	33.2	4	5
Batch number: 15231834401A	Sample number(s): 8007860 UNSPK: P998542 BKG: P998542								
Ferrous Iron	79*	81*	93-105	3	6	N.D.	0.010 J	200* (1)	5

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: GES, Inc.
Reported: 08/21/2015 13:04

Group Number: 1585051

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 1585051 Sample # 8007860

Client: Groundwater & Env. Services, Inc.	
Project Name/#: NRG PRGS	Site ID #: NRG PRGS
Project Manager: Tony Christoff	P.O. #: 0402925
Sampler: Jeff Plummer	PWSID #:
Phone #: 800-220-3606 x 3717	Quote #: 212032A
State where sample(s) were collected: **1400 North Royal St., Alexandria, VA**	

Matrix: Sediment ☐ Soil ☐ Ground ☑ Water Potable ☐ Surface ☐ NPDES ☐ Other:

Analyses Requested / Preservation Codes

For Lab Use Only: SF #: ____ SCR #: ____

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other:	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B) H	Alkalinity (SM 2320B) None	Nitrate NO3 -1 (EPA 353.2) S	Ferrous Iron Fe2+ (SM 3500-Fe B modified-1997) H	Sulfate SO42- (EPA 300.0) None	Manganese Mn2+ (EPA 6010B) N	Methane (RSKSOP-175 modified) H	Remarks
TW-05	8-13-15	1020	x			x		5		X	X	X		X		

Preservation Codes: H = HCl; T = Thiosulfate; N = HNO_3; B = NaOH; S = H_2SO_4; P = H_3PO_4; O = Other

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

EQEDD Name: NRG PRGS.*Lab report #*.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
Jeff Plummer	8-13-15	1635	Denise Woodring	8-13-15	1635
Denise Woodring	8-14-15	1525	Stacy Wagner	8/14/15	15/25
Stacy Wagner	8/14/15	18:20			

Relinquished by Commercial Carrier:

UPS ____ FedEx ____ Other ____

Temperature upon receipt 6.1 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 97200

Group Number(s): 1585051

Client: GES

NRG PRGS

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	08/14/2015 18:20
Number of Packages:	1	Number of Projects:	2
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 20:24 on 08/14/2015

Samples Chilled Details: NRG PRGS

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.1	DT	Wet	Y	Loose	N

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

September 02, 2015

Project: NRG PRGS

Submittal Date: 08/21/2015
Group Number: 1586853
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-05 Grab Groundwater	8017551

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

ELECTRONIC COPY TO	GES	Attn: Greg Reichart
ELECTRONIC COPY TO	GES, Inc.-MD	Attn: Data Distribution

Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

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Analysis Report

Sample Description: MW-05 Grab Groundwater
NRG PRGS

LL Sample # WW 8017551
LL Group # 1586853
Account # 08390

Project Name: NRG PRGS

Collected: 08/21/2015 13:05 by JP

Submitted: 08/21/2015 19:00
Reported: 09/02/2015 17:29

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRG05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	140,000	45	10

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152390008A	08/31/2015 11:07	Nicholas R Rossi	10
12059	Microextraction - DRO (waters)	SW-846 3511	1	152390008A	08/27/2015 15:00	Wanda F Oswald	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1586853
Reported: 09/02/2015 17:29

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152390008A	Sample number(s): 8017551							
DRO C10-C28	N.D.	45.	ug/l	84	82	69-115	1	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: DRO micro-ext 8015B
Batch number: 152390008A

	Orthoterphenyl
8017551	1032*
Blank	109
LCS	101
LCSD	101
Limits:	42-160

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 15868853 Sample # 8017551

Client: Groundwater & Environmental Services, Inc. (GES)	
Project Name/#: NRG PRGS	Site ID #: NRG PRGS
Project Manager: Gregory Reichart	P.O. #: 0402925
Sampler: Jeff Plummer	PWSID #:
Phone #: 800-220-3606 x3717	Quote #: 212032A
State where sample(s) were collected: Virginia	

For Lab Use Only
SF #: _____
SCR #: _____

Preservation Codes
H = HCl, T = Thiosulfate, N = HNO_3, B = NaOH, S = H_2SO_4, P = H_3PO_4, O = Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Sediment	Soil	Ground	Potable	Surface	NPDES	Water	Other:	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B)	Remarks
MW-05	8-21-15	1305	X								X		2	X	EQEDD File Name: NRG PRGS. Lab Report #. 25800.EQEDD.zip

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type VI (Raw Data Only) ☐ TX TRRP-13 ☐
NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

Relinquished by:	Date	Time	Received by:	Date	Time
Jeff Plummer	8-21-15	1430	Denise Woodring	8-21-15	14:35
Denise Woodring	8-21-15	14:35	[illegible]	8/21/15	14:35
[illegible]	8/21/15	19:00			
			[illegible]	8/21/15	19:00

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.3 °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 99402

Group Number(s): 1586853

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	08/21/2015 19:00
Number of Packages:	1	Number of Projects:	2
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 19:22 on 08/21/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	0.3	DT	Wet	N	Loose	N

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

August 26, 2015

Project: NRG PRGS

Submittal Date: 08/21/2015
Group Number: 1586854
PO Number: NRG PRGS
Release Number: 0402925
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-05 airbag Grab Air	8017552

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

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Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

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Analysis Report

Sample Description: MW-05 airbag Grab Air
NRG PRGS

LL Sample # AQ 8017552
LL Group # 1586854
Account # 08390

Project Name: NRG PRGS

Collected: 08/21/2015 13:00 by JP

Submitted: 08/21/2015 19:00
Reported: 08/26/2015 09:57

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation	Dilution Factor
Volatiles in Air	**EPA 18 mod/EPA 25 mod**		mg/m3	mg/m3	
07090	C1-C4 Hydrocarbons as propane	n.a.	42,000	1,800	100
07090	>C4-C10 Hydrocarbons hexane	n.a.	830	35	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07090	C1-C4, >C4-C10 (as propane)	EPA 18 mod/EPA 25 mod	1	M1523630AA	08/24/2015 14:20	Alexander D Sechrist	1
07090	C1-C4, >C4-C10 (as propane)	EPA 18 mod/EPA 25 mod	1	M1523630AA	08/24/2015 17:40	Alexander D Sechrist	100

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Quality Control Summary

Client Name: GES, Inc. Group Number: 1586854
Reported: 08/26/2015 09:57

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: M1523630AA	Sample number(s): 8017552							
C1-C4 Hydrocarbons as propane	< 18	18.	mg/m3					
>C4-C10 Hydrocarbons hexane	< 35	35.	mg/m3					

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 8390 Group # 15868554 Sample # 8017552

Client: Groundwater & Environmental Services, Inc. (GES)	
Project Name/#: NRG PRGS	Site ID #: NRG PRGS
Project Manager: Gregory Reichart	P.O. #: 0402925
Sampler: Jeff Plummer	PWSID #:
Phone #: 800-220-3606 x3717	Quote #: 212032A
State where sample(s) were collected: Virginia	

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Sediment	Potable	Ground	NPDES	Surface	Other: AIR	Total # of Containers	TPH (C1-C4 & C4-C10) EPA 18/25 Mod										Remarks
MW-05 airbag	8-21-15	1300	X								X	1	X										EQEDD file name:
																							NRG PRGS.
																							lab report #.
																							25800.EQEDD.zip

Analyses Requested / Preservation Codes

For Lab Use Only
SF #: _____
SCR #: _____

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
O = Other

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☑ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type VI (Raw Data Only) ☐ TX TRRP-13 ☐
NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD

Relinquished by:	Date	Time	Received by:	Date	Time
Jeff Plummer	8-21-15	1430	Denise Woodly	8-21-15	1435
Denise Woodly	8-21-15	1435	[illegible]	8/21/15	14:30
[illegible]	8/21/15	19:00			
			[illegible]	8/21/15	19:20

Relinquished by Commercial Carrier:
UPS _____ FedEx _____ Other _____

Temperature upon receipt N/A °C

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Sample Administration Receipt Documentation Log

Doc Log ID: 99399

Group Number(s): 1586854

Client: GES

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	08/21/2015 19:00
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	N/A	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	Yes
Missing Samples:	No	Air Quality Flow Controllers Present:	No
Extra Samples:	No	Air Quality Returns:	No
Discrepancy in Container Qty on COC:	No		

Unpacked by Jordan Woods (6698) at 19:18 on 08/21/2015

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www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

September 18, 2015

Project: NRG PRGS

Submittal Date: 09/10/2015
Group Number: 1591745
PO Number: NRG PRGS
Release Number: 0402859
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
MW-16S Grab Groundwater	8041675

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

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Respectfully Submitted,

Kaitlin N. Plasterer

Kaitlin N. Plasterer
Specialist

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Analysis Report

Sample Description: MW-16S Grab Groundwater
NRG - PRGS

LL Sample # WW 8041675
LL Group # 1591745
Account # 08390

Project Name: NRG PRGS

Collected: 09/09/2015 15:20 by MR

Submitted: 09/10/2015 09:30
Reported: 09/18/2015 13:34

GES, Inc.
Suite A
1350 Blair Dr
Odenton MD 21113

NRG16

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC Petroleum Hydrocarbons		**SW-846 8015B**	**ug/l**	**ug/l**	
12858	DRO C10-C28	n.a.	100	45	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12858	DRO micro-ext 8015B	SW-846 8015B	1	152550024A	09/17/2015 16:07	Christine E Dolman	1
12059	Microextraction - DRO (waters)	SW-846 3511	1	152550024A	09/16/2015 14:00	Wanda F Oswald	1

Quality Control Summary

Client Name: GES, Inc. Group Number: 1591745
Reported: 09/18/2015 13:34

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 152550024A	Sample number(s): 8041675							
DRO C10-C28	N.D.	45.	ug/l	86	86	69-115	2	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: DRO micro-ext 8015B
Batch number: 152550024A

	Orthoterphenyl
8041675	108
Blank	110
LCS	96
LCSD	105
Limits:	42-160

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 8390 Group # 1591745 Sample # 8041675

Client: Groundwater & Env. Services, Inc.	
Project Name/#: NRG PRGS	Site ID #: NRG PRGS
Project Manager: Gregory Reichart	P.O. #: 0402859
Sampler: Matthew Ridgway	PWSID #:
Phone #: 800-220-3606 x 3717	Quote #: 212032A
State where sample(s) were collected: 1400 North Royal St., Alexandria, VA	

Matrix: Sediment ☐ Ground ☒ Surface ☐ Potable ☐ NPDES ☐ Soil ☐ Other:

Analyses Requested / Preservation Codes

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other:	Total # of Containers	TPH-DRO C10-C28 (SW-846 8015B)	BTEX, MTBE, TBA, EDC, EDB, Naphthalene (SW-846 8260B)	TPH-GRO C6-C10 (SW-846 8015B)	PAHs & Alkylated PAHs by SIM (SW-846 8270C SIM)	HEM Oil and Grease (EPA 1664A)	TPH by GC-FID - Fingerprinting (SW-846 8015B modified)	Turbidity (SM 2130B)	Alkalinity (SM 2320B)	Nitrate NO3 -1 (EPA 353.2)	Ferrous Iron Fe2+ (SM 3500-Fe B modified-1997)	Sulfate SO42- (EPA 300.0)	Methane (RSKSOP-175 modified)	Remarks
MW-16S	9/9/15	1520	X			GW		2	X												time on bottle was wrong, please go off the COC for correct sample time

For Lab Use Only
SF #: _____
SCR #: _____

Preservation Codes: H = HCl; N = HNO_3; S = H_2SO_4; O = Other; T = Thiosulfate; B = NaOH; P = H_3PO_4

Turnaround Time Requested (TAT) (please check): Standard ☑ Rush ☐
(Rush TAT is subject to laboratory approval and surcharges.)

Date results are needed:

Rush results requested by (please check): E-Mail ☐ Phone ☐

E-mail Address: mdlabs@gesonline.com & ges@equisonline.com

Phone:

Data Package Options (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type VI (Raw Data Only) ☐ TX TRRP-13 ☐
NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☑ No ☐ If yes, format: GES EQEDD
EQEDD Name: NRG PRGS.*Lab report #*.25800.EQEDD.zip

Relinquished by:	Date	Time	Received by:	Date	Time
Matthew Ridgway	9/9/15		[illegible]	09/09/15	16:56
			Brianna Nach	9/10/15	930

Relinquished by Commercial Carrier:
UPS _____ FedEx X Other _____

Temperature upon receipt 19 °C

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 103825

Group Number(s): 1591745

Client: Groundwater & Env

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/10/2015 9:30
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	No
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Brandy Barclay (2299) at 10:57 on 09/10/2015

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	8013596-IR	1.9	IR	Wet	Y	Loose	N

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
MW-16S	9/09/2015 11:50	

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and the < Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

ATTACHMENT C

Baildown Test Analysis

GES LNAPL BAILDOWN TEST FIELD LOG

SITE: **1400 N. Royal St., Alexandria, VA**
PROJECT: **NRG - Potomac River Generating Station (PRGS)**
WELL ID: **MW-05** **DATE:** **7/8/14** **TIME:** **8:00**
PERSONNEL: P. Reichardt, D. Rice

Air Temperature: 75 °F Groundwater Temperature: 62 °F
Current Precipitation: None
Esti. Wind Speed: light

STATIC DEPTH TO LNAPL		(A)	23.75	ft btoc	7.244	m btoc
STATIC DEPTH TO WATER		(B)	27.5	ft btoc	8.388	m btoc
LNAPL THICKNESS	(B - A)	(C)	3.75	ft	1.144	m
80% of LNAPL THICKNESS	(C *.80)	(D)	3	ft	0.915	m
SPECIFIC GRAVITY OF LNAPL	(at 62 °F)	(E)	0.877			
CORRECTED DEPTH TO WATER	(B - (C x E))	(F)	24.21	ft btoc	7.384	m btoc
MEASURED WELL DEPTH			32.15	ft btoc	9.806	m btoc
DEPTH TO TOP OF SCREEN		(G)	25	ft btoc	7.625	m btoc
DEPTH TO BASE OF SCREEN		(H)	35	ft btoc	10.68	m btoc

★ (A) Must be between (G) and (H). If not, discontinue test. ⇨ SUBMERGED

WELL CASING INNER DIAMETER	(I)	0.33	ft	0.102	m
WELL BORE DIAMETER	(J)	0.875	ft	0.267	m

★ (C) Must be > (J)/2. If not, discontinue test. ⇨ OK

WELL CASING SPECIFIC VOLUME	(K)	0.652837778	gals/ft	8.1049	liters/m

BAILER TYPE:	HDPE - 1 gal				
BAILER INNER RADIUS	(L)	0.25	ft		m
BAILER LENGTH	(M)	3	ft		m
NUMBER OF BAILS REMOVED (LNAPL AND GROUNDWATER)	(N)	2	bails		

PRESSURE TRANSDUCER TYPE/MODEL: N/A
PRESSURE TRANSDUCER SETTING IN LNAPL OR WATER?: ft btoc m btoc
DATA LOGGER TYPE/MODEL:
PRESSURE READINGS RECORDED IN _____ SECOND INTERVALS

CALCULATE VOLUME OF BAILER and FRACTION OF LENGTH FILLED WITH EACH FLUID:
Volume = Fraction of Full Bailer x 3.142 x $(L)^2$ x (M) x 7.48 gals/ft OR USE CONTAINER VOLS.

VOLUME REMOVED = (N) X NUMBER OF BAILS REMOVED	2.375	gals	9	liters
L OF LNAPL REMOVED _____ VOL OF WATER REMOVED	0.375	gals	1.42	liters

TEST DISCONTINUED AFTER LNAPL THICKNESS = (D) ft 0 m
TEST DISCONTINUED AFTER 3 HOURS HAD ELAPSED
7/8/2014 8:00:00 AM STARTING TIME 3:40:00 PM END TIME (7-10-15)

Conversion Factors:
1 foot = 0.305 m 1 gal = 3.785 liters 2-inch screen = 0.163 gal/ft 4-inch screen = 0.653 gal/ft
1 m = 3.28 feet 1 liter = 0.264 gals 2-inch screen = 2.03 liters/m 4-inch screen = 8.11 liters/m

GES/ES&T LNAPL BAILDOWN TEST FIELD LOG

NOTE: Enter measurements -- change units to metric if necessary

SITE: 1400 N. Royal St., Alexandria, VA
PROJECT: NRG - Potomac River Generating Station (PRGS)
WELL ID: MW-05 **DATE:** 7/8/2015 **TIME:** 8:00
PERSONNEL:

CLOCK TIME	ELAPSED TIME (min)	DEPTH TO LNAPL (ft btoc)	DEPTH TO WATER (ft btoc)	LNAPL THICKNESS (feet)	COMMENTS / OBSERVATIONS
8:00		23.75	27.5	3.75	PRETEST MEASUREMENTS
8:10	0	27.05	27.5	0.45	LAST BAIL REMOVED FROM WELL
8:10	0.5	26.94	27.29	0.35	
8:11	1	26.87	27.21	0.34	
8:13	3	26.68	26.95	0.27	
8:15	5	26.52	26.8	0.28	
8:20	10	26.19	26.47	0.28	
8:30	20	25.68	25.97	0.29	
8:40	30	25.28	25.61	0.33	
8:50	40	25	25.33	0.33	
9:10	60	24.64	25	0.36	
9:40	90	24.37	24.77	0.4	
10:10	120	24.25	24.66	0.41	
11:10	180	24.19	24.61	0.42	
12:10	240	24.14	24.56	0.42	
14:00	350	24.06	24.48	0.42	
15:10	420	24.02	24.46	0.44	
9:25	1515	23.9	24.49	0.59	
10:25	1575	23.89	24.5	0.61	
12:40	1710	23.97	24.56	0.59	
14:40	1830	23.87	24.51	0.64	
15:40	1890	23.78	24.42	0.64	Final measurement

Basic Input Data for Slug Withdrawal - Baildown Test Analysis

Location and Timing of Baildown Test					Comments About Data	
Well Name:	MW-05					
Site Name:	1400 N. Royal St., Alexandria, VA					
Database:	Carsel & Parrish (1988) and API (2006)					
Start Date:	7/8/2014				Date of bailing the well.	
Clock time of start of bailing:	8:07				Known starting time	
Clock time of end of bailing:	8:10				two bailer withdrawals	
Time spend Bailing well:	0:02:45	(hr:min:sec)			Calculated value based on transducer.	
Time of last fluid measurement:	15:40	7/9/2015			Clock time of last measurement.	
End Date:	7/9/2015	(m/d/yr)			Date of last fluid level measurement.	
Test Well Characteristics						
Borehole Diam.	10.00	(inches)	0.254	(meters)	Data from well log.	0.833 (feet)
Casing ID:	4.00	(inches)	0.102	(meters)	Data from well log.	0.333 (feet)
Casing OD:	4.20	(inches)	0.107	(meters)	Data from well log.	0.350 (feet)
Screen ID:	4.00	(inches)	0.102	(meters)	Data from well log.	0.333 (feet)
Screen OD:	4.20	(inches)	0.107	(meters)	Data from well log.	0.350 (feet)
Measuring Point stickup above ground	0.00	(feet)	0.000	(meters)	Data from well log.	
Oil-wet screen length -- pretest:	3.75	(feet)	1.143	(meters)	Data from pretest fluid levels.	
Wtr-wet screen length -- pretest:	7.50	(feet)	2.287	(meters)		
Aquifer thickness:	35.00	(feet)	10.671	(meters)	Estimated	
Specific oil yield of filter pack sand:	0.137	(dimensionless)				
Specific water yield of filter pack sand:	0.03	(dimensionless)				
Oil and Water Volumes Bailed						
Volume of free LNAPL bailed:	2.38	(gallons)	8.99	(liters)	Measured in field after bailing.	
Volume of groundwater bailed:	0.38	(gallons)	1.42	(liters)	Measured in field after bailing.	
Fluid Properties						
Specific gravity of oil:	0.876	(dimensionless)			Measured, addjusted for temp.	
Dynamic viscosity of oil:	4.58	(centipoise)			Measured, addjusted for temp.	
Air-water surface tension:	74.1	(dynes/cm)			Measured at room temp.	
Air-oil surface tension:	32.6	(dynes/cm)			Measured at room temp.	
Oil-water interfacial tension:	17.2	(dynes/cm)			Measured at room temp.	
Groundwater Temperature	62.0	degrees F	16.67	deg C	Assumed value	
Soil Properties--Filter Pack Sand						
Hydraulic conductivity:	800	(ft/day)	Assumed values		Value based on laboratory measurement.	
Effective Porosity:	0.3	(dimensionless)			Estimate or laboratory measurement.	
Irreducible water saturation:	0.1	(dimensionless)			Estimate or laboratory measurement.	
van Genuchten alpha:	4.2	(1/feet)			Initial estimate based on soil texture.	
van Genuchten n:	2.1	(dimensionless)			Initial estimate based on soil texture.	
van Genuchten m:	0.52	(dimensionless)			Initial estimate based on soil texture.	
Soil Properties--Formation			Preliminary Estimates			
Hydraulic conductivity:	1	(ft/day)			Use if different from that calculated.	
Effective Porosity:	0.35	(dimensionless)			Estimate or laboratory measurement.	
Irreducible water saturation:	0.25	(dimensionless)			Estimate or laboratory measurement.	
van Genuchten alpha:	2.5	(1/feet)			Initial estimate based on soil texture.	
van Genuchten n:	1.50	(dimensionless)			Initial estimate based on soil texture.	
van Genuchten m:	0.33	(dimensionless)			Initial estimate based on soil texture.	

* NB : The surface and interfacial tensions are estimated from other data.

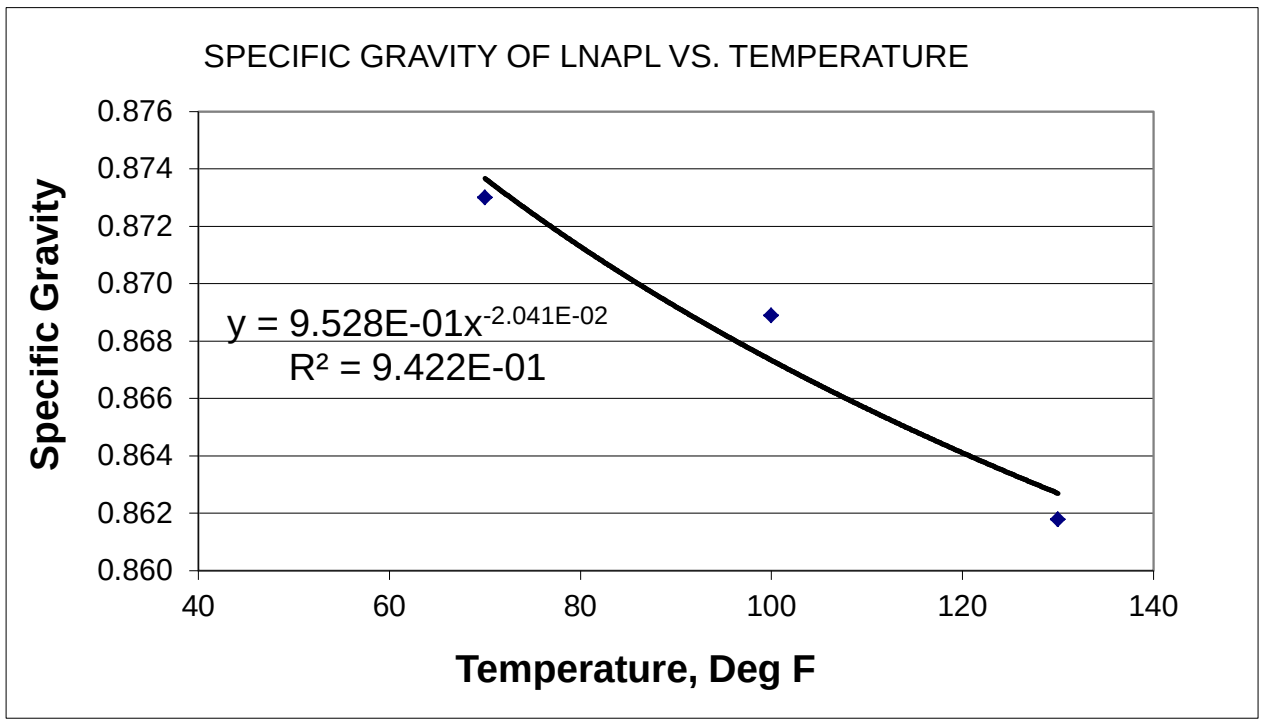
Laboratory Fluid Properties (PTS Lab report)

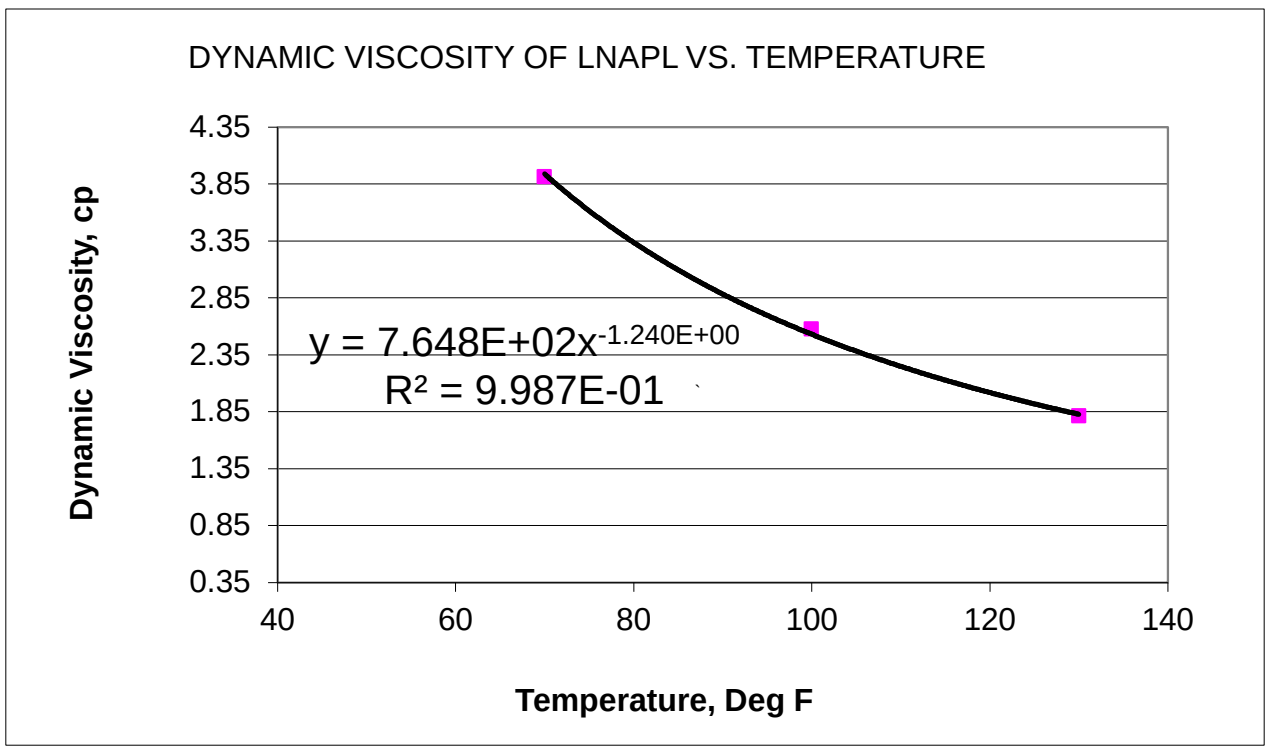
SAMPLE ID	MATRIX	TEMPERATURE, °F	SPECIFIC GRAVITY	DENSITY, g/cc	VISCOSITY centistokes	VISCOSITY centipoise
MW-05	Water	70	1.001	0.9990	1.030	1.030
		100	1.004	0.9967	0.707	0.705
		130	1.005	0.9910	0.524	0.519
MW-05	NAPL	70	0.8730	0.8713	4.490	3.910
		100	0.8689	0.8629	2.980	2.570
		130	0.8618	0.8497	2.130	1.810

GW Temperatures during GES Sampling

Well ID	Temp, ^{o}C
Average	#DIV/0!

PHASE PAIR SAMPLE ID / PHASE	PHASE	TEMPERATURE, °F	INTERFACIAL TENSION, Dynes/centimeter
MW-05 / Water	Air	75	74.1
MW-05 / NAPL	Air	76	32.6
MW-05 / Water	NAPL	76	17.2





Fluid Levels Measured Prior to and After Bailing

Well Name: **MW-05** **Site:** **1400 N. Royal St., Alexandria, VA**

Measurements Prior to Bailing

Clock Time (military)*	Elapsed Time (minutes)	Depth to Air-Oil (feet)	Depth to Oil-Water (feet)	Free Oil Thickness (feet)	Depth to Water Table** (feet)	Comments	Depth to Zaw from Grd (feet)	Depth to Zao from Grd (feet)	Depth to Zow from Grd (feet)
8:07	pretest	23.75	27.5	**3.75**	**24.22**	*Clock time in hrs-minutes-m/d/yr format if user wants spreadsheet to compute elapsed time from these clock times. ** Water table = "corrected" water table.	20.02	19.55	23.30

Measurements After Bailing

First measurement assumed to be static.

Clock Time (military)*	Elapsed Time (minutes)	Depth to Air-Oil (feet)	Depth to Oil-Water (feet)	Free Oil Thickness (feet)	Depth to Water Table** (feet)	Comments
8:10:30	0.01	27.388	27.5	0.11	27.40	The first depth-to-fluids measurement after bailer is raised above air-oil interface.
8:11:00	1.00	26.94	27.29	0.35	26.98	
8:13:00	3.00	26.87	27.21	0.34	26.91	
8:15:00	5.00	26.68	26.95	0.27	26.71	
8:20:00	10.00	26.52	26.8	0.28	26.55	
8:30:00	20.00	26.19	26.47	0.28	26.22	
8:40:00	30.00	25.68	25.97	0.29	25.72	
8:50:00	40.00	25.28	25.61	0.33	25.32	
9:10:00	60.00	25	25.33	0.33	25.04	
9:40:00	90.00	24.64	25	0.36	24.68	
10:10:00	120.00	24.37	24.77	0.40	24.42	
11:10:00	180.00	24.25	24.66	0.41	24.30	
12:10:00	240.00	24.19	24.61	0.42	24.24	
14:00:00	350.00	24.14	24.56	0.42	24.19	
15:10:00	420.00	24.06	24.48	0.42	24.11	
9:25:00	1515.00	24.02	24.46	0.44	24.07	
10:25:00	1575.00	23.9	24.49	0.59	23.97	
12:40:00	1710.00	23.89	24.5	0.61	23.97	
14:40:00	1830.00	23.97	24.56	0.59	24.04	
15:40:00	1890.00	23.87	24.51	0.64	23.95	

26.77		Calculated DT Wtr Table at time zero for a single bail.
0.11		Calculated initial oil thickness at t-zero.
0		Early change in oil thickness -- negative due to rising WT
Sceen ID assumed is:	4.00 inches	(read from Basic Input Data)
0.087	ft^3/ft	
0.653	gal/ft	
2.471	Liter/ft	
0.405	ft/Liter	vertical fluid level change with removal of 1 liter
8989.38	ml	Volume of oil = 1/7th of total volume removed
8.989		Volume LANPL in Liters
1.42		Volume groundwater in liters
3.638	ft	Change in fluid level at time zero

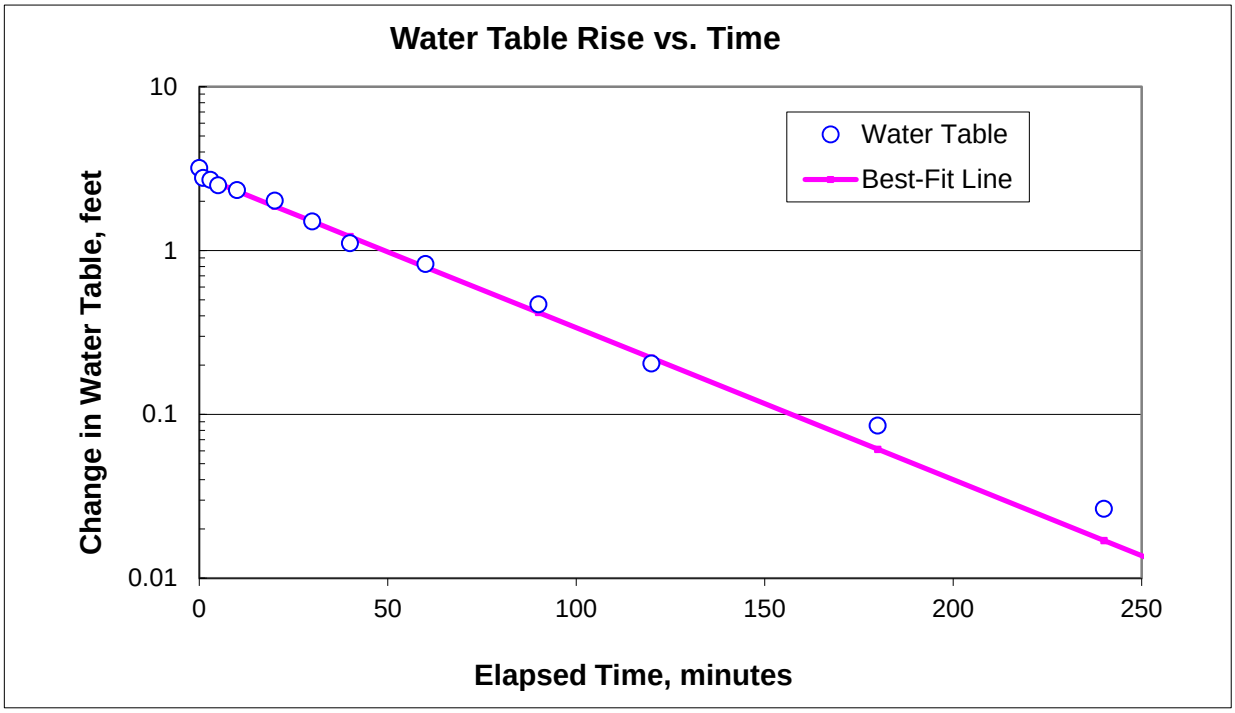
Change assumes instantaneous removal

Semi-Log Plots of Fluid Level Changes with Time and Calculated Slopes of Best-fit Lines and Y-Axis Intercepts

Well Name: MW-05
Site: 1400 N. Royal St., Alexandria, VA

Elapsed Time (minutes)	Change in Free Oil Thickness (feet)	Change in Corrected Wtr Table (feet)	Log_{10} of Change in Oil Thick.	Log_{10} of Change in Wtr. Table	Calculated Data For Best-Fit Straight Line Delta Oil	Delta Water
0.010	3.6381	3.186	0.561	0.503	3.445	2.86E+00
1.00	3.40	2.768	0.531	0.442	3.445	2.80E+00
3.00	3.41	2.697	0.533	0.431	3.445	2.68E+00
5.00	3.48	2.498	0.542	0.398	3.444	2.57E+00
10.00	3.47	2.339	0.540	0.369	3.443	2.31E+00
20.00	3.47	2.009	0.540	0.303	3.441	1.86E+00
30.00	3.46	1.500	0.539	0.176	3.439	1.51E+00
40.00	3.42	1.105	0.534	0.043	3.437	1.22E+00
60.00	3.42	0.825	0.534	-0.083	3.433	7.93E-01
90.00	3.39	0.469	0.530	-0.329	3.427	4.18E-01
120.00	3.35	0.204	0.525	-0.690	3.421	2.20E-01
180.00	3.34	0.085	0.524	-1.069	3.408	6.12E-02
240.00	3.33	0.027	0.522	-1.577	3.396	1.70E-02
350.00	3.33	-0.023	0.522	#NUM!	3.374	1.62E-03
420.00	3.33	-0.103	0.522	#NUM!	3.360	3.64E-04
1515.00	3.31	-0.141	0.520	#NUM!	3.146	2.55E-14
1575.00	3.16	-0.242	0.500	#NUM!	3.135	7.09E-15
1710.00	3.14	-0.250	0.497	#NUM!	3.109	3.97E-16
1830.00	3.16	-0.172	0.500	#NUM!	3.087	3.06E-17
1890.00	3.11	-0.266	0.493	#NUM!	3.076	8.51E-18

Well ID: **MW-05**



Linear Regression Best Fit for Water Table Rise

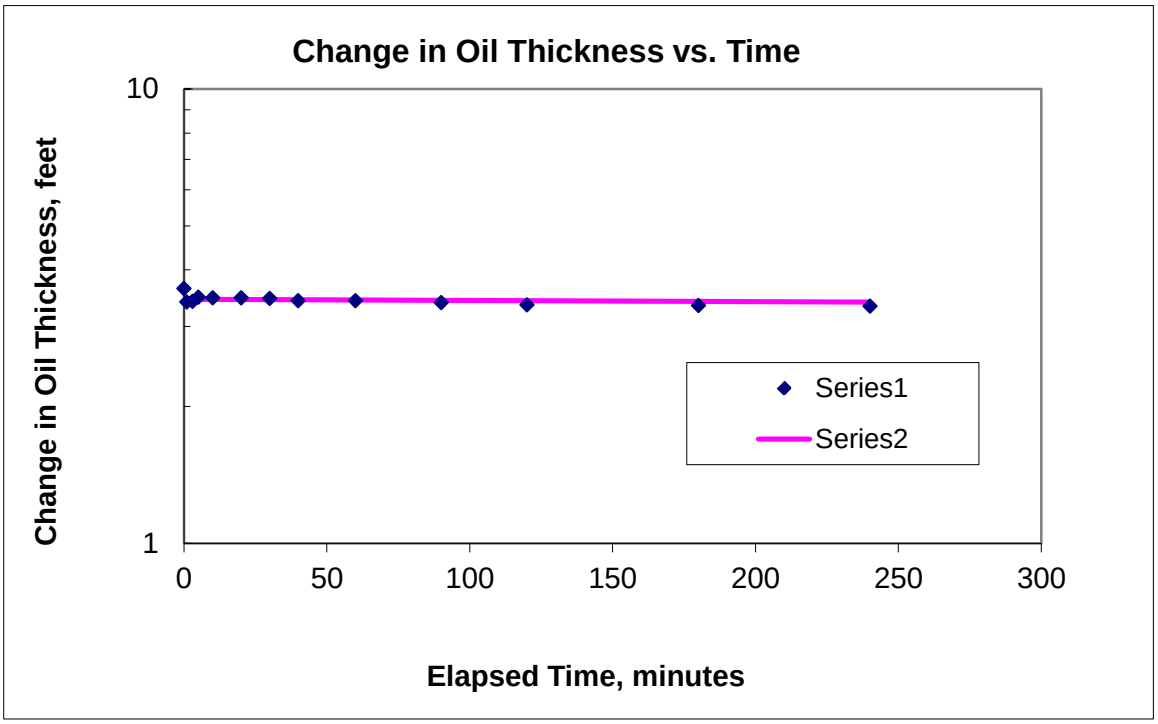
Select cell ranges for the log(water table change) and elapsed times using the slope and y-intercept functions below:

Slope of best-fit line:	-0.0093
Y-intercept of best-fit line:	2.8560
Elpased time to reach 90% of y-intercept:	107.8 minutes

Data for Plotting Best-Fit Straight Line for Water Table Recovery

	Time, min	Displacement, ft
Yo	0	2.856
Ymin	0.0	2.86E+00

Well ID: **MW-05**



Linear Regression Best Fit for Oil Thickness Changes

Select cell ranges for the log(oil thickness change) and elapsed times using the slope and y-intercept functions below:

Slope of best-fit line:	-2.6E-05
Y-intercept of best-fit line:	3.45E+00
Elpased time to reach 90% of y-intercept:	38368.6 minutes

Data for Plotting Best-Fit Straight Line for Oil Thickness Recovery

	Time, min	Displacement, ft
Yo	0	3.445
Ymin	0.0	3.45E+00

Bouwer and Rice Solution Adapted to Estimating the Oil Conductivity

Well Name: MW-05 **Site: 1400 N. Royal St., Alexandria, VA**

Modified after Lundy and Zimmerman (1966) by including effect of filter pack resaturation.

Assumes time spent bailing is small relative to time spent recovering.

Well Characteristics (calculations based on basic input data)				
Radius of well casing/screen ID:	2.0	inches	0.17	feet
Radius of well casing/screen OD:	2.1	inches	0.18	feet
Radius of casing and filter pack:	5.0	inches	0.42	feet
Initial thickness of oil in well screen:	3.75	feet		
Fluid Dynamic Viscosity, centipoise:	4.581	cp		
Estimate of the y-intercept value (only used when a single bail of oil is removed)				
Free Oil Volume Bailed:	2.375	gallons	0.32	cubic feet
Initial equiv. thickness change in well:	3.64	feet		
Filter pack specific yield for oil:	0.137			
Max. potential drainable oil volume:	1.261	gallons	0.17	cubic feet
Percent of Oil Slug Vol. Drained	53.09	percent		
Lower Bound Y-o Estimate	2.74	feet		
Estimate of oil conductivity averaged over the initial thickness of free oil zone.				
Screen length to csg + filter pack radius:	9.00			
Bouwer and Rice model parameter A:	1.861			
Bouwer and Rice model parameter B:	0.248			
Bouwer and Rice model parameter C:	1.156			
Effective well radius with filter pack effect:	2.62	inches	0.22	feet
Natural log of ratio of effective radius over which head loss occurs to the csg + filter pack radius:	1.59			
Time for recovery to 90% of y-intercept value:	38368.6	minutes		
Oil Conductivity averaged over free oil zone:	**8.74E-04**	**ft/day**	**3.08E-07**	**cm/sec**

Bouwer and Rice Parameter Look-up Table

L/rw	A	B	C
2000	9.5	3.2	12.9
1000	9.1	2.8	12.3
900	9	2.75	12.1
800	8.8	2.65	11.75
700	8.7	2.5	11.5
600	8.4	2.4	11.1
500	8.1	2.2	10.6
400	7.55	1.9	9.8
300	7	1.5	8.7
200	6	1.15	6.8
150	5.3	0.95	5.6
100	4.4	0.75	4.1
70	3.5	0.6	3.2
50	3	0.5	2.6
30	2.4	0.4	2
20	2	0.3	1.8
10	1.9	0.25	1.25
1	1.55	0.23	0.4

Bouwer and Rice Solution to Estimating the Hydraulic Conductivity

Well Name: MW-05 **Site: 1400 N. Royal St., Alexandria, VA**

Based on the rate of water table recovery after bailing a well with free oil and groundwater.
Method includes the effect of filter pack resaturation.
Assumes time spent bailing is small relative to time spent recovering.

Well Characteristics (calculations based on basic input data)				
Radius of well casing/screen ID:	2.0	inches	0.17	feet
Radius of well casing/screen OD:	2.1	inches	0.18	feet
Radius of casing and filter pack:	5.0	inches	0.42	feet
Initial thickness of water column in well screen:	7.5	feet		
Aquifer thickness (for partial pentration):	35	feet		
Fluid Dynamic Viscosity, centipoise:	4.58	cp	Oil Specific Gravity =	0.876
Estimate of the y-intercept value (only used when a single bail of oil is removed)				
Equivalent volume of groundwater bailed:	2.46	gallons	0.33	ft^3 equivalent to LNAPL + water
Initial equiv. thickness change in well:	3.76	feet	0.28	ft^3 equivalent water as LNAPL
Filter pack specific yield for water, EARLY TIME:	0.000		Filter pack specific yield--LATE TIME:	0.03
Max. potential drainable water volume:	0.00E+00	gallons	0.00E+00	ft^3
Percent of Initial Slug Vol. Drained	0.00	percent		
Lower Bound Y-o Estimate	2.40	feet		
Estimate of hydraulic conductivity averaged over the initial thickness of free oil zone and underlying groundwater zone.				
Screen length to csg + filter pack radius:	18.00			
Bouwer and Rice model parameter A:	1.980			
Bouwer and Rice model parameter B:	0.290			
Bouwer and Rice model parameter C:	1.690			
Effective well radius with filter pack effect:	2.00	inches	0.17	feet
Natural log of ratio of effective radius over which head loss occurs to the csg + filter pack radius (partial penetration):	1.79			
Time for recovery to 90% of y-intercept value:	107.8	minutes		
Water Conductivity averaged over groundwater zone:	**1.02E-01**	**ft/day**	**3.60E-05**	**cm/sec**

Bouwer and Rice Parameter Look-up Table

L/rw	A	B	C
2000	9.5	3.2	12.9
1000	9.1	2.8	12.3
900	9	2.75	12.1
800	8.8	2.65	11.75
700	8.7	2.5	11.5
600	8.4	2.4	11.1
500	8.1	2.2	10.6
400	7.55	1.9	9.8
300	7	1.5	8.7
200	6	1.15	6.8
150	5.3	0.95	5.6
100	4.4	0.75	4.1
70	3.5	0.6	3.2
50	3	0.5	2.6
30	2.4	0.4	2
20	2	0.3	1.8
10	1.9	0.25	1.25
1	1.55	0.23	0.4

Parametric Equation Approach to Estimating Hydraulic Properties, Fluid Saturations, and Conductivities in the Formation

Well ID : MW-05

Based on the papers by Parker, Lenhard, and Kuppusamy (1987) and Lenhard and Parker (1990)
Assumes the Carsel and Parrish (1988) database of matrix properties correlate with hydraulic conductivity using expressions in Lundy (2006).
Assumes static equilibrium between the free oil inside and outside a well screen.

Fluid Properties

Specific gravity of oil:	0.876	(dimensionless)
Dynamic viscosity of free oil:	4.581	centipoise
Air-water surface tension:	74.1	dynes/cm
Air-oil surface tension:	32.6	dynes/cm
Oil-water interfacial tension:	17.2	dynes/cm
BETA-AO	2.273	
BETA-OW	4.31	
Free Oil Thickness in Well:	3.75	feet
Elevation at Oil-Wtr Interface:	0	feet
Elevation increment for calculations:	0.1875	feet

Soil Properties of Formation

Hydraulic conductivity:	6.51E-02	ft/day	2.30E-05 cm/sec
Effective Porosity:	0.35	(dimensionless)	
Irreducible water saturation:	6.56E-01	(dimensionless)	
van Genuchten alpha:	0.474	1/feet	
van Genuchten n:	1.92	(dimensionless)	
van Genuchten m:	0.48	(dimensionless)	

Calculated Results

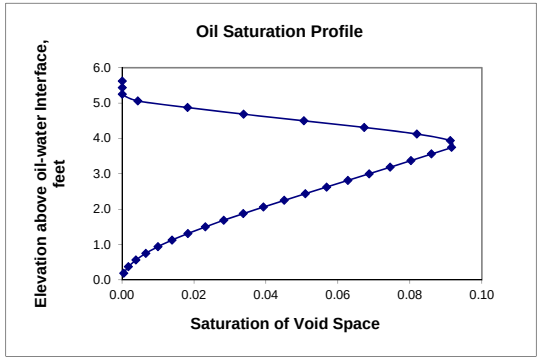
Geometric mean Oil Conductivity (above-below oil table):	4.73E-05	ft/day	**8.76E-04 ft/day =**
Oil Transmissivity of oil layer (above-below oil table):	4.93E-03	ft2/day	**Arithmetic mean K_o**
Geometric mean oil saturation within free oil layer:	1.46E-02		
Geometric mean water sat'n within free oil layer:	9.33E-01		
Specific Volume of Oil (above-below oil table):	7.51E-02	ft	2.29E+00 cm
Specific Volume of Water (above & below oil table):	1.84E+00	ft	5.60E+01 cm
Estimate of oil storativity:	2.56E-03		
Bouwer-Rice Oil Conductivity (below oil table):	8.74E-04	ft/day	3.08E-07 cm/sec

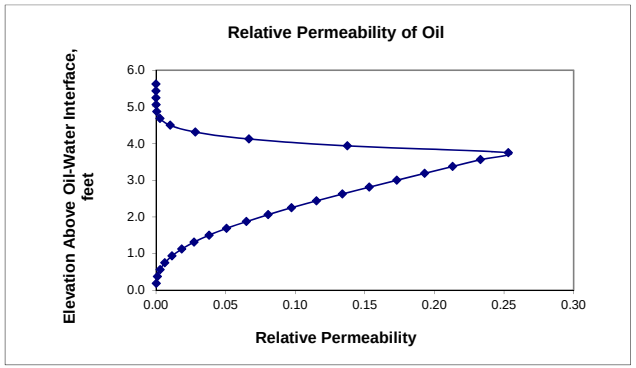
Table of Calculations:

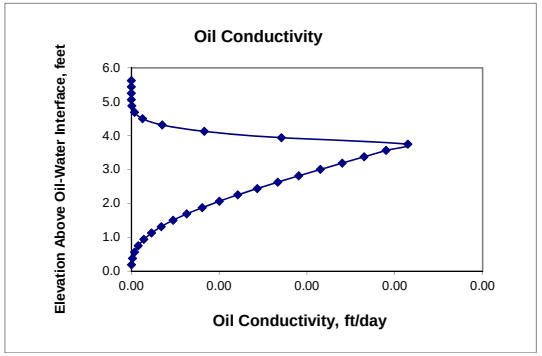
Bottom-up Order of Row Number	Elevation Above of Oil-Wtr Interface (feet)	Air-Oil Capillary Head (feet)	Oil-Water Capillary Head (feet)	Total Oil+Wtr Sat'n	Water Sat'n	Oil Sat'n	Water Relative Perm.	Oil Relative Perm.	Water K (ft/day)	Oil K (ft/day)	Increment Oil Trans. (ft2/day)	Increment Water Specific Volume (ft3/ft2)	Increment Oil Specific Volume (ft3/ft2)	k-Water 1st Term	k-Water 2cd Term	k-Oil 1st Term	k-Oil 2cd Term	k-Oil 3rd Term	Log of Water Sat'n	Log of Oil K	Log of Oil Sat'n.
30	5.63	1.642	0.698	0.833	0.860	1.00E-04	2.45E-02	7.08E-10	1.59E-03	8.81E-12	1.65E-12	5.64E-02	6.56E-06	7.70E-01	3.18E-02	1.70E-02	8.22E-01	8.22E-01	-0.066	-11.055	-4.000
29	5.44	1.478	0.675	0.846	0.864	1.00E-04	2.72E-02	7.57E-10	1.77E-03	9.43E-12	1.77E-12	5.67E-02	6.56E-06	7.78E-01	3.49E-02	1.70E-02	8.13E-01	8.13E-01	-0.063	-11.026	-4.000
28	5.25	1.314	0.652	0.861	0.869	1.00E-04	3.03E-02	8.12E-10	1.97E-03	1.01E-11	1.90E-12	5.70E-02	6.56E-06	7.86E-01	3.85E-02	1.70E-02	8.04E-01	8.04E-01	-0.061	-10.995	-4.000
27	5.06	1.150	0.629	0.877	0.873	4.40E-03	3.38E-02	1.16E-05	2.20E-03	1.45E-07	2.72E-08	5.73E-02	2.89E-04	7.95E-01	4.25E-02	1.13E-01	7.94E-01	7.84E-01	-0.059	-6.839	-2.356
26	4.88	0.985	0.605	0.896	0.878	1.82E-02	3.78E-02	4.93E-04	2.46E-03	6.13E-06	1.15E-06	5.76E-02	1.20E-03	8.03E-01	4.71E-02	2.30E-01	7.83E-01	7.37E-01	-0.057	-5.212	-1.739
25	4.69	0.821	0.582	0.916	0.882	3.38E-02	4.24E-02	2.87E-03	2.76E-03	3.57E-05	6.70E-06	5.79E-02	2.22E-03	8.12E-01	5.22E-02	3.13E-01	7.72E-01	6.76E-01	-0.054	-4.447	-1.471
24	4.50	0.657	0.559	0.938	0.887	5.05E-02	4.75E-02	1.02E-02	3.09E-03	1.27E-04	2.37E-05	5.82E-02	3.32E-03	8.20E-01	5.79E-02	3.83E-01	7.59E-01	5.96E-01	-0.052	-3.898	-1.296
23	4.31	0.493	0.535	0.960	0.892	6.73E-02	5.35E-02	2.83E-02	3.48E-03	3.52E-04	6.60E-05	5.86E-02	4.42E-03	8.29E-01	6.45E-02	4.42E-01	7.46E-01	4.93E-01	-0.049	-3.454	-1.172
22	4.13	0.328	0.512	0.980	0.898	8.19E-02	6.02E-02	6.68E-02	3.92E-03	8.31E-04	1.56E-04	5.89E-02	5.38E-03	8.38E-01	7.18E-02	4.88E-01	7.32E-01	3.62E-01	-0.047	-3.080	-1.087
21	3.94	0.164	0.489	0.994	0.903	9.12E-02	6.80E-02	1.37E-01	4.42E-03	1.71E-03	3.21E-04	5.93E-02	5.99E-03	8.48E-01	8.02E-02	5.15E-01	7.17E-01	2.00E-01	-0.044	-2.767	-1.040
20	3.75	0.0	0.466	1.0	0.908	0.092	7.68E-02	2.53E-01	5.00E-03	3.15E-03	5.90E-04	5.96E-02	6.01E-03	8.57E-01	8.97E-02	5.16E-01	7.01E-01	0.00E+00	-0.042	-2.502	-1.038
19	3.56	0.0	0.442	1.0	0.914	0.086	8.70E-02	2.33E-01	5.67E-03	2.90E-03	5.44E-04	6.00E-02	5.64E-03	8.66E-01	1.00E-01	5.00E-01	6.83E-01	0.00E+00	-0.039	-2.537	-1.066
18	3.38	0.0	0.419	1.0	0.920	0.080	9.87E-02	2.13E-01	6.43E-03	2.65E-03	4.97E-04	6.04E-02	5.27E-03	8.76E-01	1.13E-01	4.83E-01	6.64E-01	0.00E+00	-0.036	-2.577	-1.095
17	3.19	0.0	0.396	1.0	0.925	0.075	1.12E-01	1.93E-01	7.30E-03	2.40E-03	4.50E-04	6.07E-02	4.89E-03	8.85E-01	1.27E-01	4.65E-01	6.44E-01	0.00E+00	-0.034	-2.620	-1.128
16	3.00	0.0	0.373	1.0	0.931	0.069	1.28E-01	1.73E-01	8.31E-03	2.15E-03	4.04E-04	6.11E-02	4.51E-03	8.95E-01	1.43E-01	4.46E-01	6.22E-01	0.00E+00	-0.031	-2.667	-1.163
15	2.81	0.0	0.349	1.0	0.937	0.063	1.45E-01	1.53E-01	9.46E-03	1.91E-03	3.58E-04	6.15E-02	4.12E-03	9.04E-01	1.61E-01	4.27E-01	5.99E-01	0.00E+00	-0.028	-2.720	-1.202
14	2.63	0.0	0.326	1.0	0.943	0.057	1.66E-01	1.34E-01	1.08E-02	1.67E-03	3.12E-04	6.19E-02	3.73E-03	9.14E-01	1.81E-01	4.06E-01	5.74E-01	0.00E+00	-0.025	-2.778	-1.245
13	2.44	0.0	0.303	1.0	0.949	0.051	1.89E-01	1.15E-01	1.23E-02	1.43E-03	2.69E-04	6.23E-02	3.34E-03	9.23E-01	2.05E-01	3.85E-01	5.47E-01	0.00E+00	-0.023	-2.844	-1.293
12	2.25	0.0	0.279	1.0	0.955	0.045	2.16E-01	9.73E-02	1.41E-02	1.21E-03	2.27E-04	6.27E-02	2.96E-03	9.32E-01	2.32E-01	3.62E-01	5.19E-01	0.00E+00	-0.020	-2.917	-1.346
11	2.06	0.0	0.256	1.0	0.961	0.039	2.47E-01	8.05E-02	1.61E-02	1.00E-03	1.88E-04	6.30E-02	2.58E-03	9.41E-01	2.62E-01	3.38E-01	4.88E-01	0.00E+00	-0.017	-2.999	-1.406
10	1.88	0.0	0.233	1.0	0.966	0.034	2.82E-01	6.49E-02	1.83E-02	8.07E-04	1.51E-04	6.34E-02	2.21E-03	9.50E-01	2.97E-01	3.13E-01	4.55E-01	0.00E+00	-0.015	-3.093	-1.473
9	1.69	0.0	0.210	1.0	0.972	0.028	3.22E-01	5.07E-02	2.09E-02	6.31E-04	1.18E-04	6.38E-02	1.86E-03	9.58E-01	3.36E-01	2.87E-01	4.21E-01	0.00E+00	-0.012	-3.200	-1.549
8	1.50	0.0	0.186	1.0	0.977	0.023	3.67E-01	3.81E-02	2.39E-02	4.75E-04	8.90E-05	6.41E-02	1.52E-03	9.66E-01	3.80E-01	2.59E-01	3.84E-01	0.00E+00	-0.010	-3.324	-1.636
7	1.31	0.0	0.163	1.0	0.982	0.018	4.18E-01	2.74E-02	2.72E-02	3.40E-04	6.38E-05	6.44E-02	1.20E-03	9.73E-01	4.30E-01	2.31E-01	3.44E-01	0.00E+00	-0.008	-3.468	-1.737
6	1.13	0.0	0.140	1.0	0.986	0.014	4.76E-01	1.85E-02	3.10E-02	2.30E-04	4.31E-05	6.47E-02	9.14E-04	9.80E-01	4.86E-01	2.01E-01	3.03E-01	0.00E+00	-0.006	-3.639	-1.856
5	0.94	0.0	0.116	1.0	0.990	0.010	5.41E-01	1.15E-02	3.52E-02	1.43E-04	2.67E-05	6.50E-02	6.56E-04	9.85E-01	5.49E-01	1.70E-01	2.59E-01	0.00E+00	-0.004	-3.846	-2.000
4	0.75	0.0	0.093	1.0	0.993	0.007	6.13E-01	6.31E-03	3.99E-02	7.85E-05	1.47E-05	6.52E-02	4.34E-04	9.90E-01	6.19E-01	1.39E-01	2.13E-01	0.00E+00	-0.003	-4.105	-2.179
3	0.56	0.0	0.070	1.0	0.996	0.004	6.93E-01	2.89E-03	4.51E-02	3.59E-05	6.74E-06	6.54E-02	2.53E-04	9.94E-01	6.97E-01	1.06E-01	1.65E-01	0.00E+00	-0.002	-4.445	-2.414
2	0.38	0.0	0.047	1.0	0.998	0.002	7.82E-01	9.44E-04	5.09E-02	1.18E-05	2.20E-06	6.55E-02	1.17E-04	9.97E-01	7.84E-01	7.21E-02	1.14E-01	0.00E+00	-0.001	-4.930	-2.747
1	0.19	0.0	0.023	1.0	1.000	0.000	8.82E-01	1.37E-04	5.74E-02	1.71E-06	3.21E-07	6.56E-02	3.12E-05	9.99E-01	8.82E-01	3.72E-02	6.08E-02	0.00E+00	0.000	-5.767	-3.322

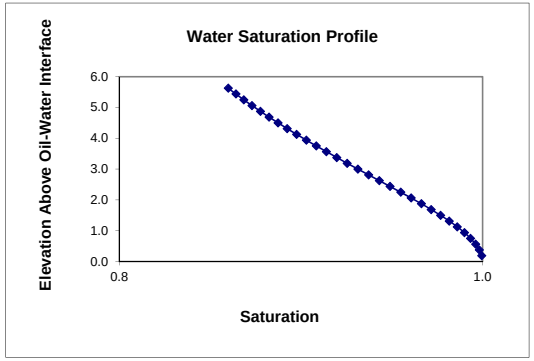
Fluid Saturation and LNAPL Mobility Parameter Plots

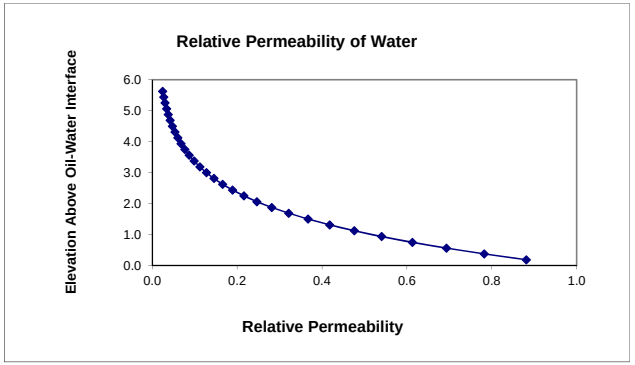
Well ID: MW-05

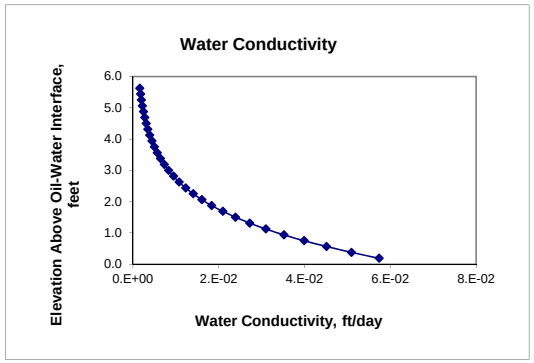












Summary of Hydraulic Properties from Baildown Test[a]
Using the Lundy-Zimmerman method and the Carsel & Parrish Database

Physical Parameter Measured / Evaluated	MW-05 1400 N. Royal St., Alexandria, VA			
	Slug-Test Solution		Parametric Solution[b]	
Starting Free Oil Thickness	3.75	ft	3.75	ft
	114.3	cm	114.3	cm
Hydraulic Conductivity	1.02E-01	ft/day	6.51E-02 [c]	ft/day
	3.60E-05	cm/sec	2.30E-05	cm/sec
Average Oil Conductivity	8.74E-04	ft/day	8.76E-04	ft/day
	3.08E-07	cm/sec	3.09E-07	cm/sec
Free Oil Transmissivity	3.28E-03	ft^2/day	4.93E-03	ft^2/day
	3.52E-05	cm^2/sec	5.30E-05	cm^2/sec
Free Oil Specific Volume			7.51E-02	ft^3/ft^2
			2.29E+00	cm^3/cm^2
Inherent Mobility			6.57E-02	ft/day
			2.32E-05	cm/sec
Assumed Effective Porosity			0.35	
van Genuchten *alpha*			0.47	1/ft
			0.016	1/cm
van Genuchten *n*			1.92	
Irreducible Water Saturation			0.66	
Inferred Lithology			Sand	

[a] Analysis follows method described in Lundy and Zimmerman (1996), a modified Bouwer & Rice (1976) approach, combined with parametric solution of Kuppusamy, Lenhard and Parker (1987) and Lenhard and Parker (1990).
[b] Parametric solution results are consistent with Carsel and Parish (1988) database for USDA agricultural soils.
[c] The optimum value for hydraulic conductivity was based on the arithmetic mean value of oil conductivity along the vertical oil saturation profile.

Parametric Equation Approach to Estimating Hydraulic Properties, Fluid Saturations, and Conductivities in the Formation

Well ID : MW-05

Based on the papers by Parker, Lenhard, and Kuppusamy (1987) and Lenhard and Parker (1990)
Assumes the API (2006) database of matrix properties correlate with hydraulic conductivity using expressions in Lundy (2006).
Assumes static equilibrium between the free oil inside and outside a well screen.

Fluid Properties

Specific gravity of oil:	0.876	(dimensionless)
Dynamic viscosity of free oil:	4.581	centipoise
Air-water surface tension:	74.1	dynes/cm
Air-oil surface tension:	32.6	dynes/cm
Oil-water interfacial tension:	17.2	dynes/cm
BETA-AO	2.273	
BETA-OW	4.31	
Free Oil Thickness in Well:	3.75	feet
Elevation at Oil-Wtr Interface:	0	feet
Elevation increment for calculations:	0.1875	feet

Soil Properties of Formation

Hydraulic conductivity:	1.49E-01	ft/day	5.26E-05 cm/sec
Effective Porosity:	0.35	(dimensionless)	
Irreducible water saturation:	2.75E-01	(dimensionless)	
van Genuchten alpha:	0.308	1/feet	
van Genuchten n:	1.90	(dimensionless)	
van Genuchten m:	0.47	(dimensionless)	

Calculated Results

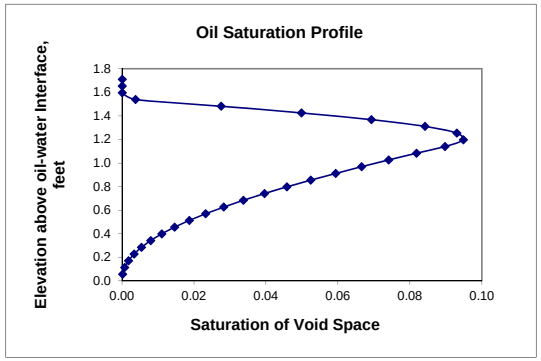
Geometric mean Oil Conductivity (above-below c	5.00E-05 ft/day	**8.86E-04 ft/day =**
Oil Transmissivity of oil layer (above-below oil tal	4.98E-03 ft2/day	**Arithmetic mean K_o**
Geometric mean oil saturation within free oil laye	1.63E-02	
Geometric mean water sat'n within free oil layer:	9.19E-01	
Specific Volume of Oil (above-below oil table):	8.71E-02 ft	2.65E+00 cm
Specific Volume of Water (above & below oil tabl	1.81E+00 ft	5.53E+01 cm
Estimate of oil storativity:	2.85E-03	
Bouwer-Rice Oil Conductivity (below oil table):	8.74E-04 ft/day	3.08E-07 cm/sec

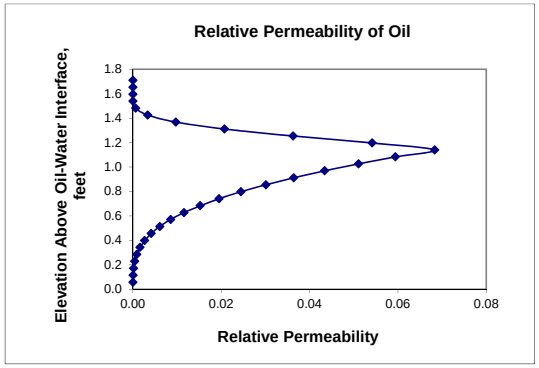
Table of Calculations:

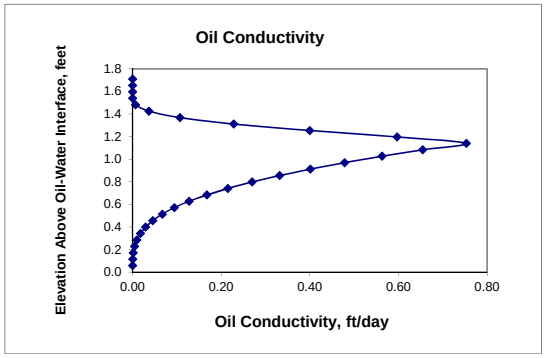
Bottom-up Order of Row Number	Elevation Above of Oil-Wtr Interface (feet)	Air-Oil Capillary Head (feet)	Oil-Water Capillary Head (feet)	Total Oil+Wtr Sat'n	Water Sat'n	Oil Sat'n	Water Relative Perm.	Oil Relative Perm.	Water K (ft/day)	Oil K (ft/day)	Increment Oil Trans. (ft2/day)	Increment Water Specific Volume (ft3/ft2)	Increment Oil Specific Volume (ft3/ft2)	k-Water 1st Term	k-Water 2cd Term	k-Oil 1st Term	k-Oil 2cd Term	k-Oil 3rd Term	Log of Water Sat'n	Log of Oil K	Log of Oil Sat'n.
30	5.63	1.642	0.698	0.764	0.815	1.00E-04	7.97E-02	2.60E-10	1.19E-02	7.41E-12	1.39E-12	5.35E-02	6.56E-06	8.63E-01	9.24E-02	1.17E-02	6.96E-01	6.96E-01	-0.089	-11.130	-4.000
29	5.44	1.478	0.675	0.789	0.822	1.00E-04	8.64E-02	2.78E-10	1.29E-02	7.93E-12	1.49E-12	5.40E-02	6.56E-06	8.69E-01	9.94E-02	1.17E-02	6.85E-01	6.85E-01	-0.085	-11.101	-4.000
28	5.25	1.314	0.652	0.816	0.830	1.00E-04	9.37E-02	2.98E-10	1.40E-02	8.50E-12	1.59E-12	5.45E-02	6.56E-06	8.75E-01	1.07E-01	1.17E-02	6.73E-01	6.73E-01	-0.081	-11.070	-4.000
27	5.06	1.150	0.629	0.845	0.838	7.40E-03	1.02E-01	1.56E-05	1.51E-02	4.46E-07	8.36E-08	5.50E-02	4.85E-04	8.81E-01	1.15E-01	1.01E-01	6.60E-01	6.48E-01	-0.077	-6.351	-2.131
26	4.88	0.985	0.605	0.874	0.845	2.90E-02	1.10E-01	5.78E-04	1.65E-02	1.65E-05	3.09E-06	5.55E-02	1.91E-03	8.87E-01	1.25E-01	2.00E-01	6.47E-01	5.93E-01	-0.073	-4.783	-1.537
25	4.69	0.821	0.582	0.904	0.853	5.07E-02	1.20E-01	2.89E-03	1.79E-02	8.24E-05	1.55E-05	5.60E-02	3.33E-03	8.93E-01	1.34E-01	2.65E-01	6.33E-01	5.29E-01	-0.069	-4.084	-1.295
24	4.50	0.657	0.559	0.933	0.861	7.13E-02	1.31E-01	8.69E-03	1.94E-02	2.47E-04	4.64E-05	5.65E-02	4.68E-03	8.99E-01	1.45E-01	3.14E-01	6.19E-01	4.53E-01	-0.065	-3.607	-1.147
23	4.31	0.493	0.535	0.958	0.869	8.93E-02	1.42E-01	2.03E-02	2.12E-02	5.78E-04	1.08E-04	5.70E-02	5.86E-03	9.05E-01	1.57E-01	3.51E-01	6.04E-01	3.64E-01	-0.061	-3.238	-1.049
22	4.13	0.328	0.512	0.980	0.877	1.03E-01	1.55E-01	4.04E-02	2.30E-02	1.15E-03	2.16E-04	5.76E-02	6.74E-03	9.11E-01	1.70E-01	3.76E-01	5.88E-01	2.61E-01	-0.057	-2.939	-0.988
21	3.94	0.164	0.489	0.994	0.885	1.09E-01	1.68E-01	7.13E-02	2.51E-02	2.03E-03	3.81E-04	5.81E-02	7.17E-03	9.17E-01	1.84E-01	3.88E-01	5.72E-01	1.43E-01	-0.053	-2.692	-0.961
20	3.75	0.0	0.466	1.0	0.893	0.107	1.83E-01	1.18E-01	2.73E-02	3.36E-03	6.31E-04	5.86E-02	7.02E-03	9.23E-01	1.99E-01	3.84E-01	5.54E-01	0.00E+00	-0.049	-2.473	-0.971
19	3.56	0.0	0.442	1.0	0.901	0.099	2.00E-01	1.06E-01	2.98E-02	3.03E-03	5.68E-04	5.91E-02	6.50E-03	9.29E-01	2.15E-01	3.70E-01	5.36E-01	0.00E+00	-0.045	-2.519	-1.004
18	3.38	0.0	0.419	1.0	0.909	0.091	2.18E-01	9.49E-02	3.25E-02	2.70E-03	5.07E-04	5.96E-02	5.99E-03	9.35E-01	2.33E-01	3.55E-01	5.17E-01	0.00E+00	-0.042	-2.568	-1.040
17	3.19	0.0	0.396	1.0	0.917	0.083	2.38E-01	8.40E-02	3.54E-02	2.39E-03	4.49E-04	6.01E-02	5.48E-03	9.41E-01	2.53E-01	3.39E-01	4.97E-01	0.00E+00	-0.038	-2.621	-1.079
16	3.00	0.0	0.373	1.0	0.924	0.076	2.59E-01	7.35E-02	3.86E-02	2.09E-03	3.93E-04	6.06E-02	4.98E-03	9.46E-01	2.74E-01	3.23E-01	4.77E-01	0.00E+00	-0.034	-2.679	-1.120
15	2.81	0.0	0.349	1.0	0.932	0.068	2.83E-01	6.36E-02	4.21E-02	1.81E-03	3.40E-04	6.11E-02	4.48E-03	9.52E-01	2.97E-01	3.07E-01	4.55E-01	0.00E+00	-0.031	-2.742	-1.165
14	2.63	0.0	0.326	1.0	0.939	0.061	3.08E-01	5.43E-02	4.59E-02	1.55E-03	2.90E-04	6.16E-02	4.00E-03	9.57E-01	3.22E-01	2.90E-01	4.33E-01	0.00E+00	-0.027	-2.810	-1.215
13	2.44	0.0	0.303	1.0	0.946	0.054	3.36E-01	4.57E-02	5.00E-02	1.30E-03	2.44E-04	6.21E-02	3.54E-03	9.62E-01	3.49E-01	2.73E-01	4.09E-01	0.00E+00	-0.024	-2.886	-1.268
12	2.25	0.0	0.279	1.0	0.953	0.047	3.66E-01	3.77E-02	5.45E-02	1.07E-03	2.02E-04	6.25E-02	3.09E-03	9.67E-01	3.79E-01	2.55E-01	3.85E-01	0.00E+00	-0.021	-2.969	-1.327
11	2.06	0.0	0.256	1.0	0.959	0.041	3.99E-01	3.05E-02	5.94E-02	8.70E-04	1.63E-04	6.30E-02	2.66E-03	9.72E-01	4.10E-01	2.36E-01	3.59E-01	0.00E+00	-0.018	-3.061	-1.392
10	1.88	0.0	0.233	1.0	0.966	0.034	4.34E-01	2.41E-02	6.47E-02	6.87E-04	1.29E-04	6.34E-02	2.25E-03	9.76E-01	4.45E-01	2.18E-01	3.33E-01	0.00E+00	-0.015	-3.163	-1.465
9	1.69	0.0	0.210	1.0	0.972	0.028	4.73E-01	1.85E-02	7.04E-02	5.27E-04	9.88E-05	6.38E-02	1.87E-03	9.80E-01	4.82E-01	1.98E-01	3.05E-01	0.00E+00	-0.013	-3.278	-1.546
8	1.50	0.0	0.186	1.0	0.977	0.023	5.14E-01	1.37E-02	7.66E-02	3.90E-04	7.31E-05	6.41E-02	1.51E-03	9.84E-01	5.23E-01	1.78E-01	2.77E-01	0.00E+00	-0.010	-3.409	-1.637
7	1.31	0.0	0.163	1.0	0.982	0.018	5.59E-01	9.68E-03	8.33E-02	2.76E-04	5.17E-05	6.44E-02	1.19E-03	9.87E-01	5.66E-01	1.58E-01	2.48E-01	0.00E+00	-0.008	-3.559	-1.743
6	1.13	0.0	0.140	1.0	0.986	0.014	6.07E-01	6.46E-03	9.05E-02	1.84E-04	3.45E-05	6.47E-02	8.95E-04	9.91E-01	6.13E-01	1.37E-01	2.17E-01	0.00E+00	-0.006	-3.735	-1.865
5	0.94	0.0	0.116	1.0	0.990	0.010	6.59E-01	3.98E-03	9.82E-02	1.13E-04	2.13E-05	6.50E-02	6.39E-04	9.93E-01	6.64E-01	1.16E-01	1.85E-01	0.00E+00	-0.004	-3.946	-2.012
4	0.75	0.0	0.093	1.0	0.994	0.006	7.15E-01	2.19E-03	1.07E-01	6.23E-05	1.17E-05	6.52E-02	4.22E-04	9.96E-01	7.18E-01	9.42E-02	1.52E-01	0.00E+00	-0.003	-4.206	-2.192
3	0.56	0.0	0.070	1.0	0.996	0.004	7.76E-01	1.00E-03	1.16E-01	2.86E-05	5.37E-06	6.54E-02	2.46E-04	9.97E-01	7.78E-01	7.19E-02	1.18E-01	0.00E+00	-0.002	-4.543	-2.427
2	0.38	0.0	0.047	1.0	0.998	0.002	8.41E-01	3.33E-04	1.25E-01	9.50E-06	1.78E-06	6.55E-02	1.14E-04	9.99E-01	8.42E-01	4.91E-02	8.24E-02	0.00E+00	-0.001	-5.022	-2.759
1	0.19	0.0	0.023	1.0	1.000	0.000	9.13E-01	5.01E-05	1.36E-01	1.43E-06	2.68E-07	6.56E-02	3.08E-05	1.00E+00	9.13E-01	2.55E-02	4.44E-02	0.00E+00	0.000	-5.845	-3.328

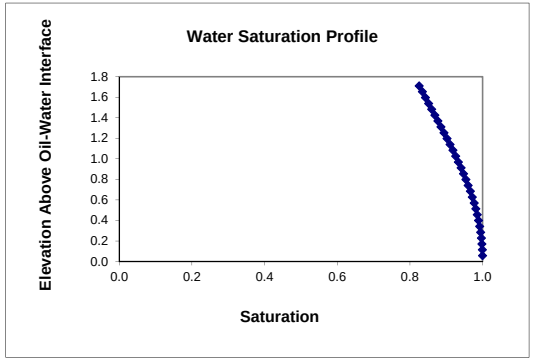
Fluid Saturation and LNAPL Mobility Parameter Plots

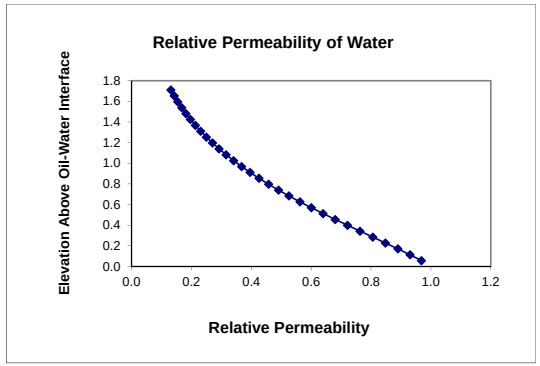
Well ID: MW-05

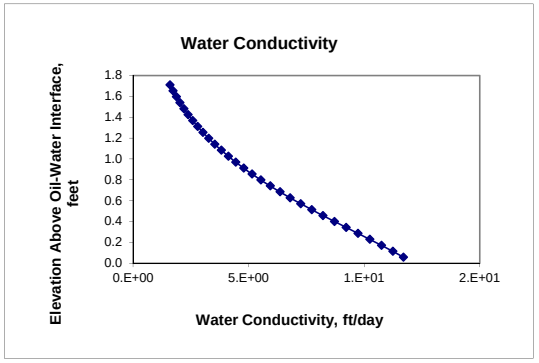












Summary of Hydraulic Properties from Baildown Test[a]
Using the Lundy-Zimmerman method and the API (2006) Database[b]

Physical Parameter Measured / Evaluated	MW-05 1400 N. Royal St., Alexandria, VA			
	Slug-Test Solution		Parametric Solution[b]	
Starting Free Oil Thickness	3.75 114.3	ft cm	3.75 114.3	ft cm
Hydraulic Conductivity	1.02E-01 3.60E-05	ft/day cm/sec	1.49E-01 [c] 5.26E-05	ft/day cm/sec
Average Oil Conductivity	8.74E-04 3.08E-07	ft/day cm/sec	8.86E-04 3.13E-07	ft/day cm/sec
Free Oil Transmissivity	3.28E-03 3.52E-05	ft^2/day cm^2/sec	4.98E-03 5.36E-05	ft^2/day cm^2/sec
Free Oil Specific Volume			8.71E-02 6.58E-01	ft^3/ft^2 cm^3/cm^2
Inherent Mobility			5.72E-02 2.02E-05	ft/day cm/sec
Assumed Effective Porosity			0.35	
van Genuchten *alpha*			0.31 0.010	1/ft 1/cm
van Genuchten *n*			1.90	
Irreducible Water Saturation			0.28	
Inferred Lithology			Sand	

[a] Analysis follows method described in Lundy and Zimmerman (1996), a modified Bouwer & Rice (1976) approach, combined with parametric solution of Kuppusamy, Lenhard and Parker (1987) and Lenhard and Parker (1990).
[b] Parametric solution results are consistent with API (2006) database for soils at a sampling of petroleum facilities.
[c] The optimum value for hydraulic conductivity was based on the arithmetic mean value of oil conductivity along the vertical oil saturation profile.

ATTACHMENT D

Soil Boring and Well Installation Logs

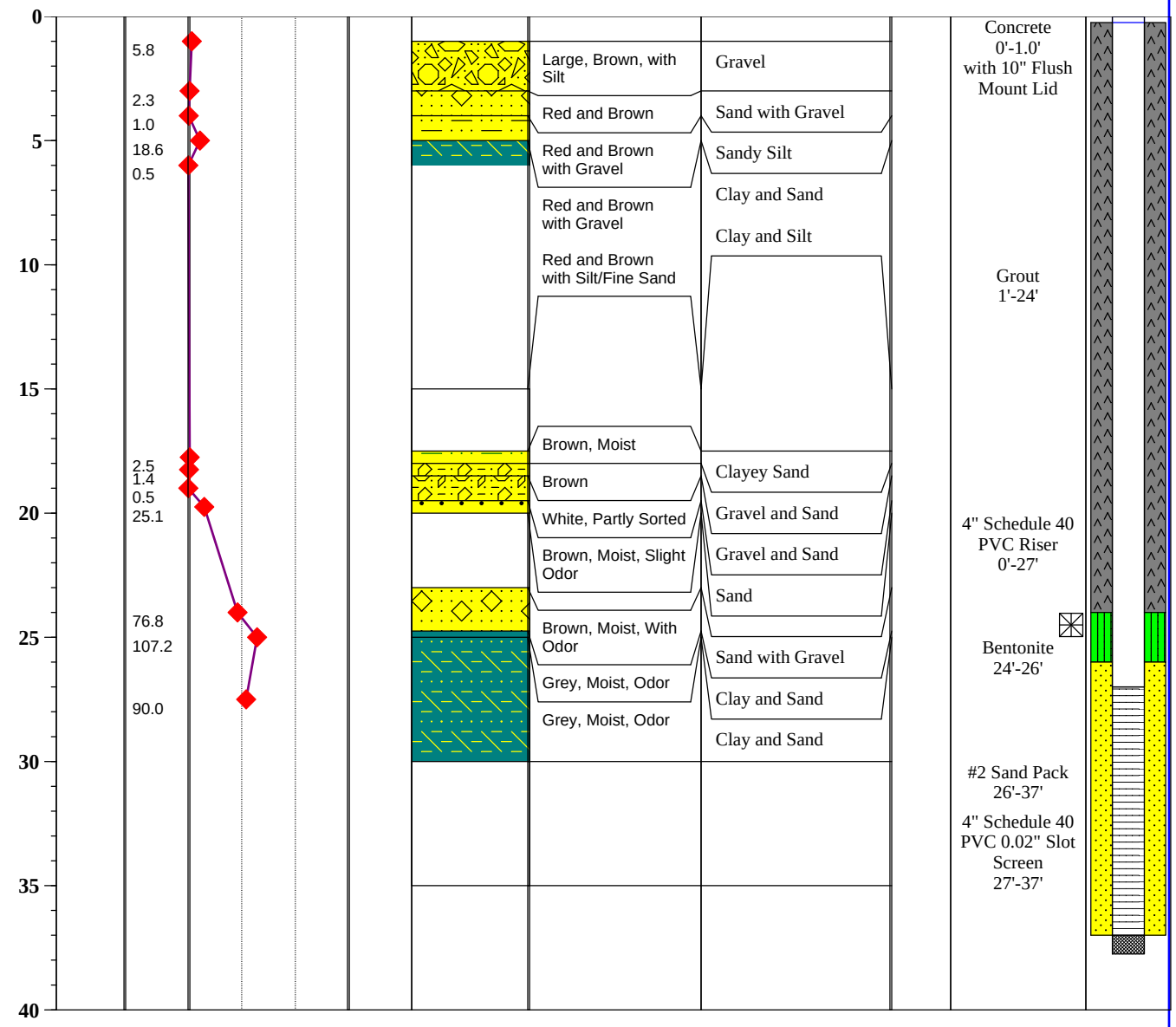
BORING AND WELL COMPLETION LOG ID NO. MW-121

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **37'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**7/2/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**MW-121**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

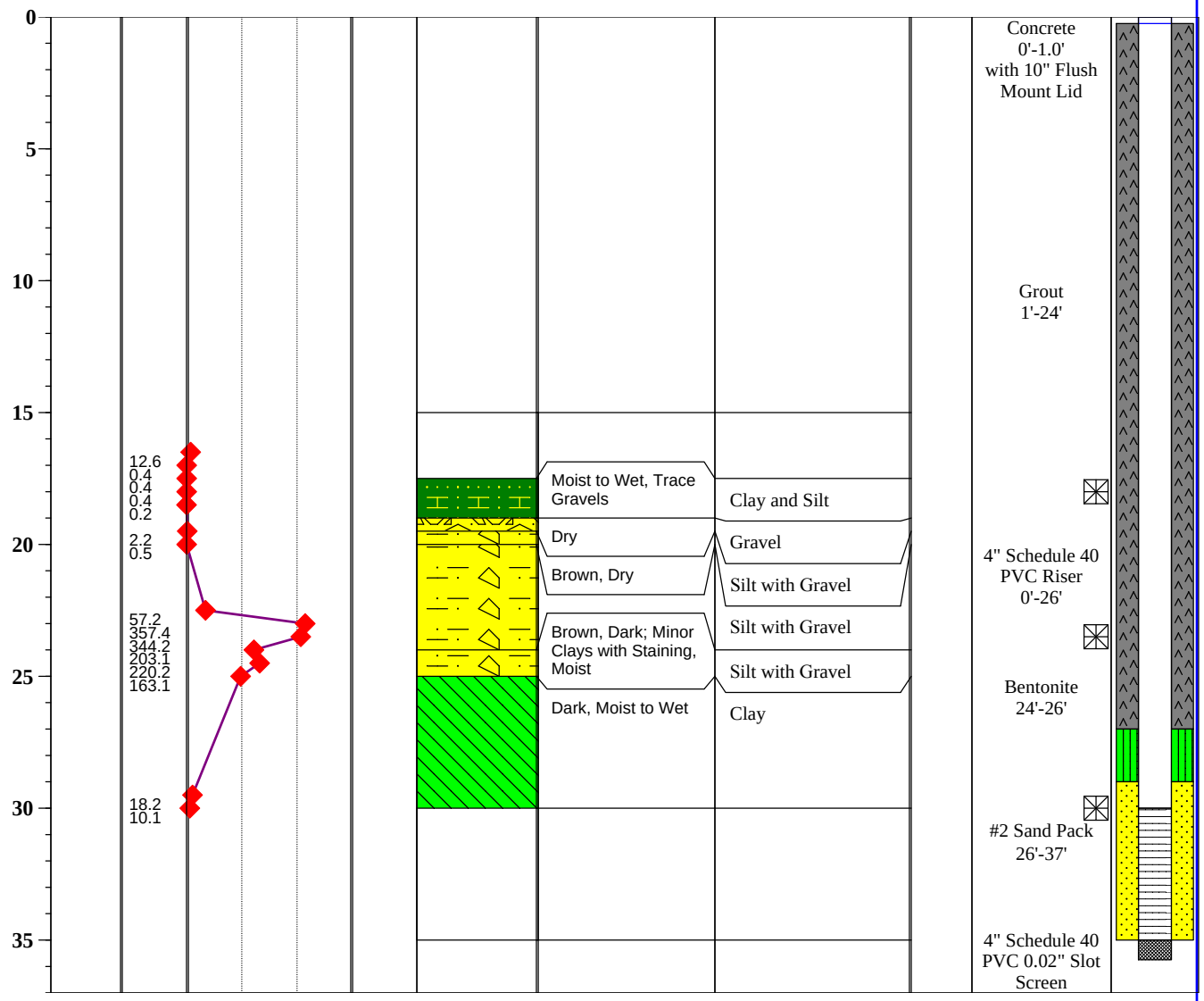
BORING AND WELL COMPLETION LOG ID NO. MW-122

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **37'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**Scott Andresini**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/24/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**MW-122**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Well ID: MW-122

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

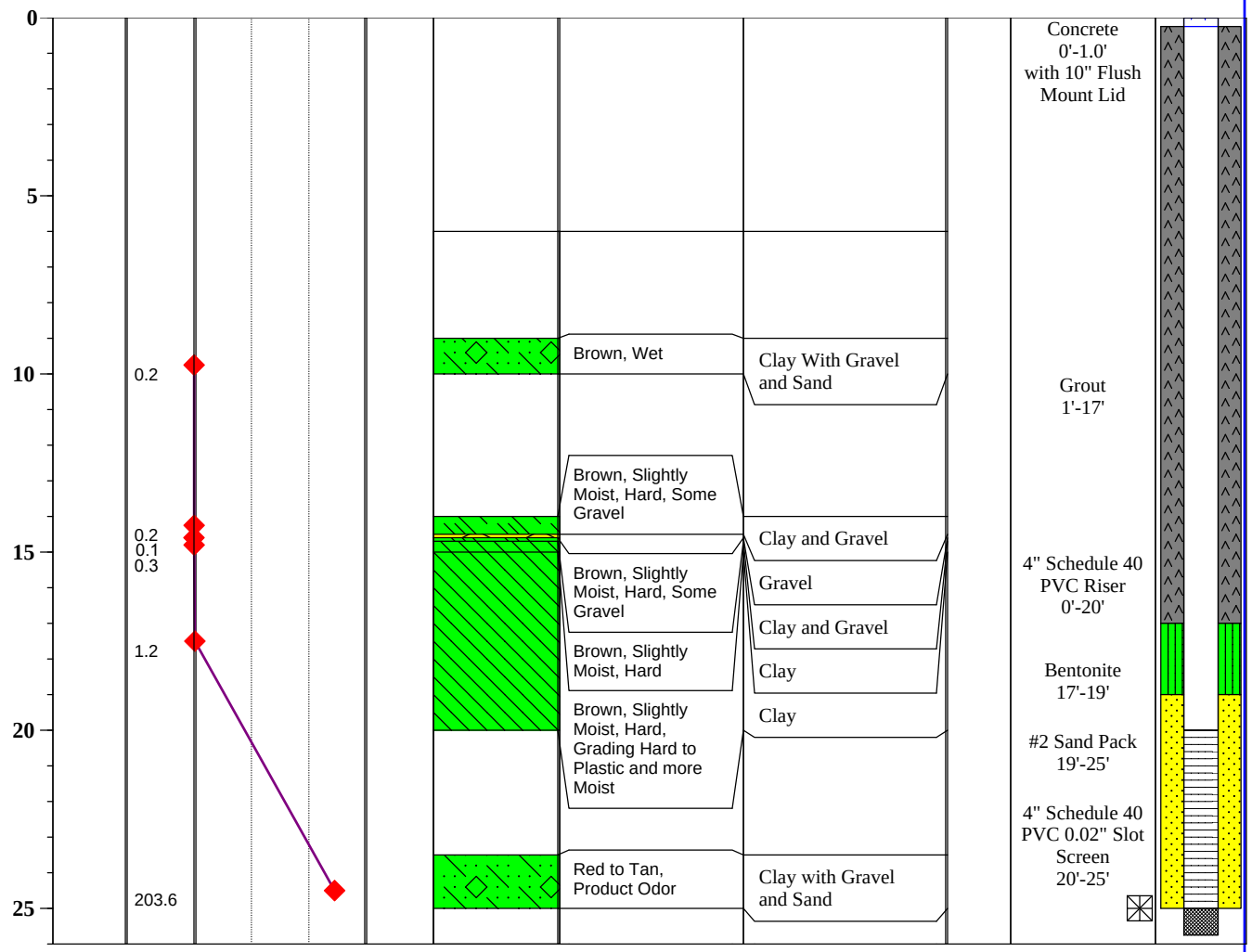
BORING AND WELL COMPLETION LOG ID NO. MW-123S

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **25'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**7/7/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**MW-123S**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

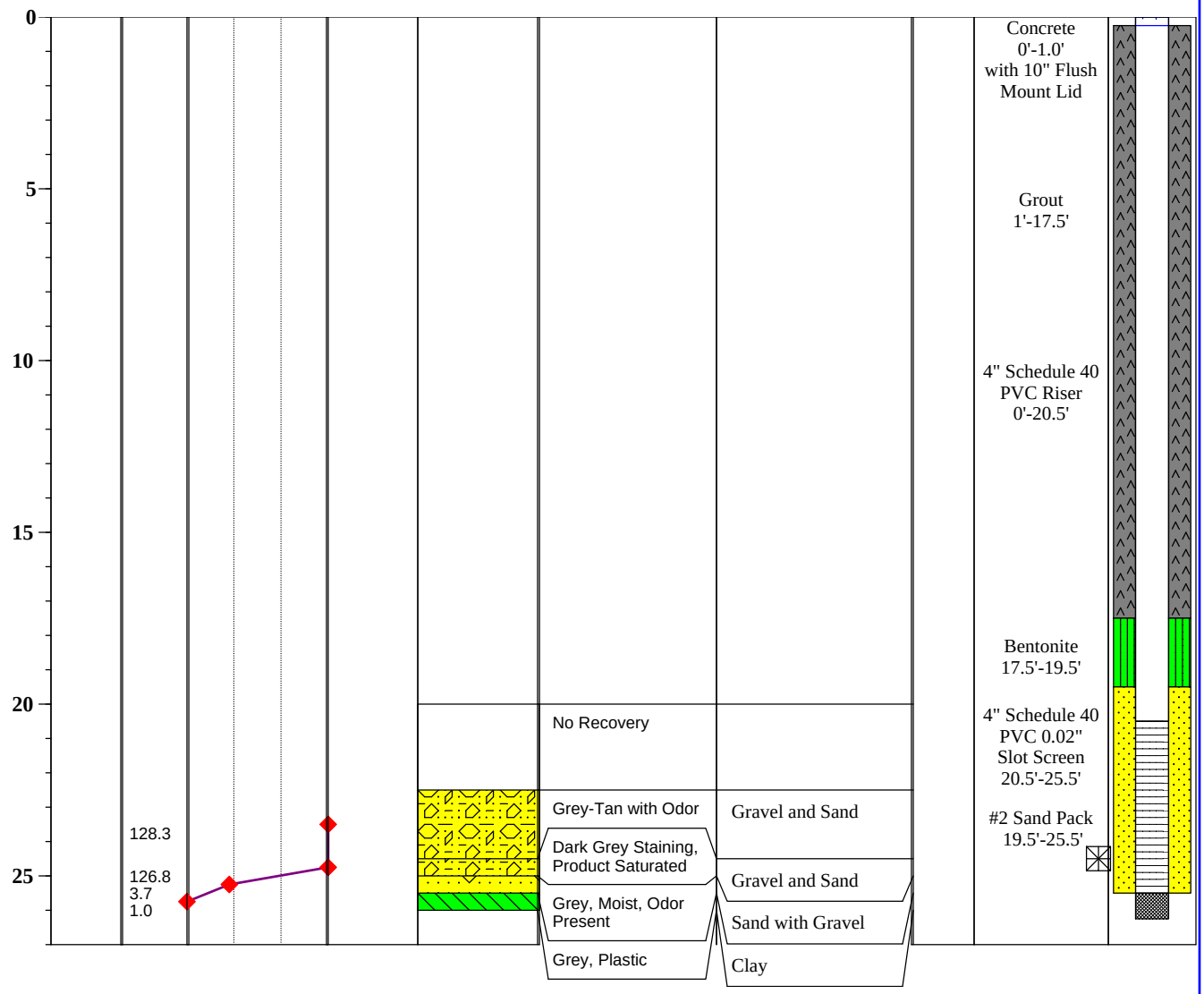
BORING AND WELL COMPLETION LOG ID NO. RW-05S

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **27'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/29/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**RW-05S**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

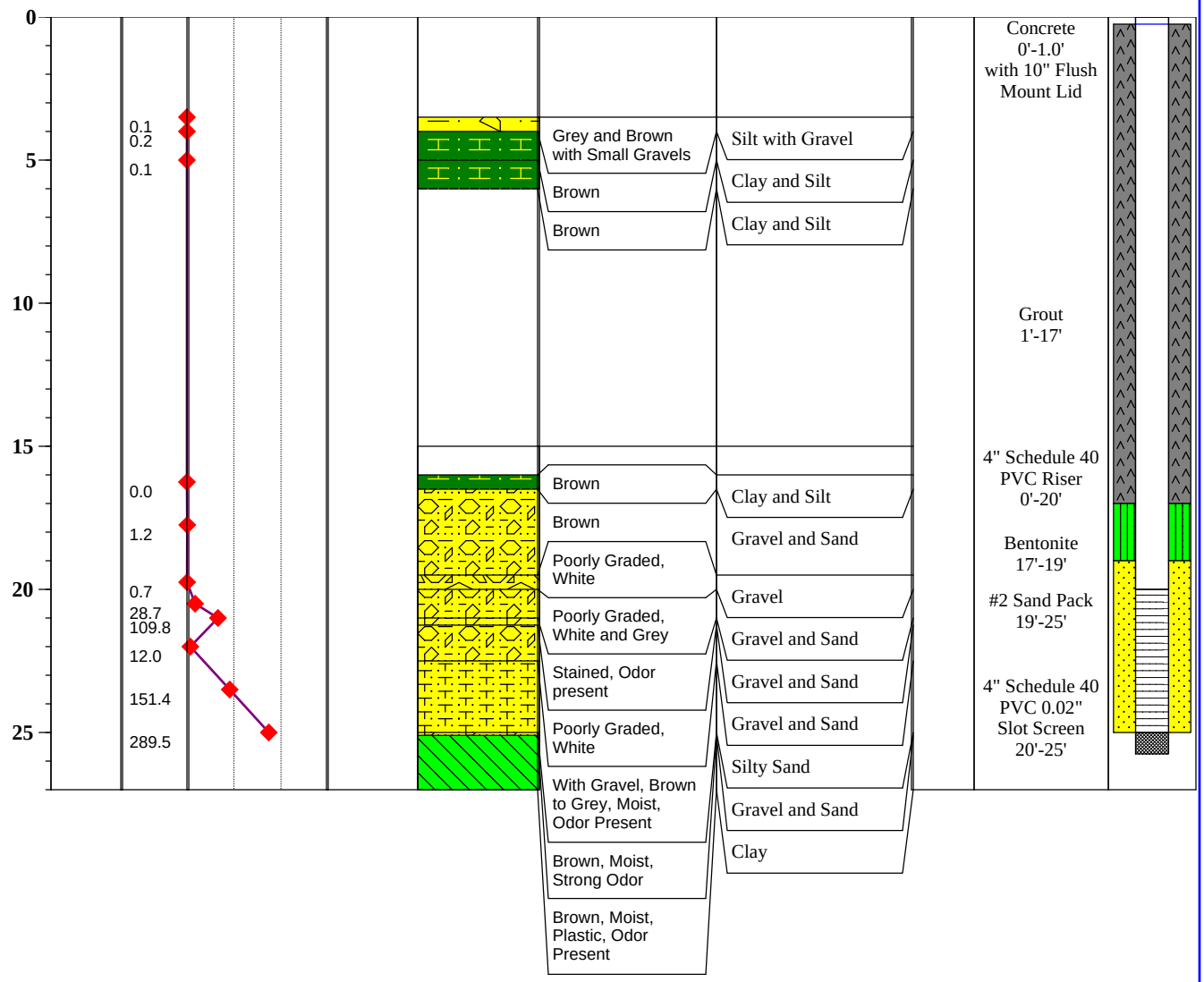
BORING AND WELL COMPLETION LOG ID NO. RW-25S

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **25'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**7/7/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**RW-25S**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Well ID: RW-25S

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

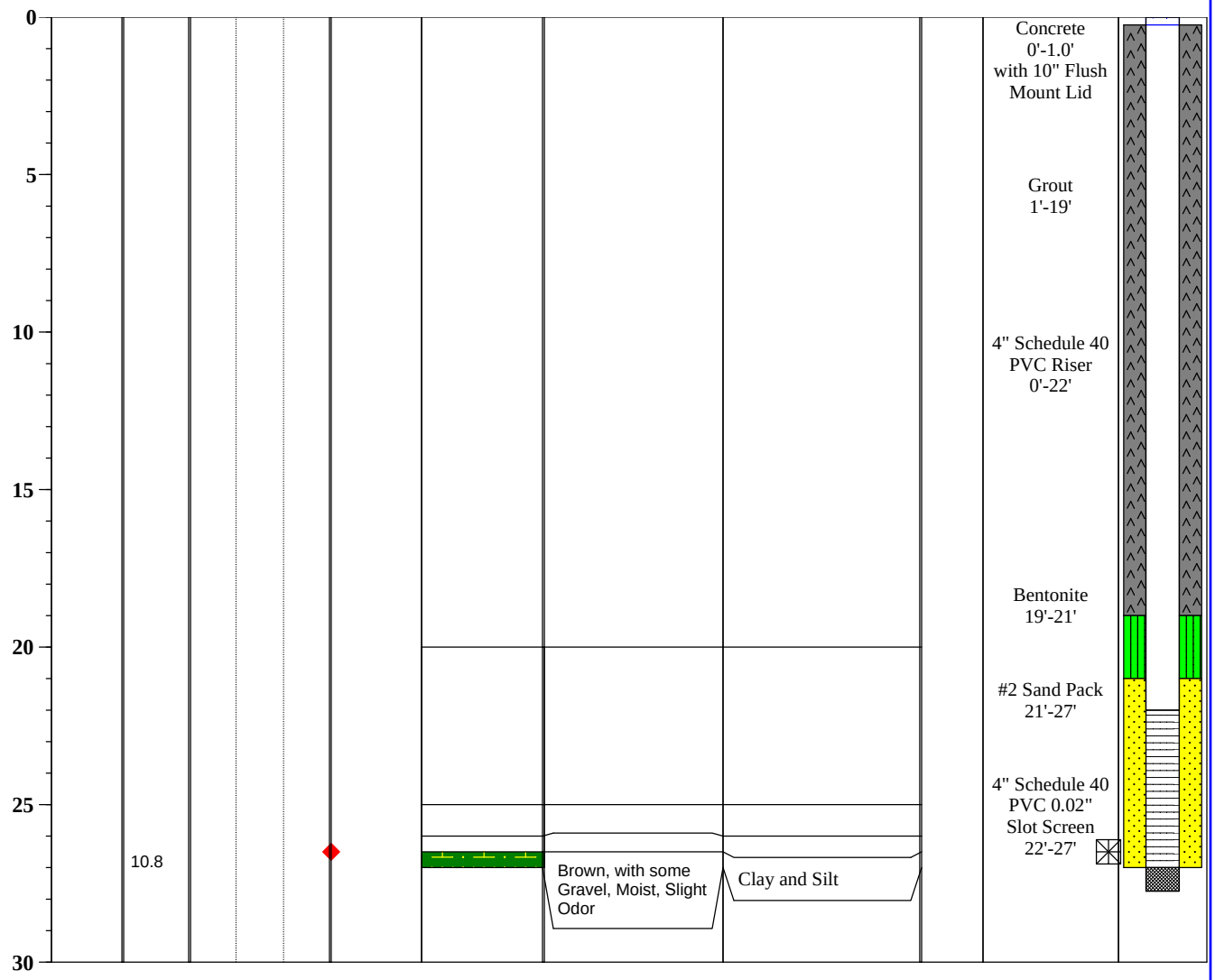
BORING AND WELL COMPLETION LOG ID NO. RW-28S

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **27'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**7/6/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**RW-28S**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

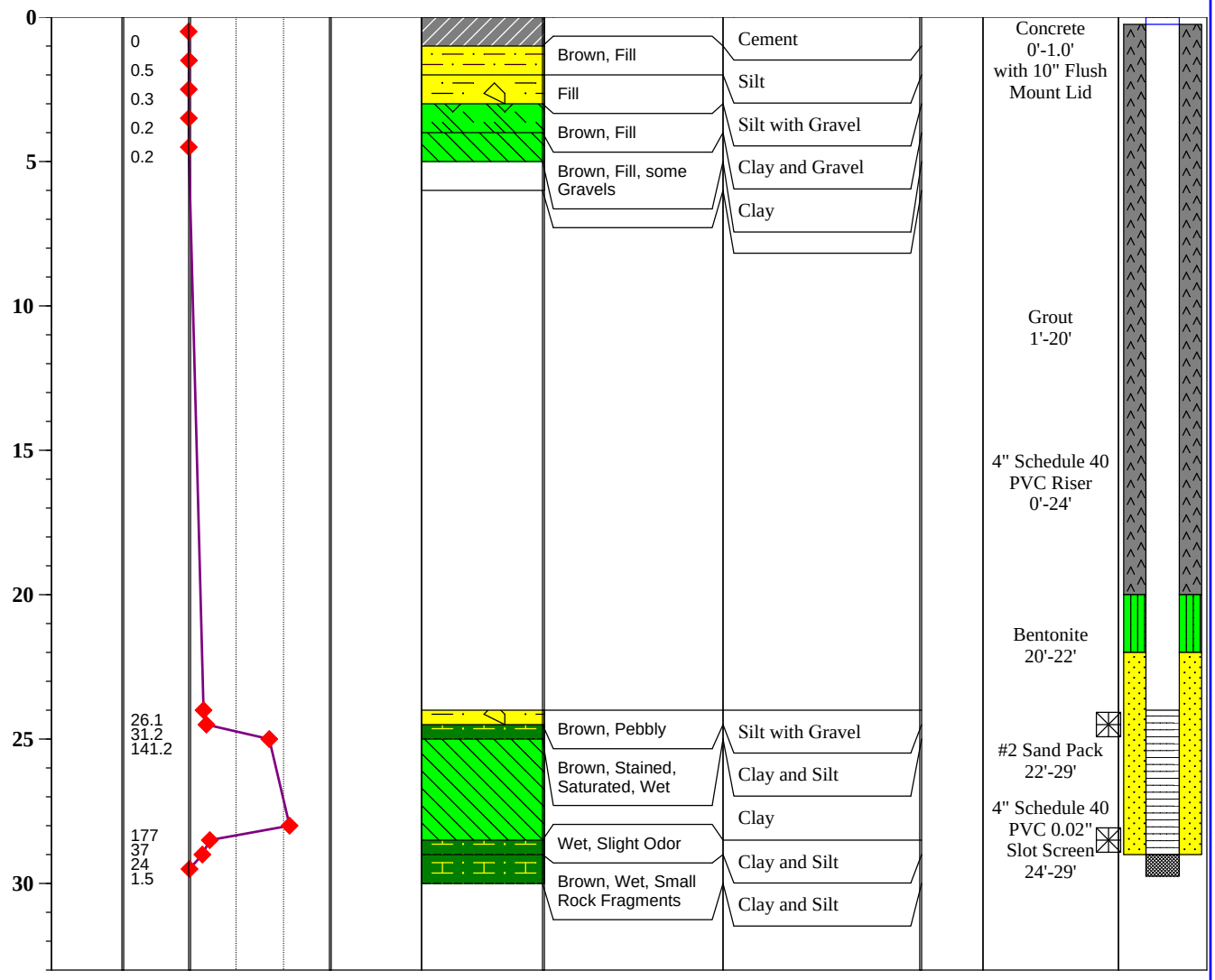
BORING AND WELL COMPLETION LOG ID NO. RW-30S

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **29'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**Scott Andresini**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/23/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**RW-30S**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Well ID: RW-30S

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

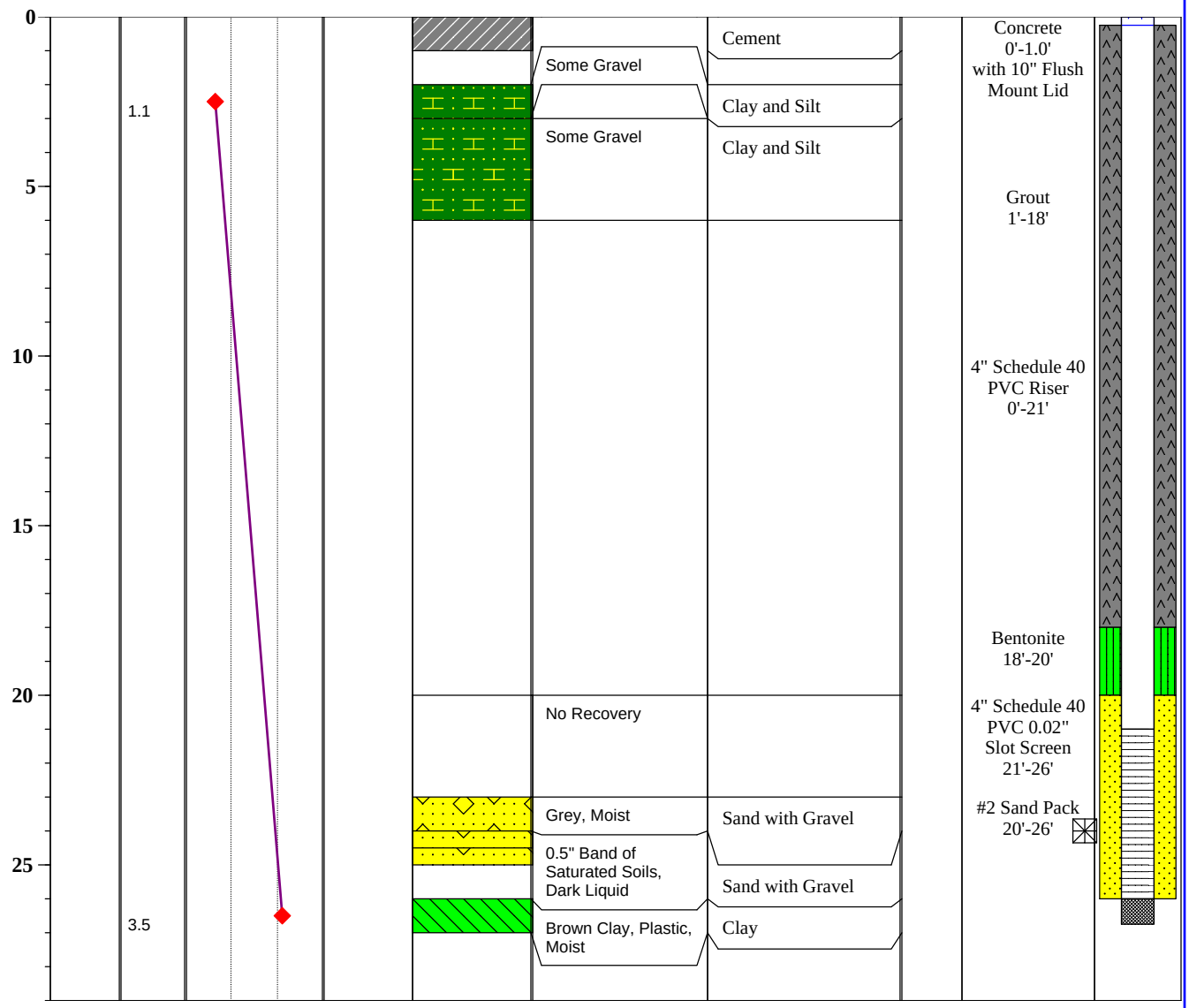
BORING AND WELL COMPLETION LOG ID NO. RW-116S

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **27'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/25/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**RW-116S**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

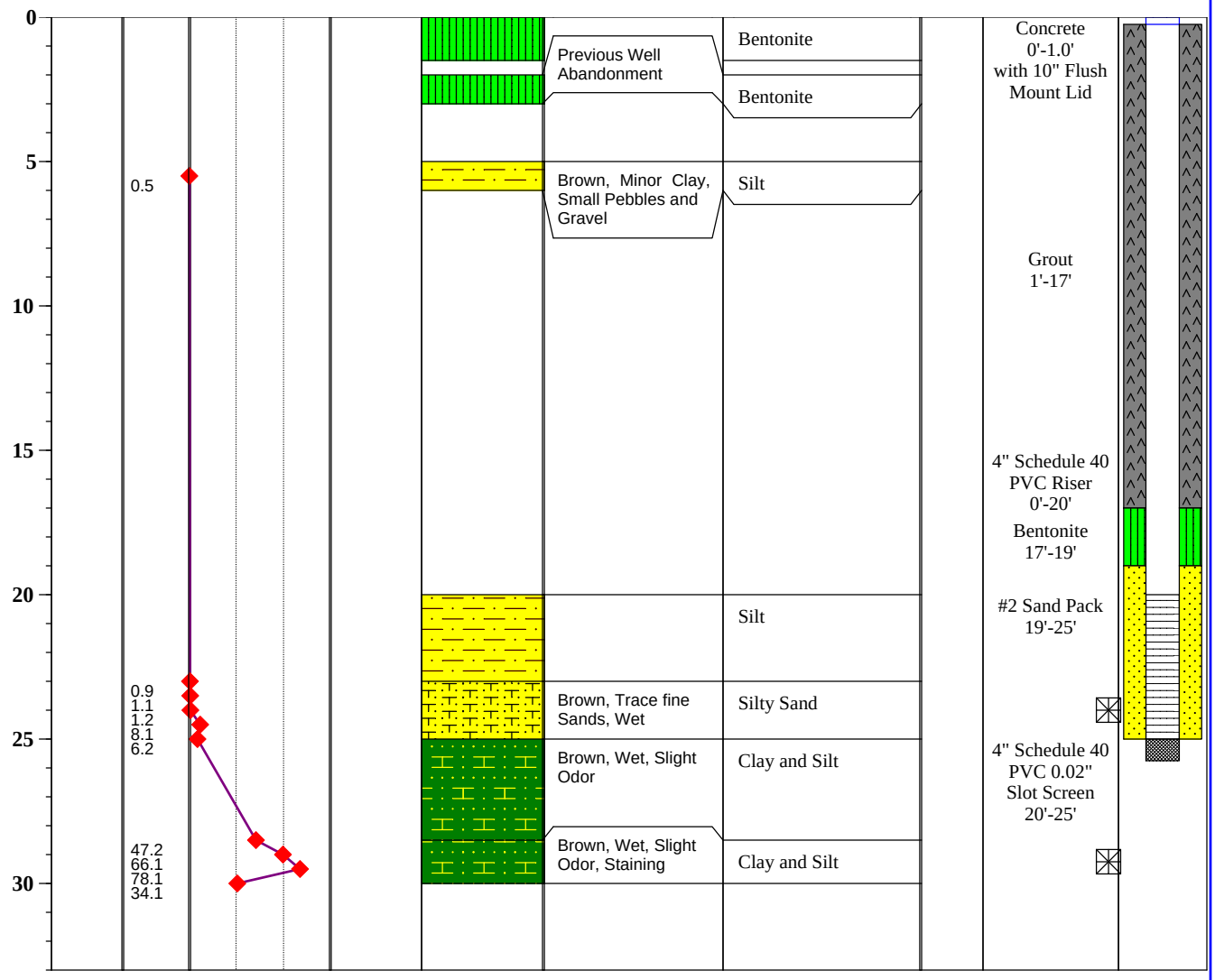
BORING AND WELL COMPLETION LOG ID NO. RW-117S

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **29'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**Scott Andresini**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/23/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**RW-117S**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

BORING AND WELL COMPLETION LOG ID NO. RW-118S

Groundwater & Environmental Services, Inc.

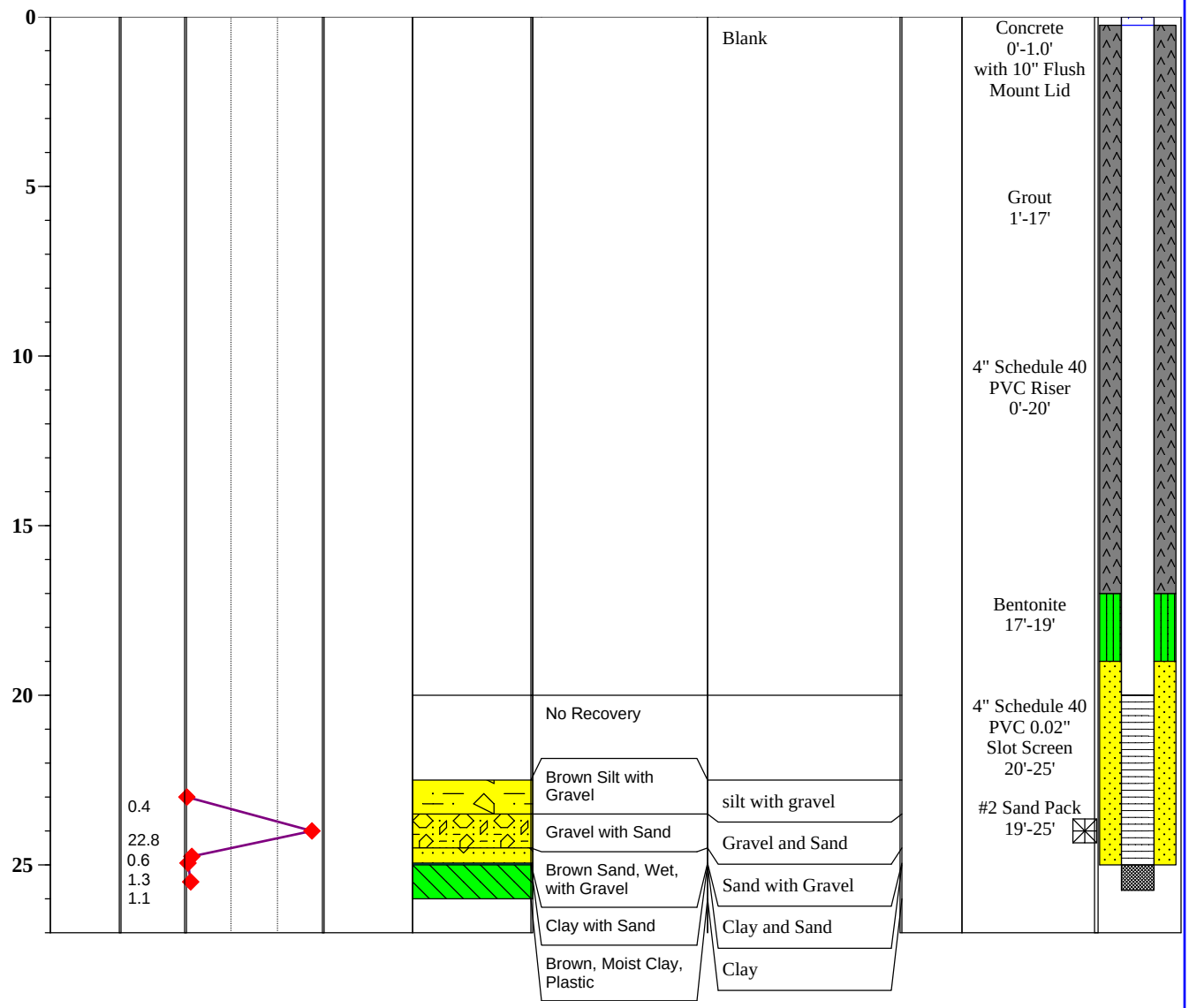
PROJECT: **Potomac River Generating Station**
ADDRESS: **1400 N Royal St, Alexandria, VA**
0402925

WATER DEPTH:
BOREHOLE DIA.: **10.5"**

TOTAL DEPTH: **27'**
CASING EL.:
WELL DIA.: **4"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/25/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**RW-118S**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:
Trace = <10% Some = <50%
Little = <25% And = 50%

Symbol Key:
Water Level
Sample Location

" = inches
' = feet
ppm = parts per million
eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

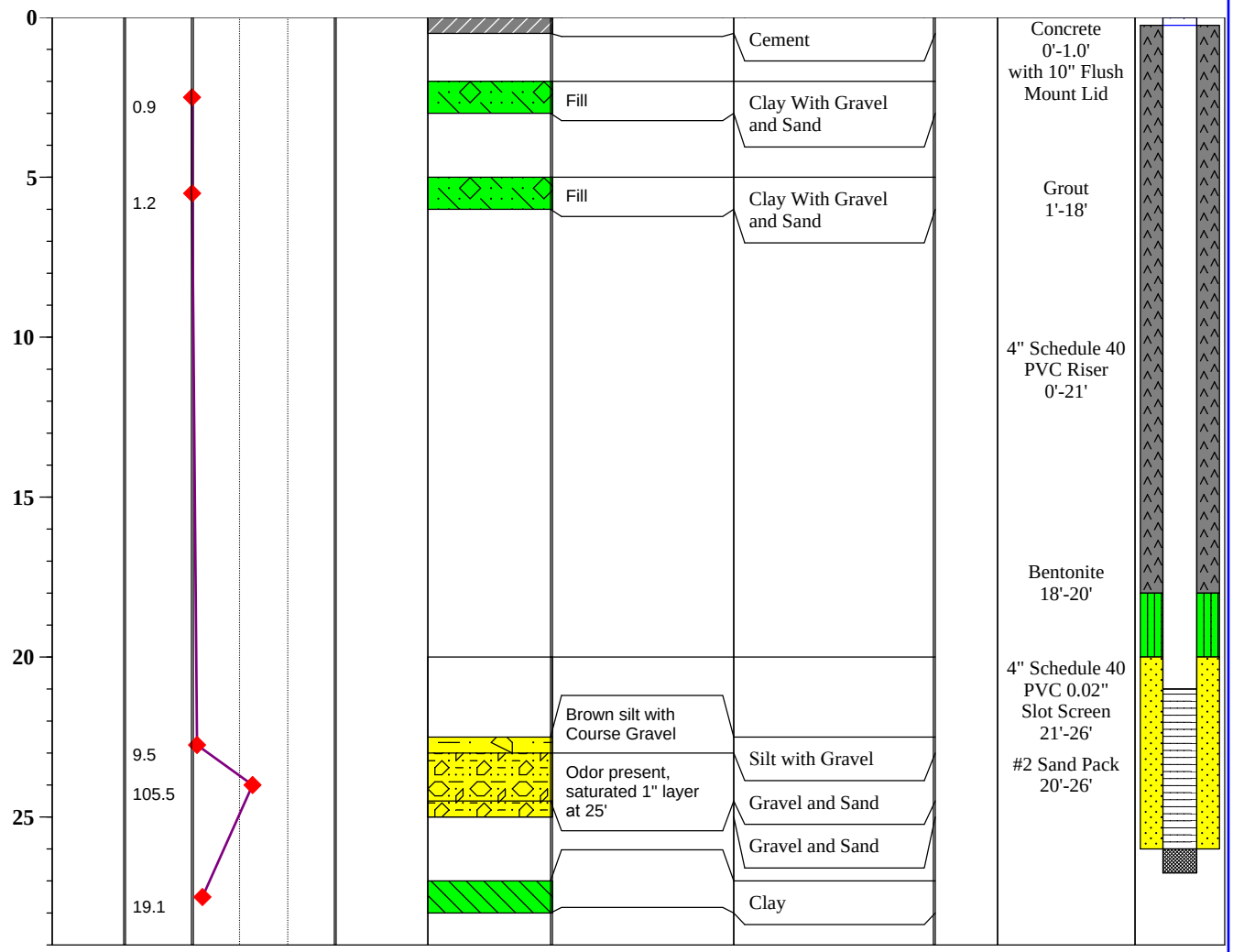
BORING AND WELL COMPLETION LOG ID NO. RW-119S

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **27'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **10.5"**	WELL DIA.: **4"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/26/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**MW-119S**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

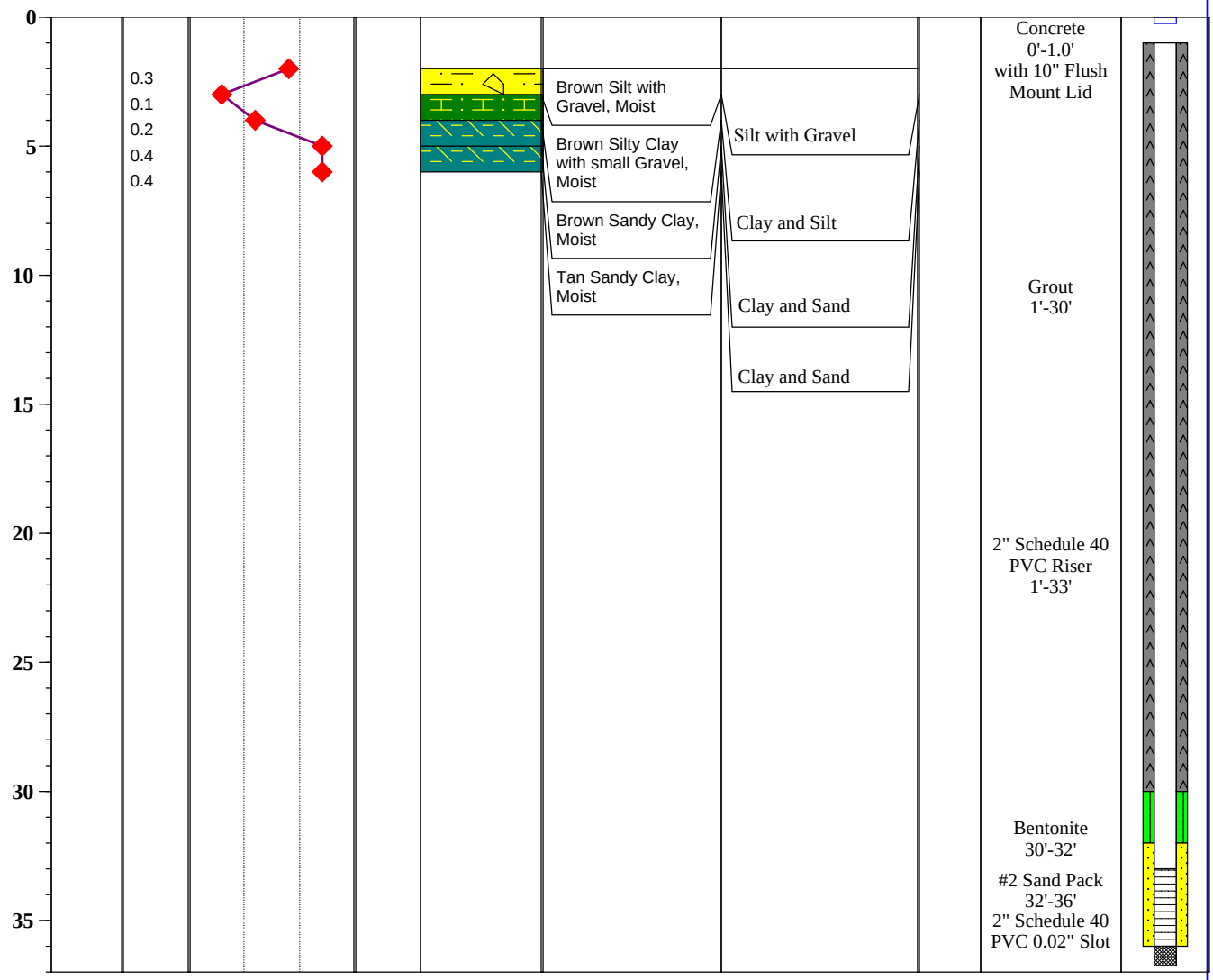
BORING AND WELL COMPLETION LOG ID NO. SP-03

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **37'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **4.25"**	WELL DIA.: **2"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/29/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**SP-03**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

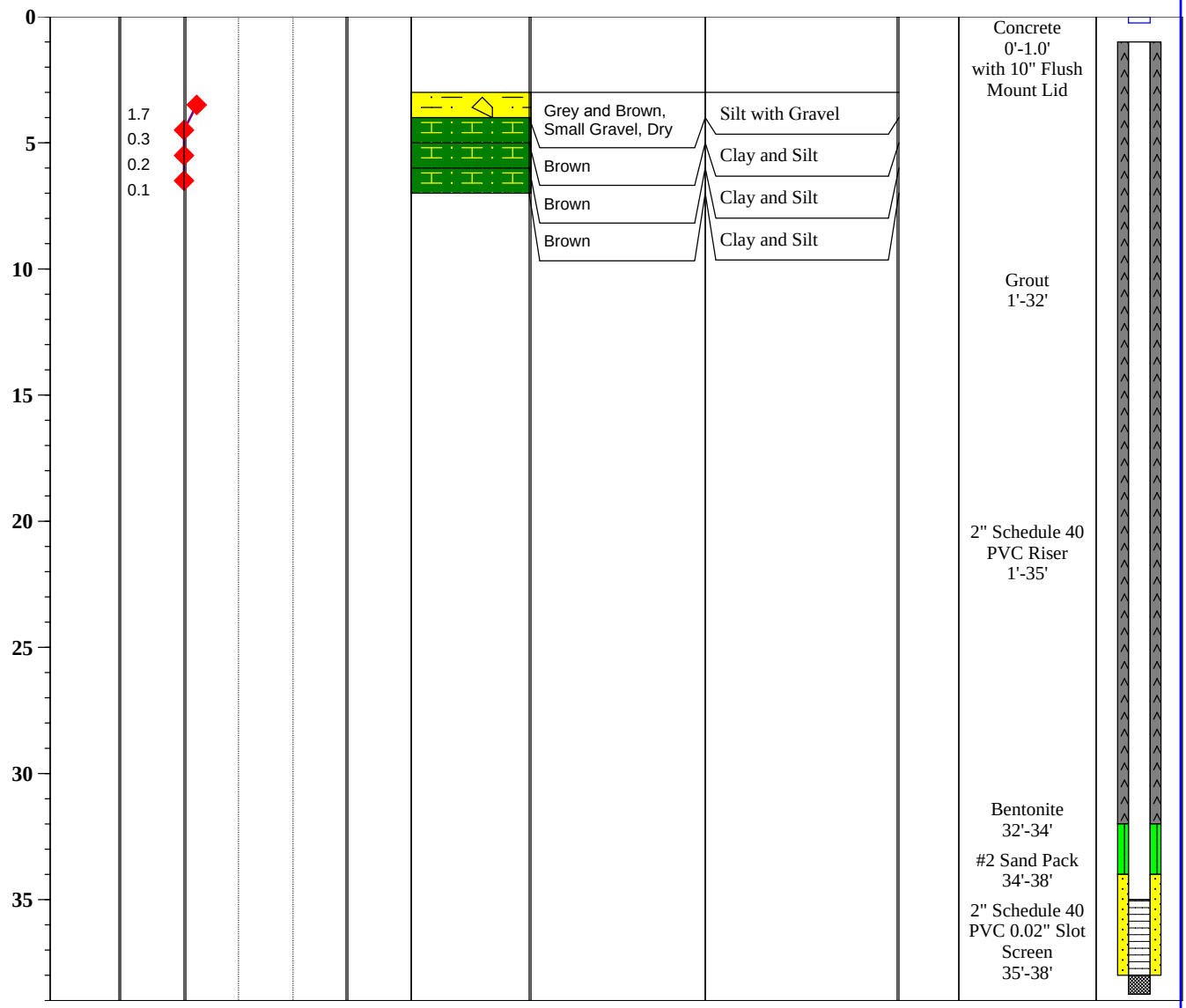
BORING AND WELL COMPLETION LOG ID NO. SP-04

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **38'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **4.25"**	WELL DIA.: **2"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/30/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**SP-04**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Well ID: SP-04

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

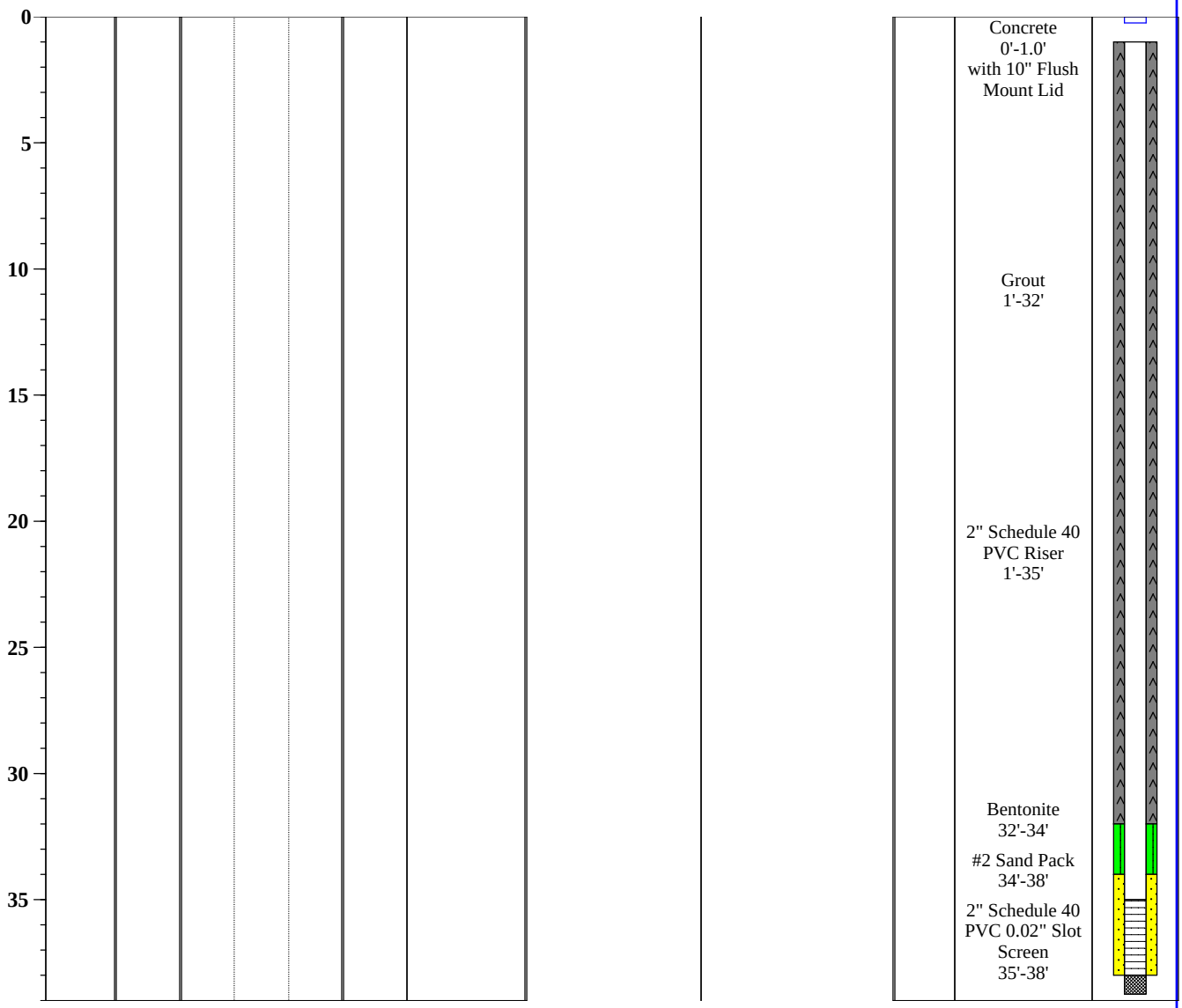
BORING AND WELL COMPLETION LOG ID NO. SP-05

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **38'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **4.25"**	WELL DIA.: **2"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/30/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**SP-05**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

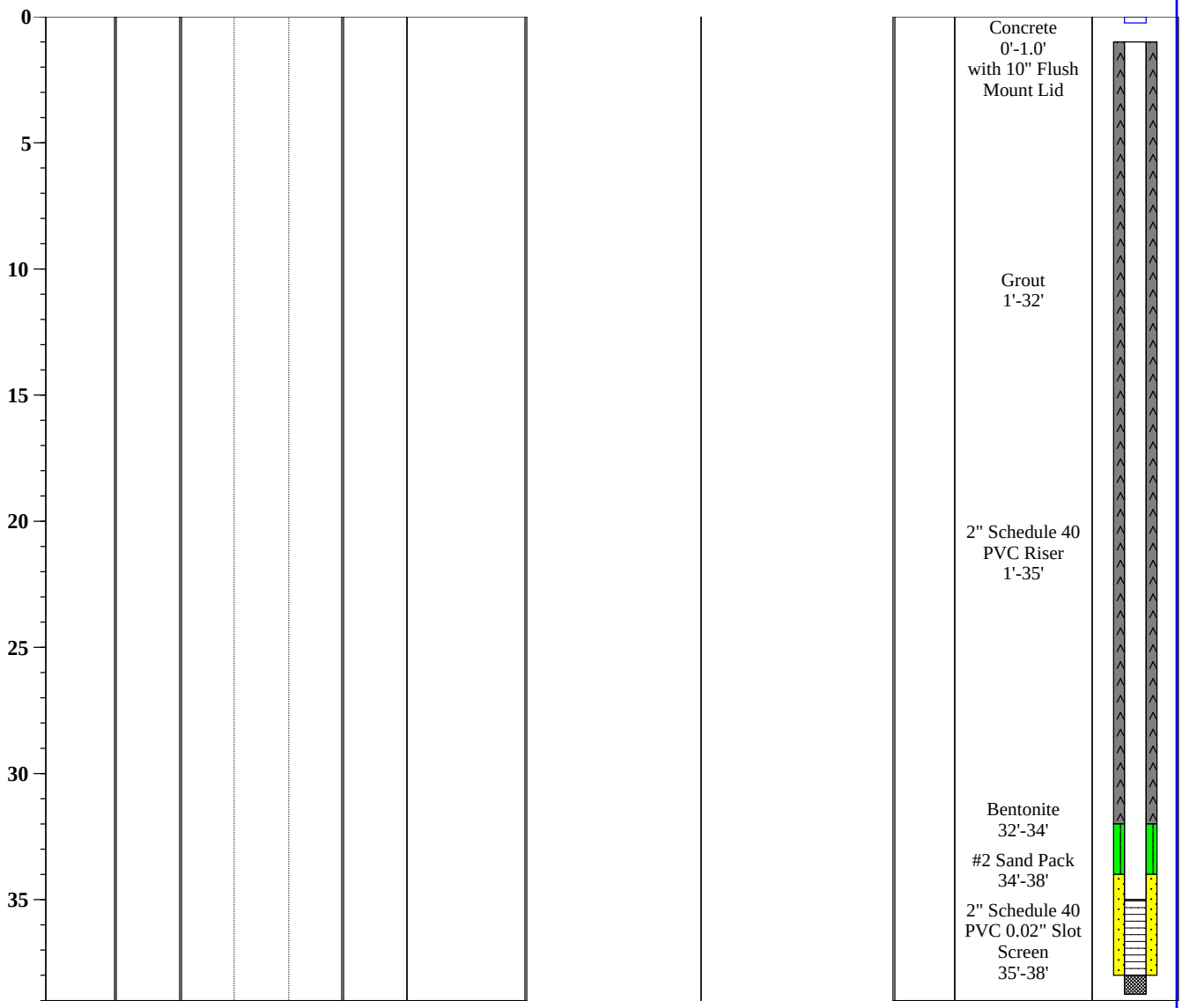
BORING AND WELL COMPLETION LOG ID NO. SP-06

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **38'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **4.25"**	WELL DIA.: **2"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/30/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**SP-06**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Well ID: SP-06

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

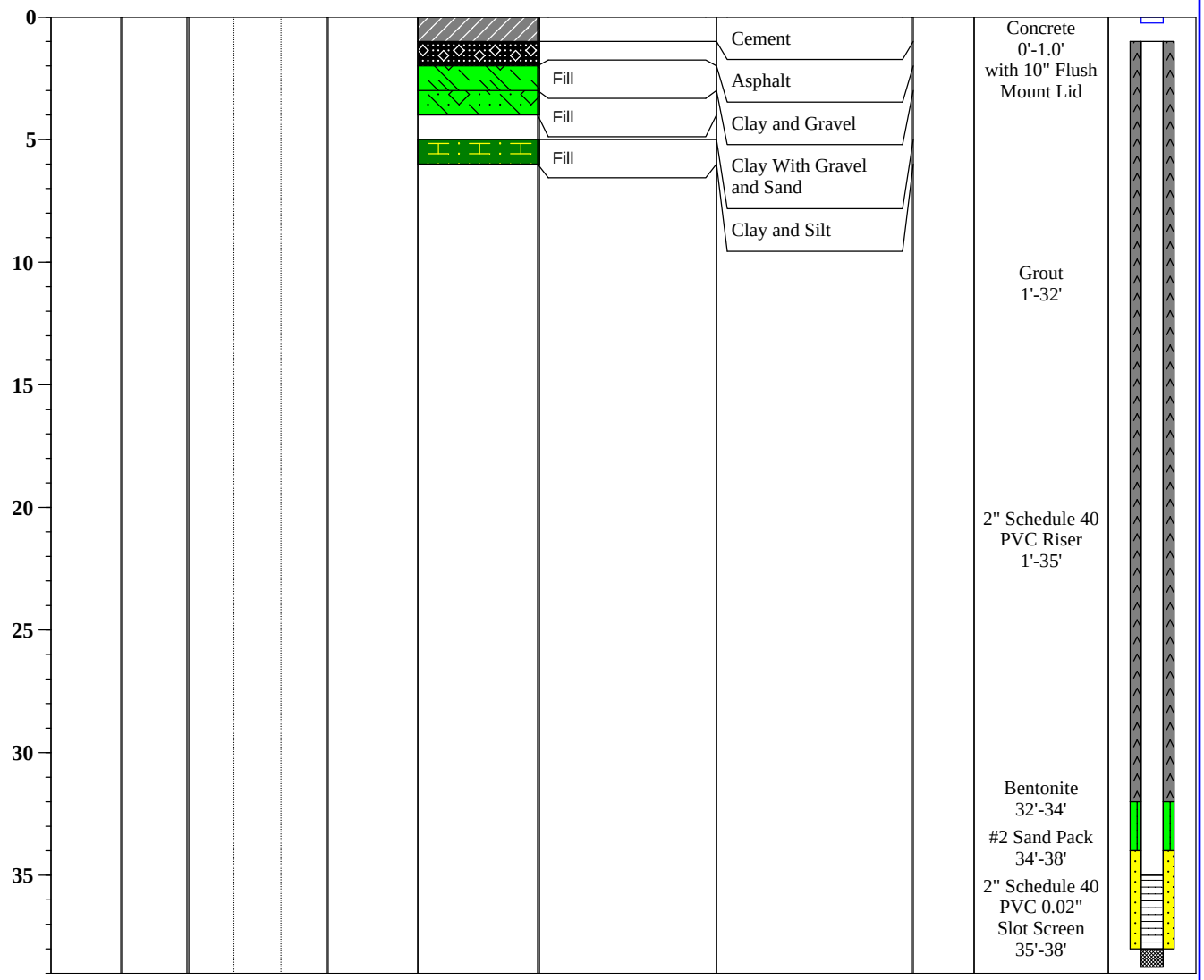
BORING AND WELL COMPLETION LOG ID NO. SP-07

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **38'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **4.25"**	WELL DIA.: **2"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/30/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**SP-07**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

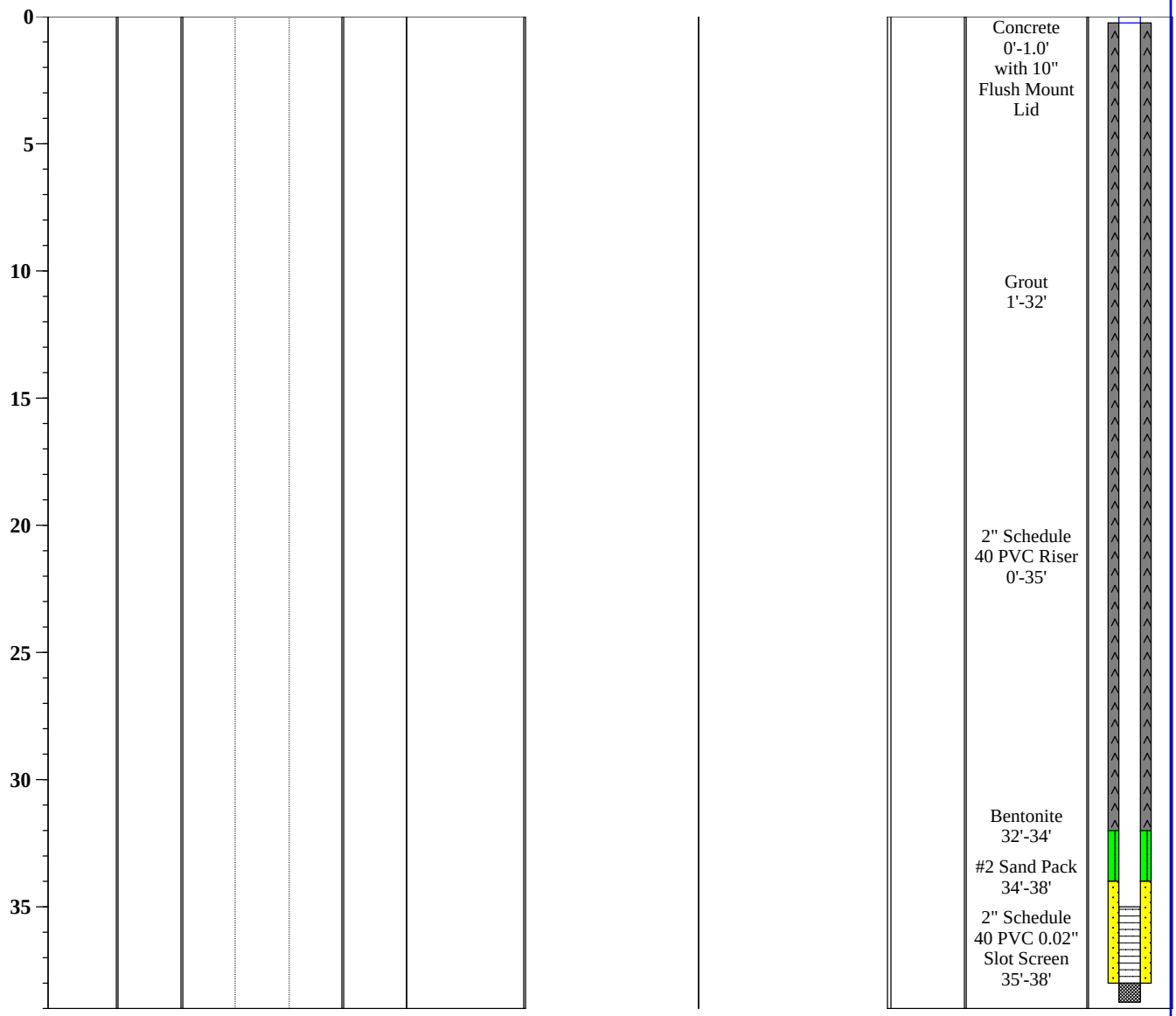
BORING AND WELL COMPLETION LOG ID NO. SP-08

Groundwater & Environmental Services, Inc.

PROJECT:	**Potomac River Generating Station**	WATER DEPTH:	TOTAL DEPTH: **38'**
ADDRESS:	**1400 N Royal St, Alexandria, VA**		CASING EL.:
0402925		BOREHOLE DIA.: **4.25"**	WELL DIA.: **2"**

Logged By:	**N. Guglielmi**	Drilling Method:	**Hollow Stem Auger**
Dates Drilled:	**6/30/2015**	Sampling Method:	
Drilling Company:	**Allied Drilling**	Soil Class. System:	**Unified Soil Classification System**
Well Permit #:	**SP-08**	Field Screening:	**PID, 10.6 eV Lamp**

Depth (feet)	Sample Interval (feet)	Field Screen: Total Organic Volatiles (ppm) 0 – 5	Recovery (feet)	Sample Lithology	Stratigraphy	Comments	Completion Details



LEGEND

Proportion Descriptions:

Trace = <10% Some = <50%

Little = <25% And = 50%

Symbol Key:

Water Level

Sample Location

" = inches

' = feet

ppm = parts per million

eV = electron volt

Groundwater & Environmental Services, Inc.
1350 Blair Drive, Suite A, Odenton, Maryland 800.220.3606 Fax 410.721.3733

ATTACHMENT E

Photographic Record

Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 1 & 2

PHOTOGRAPHER:
Nick Guglielmi

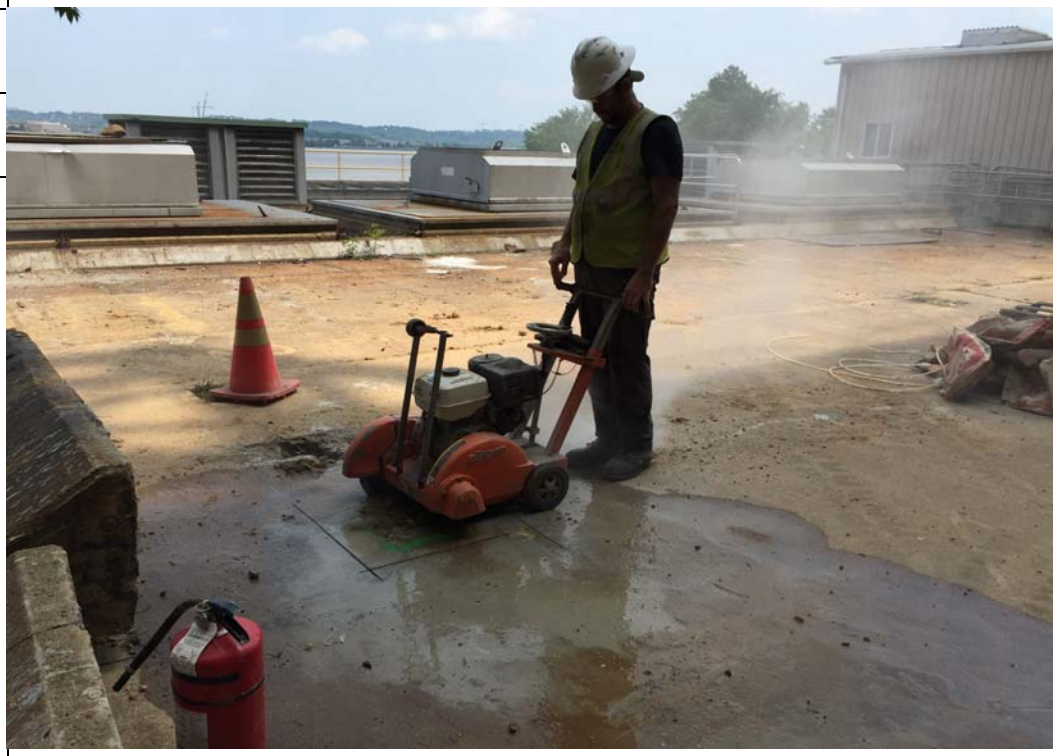
DATE:
6.24.2015

Comments:
Allied Well Drilling (Allied) installed 17 new wells at the site, including three standard compliance/delineation monitoring wells, eight shallow zone Total Phase Extraction (TPE) wells, and six air sparge wells. In this photo, Allied trucks can be seen parked at the site. The location of the two 25,000 gallon USTs can also be seen to the left side of the photo.

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.25.2015

Comments:
Allied staff saw-cut the location of RW-28S.



Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 3 & 4

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.30.2015

Comments:
Allied personnel are using a skid-steer mounted jackhammer to break up concrete at MW-123.

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.25.2015

Comments:
Prior to drilling and well installation, all boreholes were air knifed to 6' below ground surface (bgs). In this photo, Allied personnel are advancing a soil boring to 6' bgs using air excavation techniques.

Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 5 & 6

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.26.2015

Comments:
A borehole can be seen airknifed to 6'; also visible is part of the site's grounding grid.

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.26.2015

Comments:
Allied's Geoprobe 7822DT utilized for soil borings and well installations is shown in this photo.

Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 7 & 8

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.26.2015

Comments:
Prior to using Hollow Stem Auger drilling techniques, the monitoring wells and TPE wells were continuoulsy sampled over discrete depth intervals utilizing direct push technology (DPT) technology. Here, a rod is seen being advanced using DPT drilling techniques.

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.30.2015

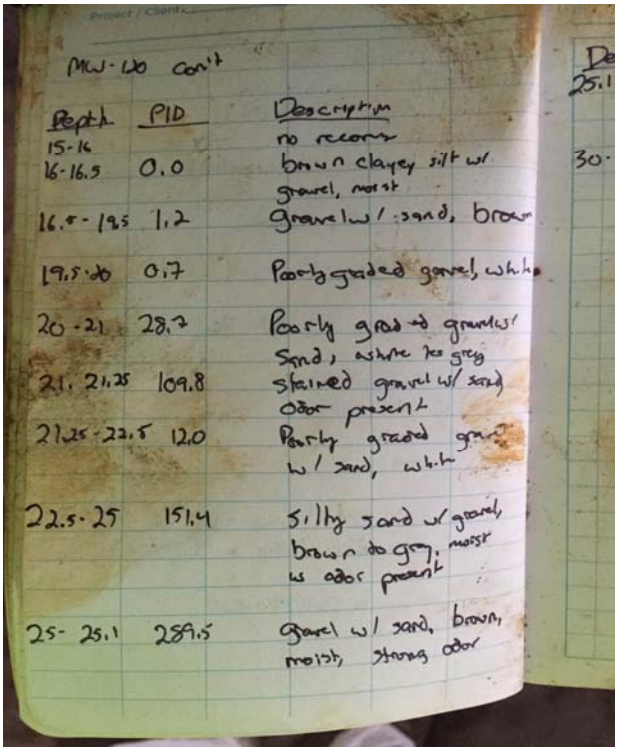
Comments:
Prior to using Hollow Stem Auger drilling techniques, the monitoring wells and TPE wells were continuoulsy sampled over discrete depth intervals utilizing DPT technology. These wells were sampled to characterize subsurface conditions and determine total well depth and screened intervals. Here, a macro core tube is shown being classified.

Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 9 & 10

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.30.2015

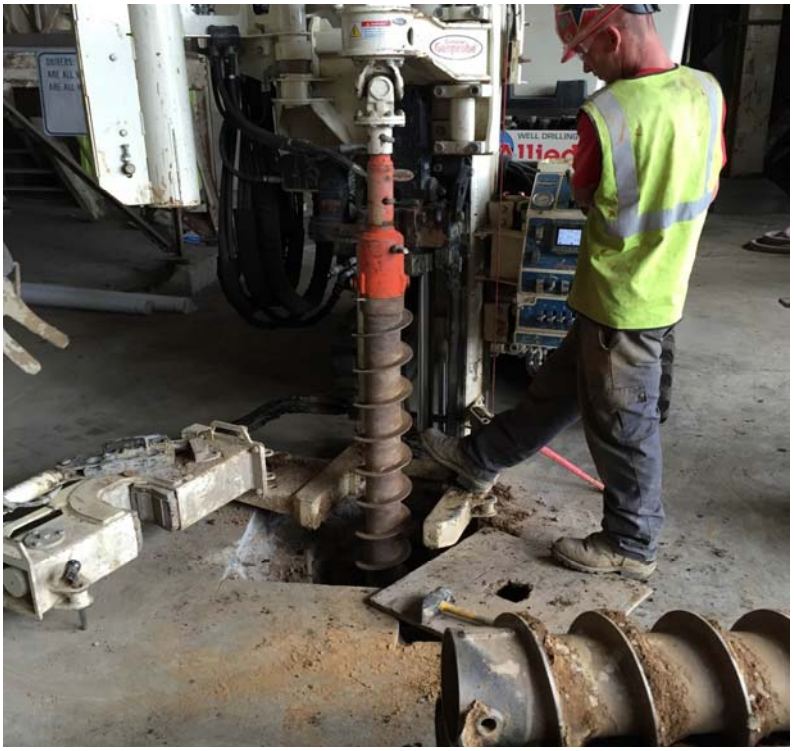
Comments:
A boring log, recorded in a field personnel's field book, is shown.



PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.25.2015

Comments:
Following DPT sampling and characterization, boreholes were advanced using Hollow Stem Auger drilling techniques. Here, Allied can be seen advancing a boring via Hollow Stem Auger drilling.



Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 11 & 12

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.30.2015

Comments:
Following the completion of each borehole, Allied installed PVC well screen and casing at the direction of GES personnel. Well construction materials for a 4" well are shown here.

PHOTOGRAPHER:
Nick Guglielmi

DATE:
7.1.2015

Comments:
To complete well installation, Allied installed a sand pack and a bentonite seal, followed by portland cement grout. In this photo, Allied personnel can be seen preparing the grout mixture.

Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 13 & 14

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.30.2015

Comments:
To complete well installation, Allied installed a sand pack and a bentonite seal, followed by portland cement grout. In this photo, Allied personnel can be seen tremie grouting a newly installed well.

PHOTOGRAPHER:
Nick Guglielmi

DATE:
7.9.2015

Comments:
Following installation of wells, Allied installed flush-mounted manhole covers and concrete well pads at each well.

Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 15 & 16

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.29.2015

Comments:
To install RW-25S, Allied had to remove the pipes shown to the right.

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.29.2015

Comments:
To install RW-25S, Allied saw cut piping to allow access. Elite can be seen cutting the pipe in this photo.

Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 17 & 18

PHOTOGRAPHER:
Nick Guglielmi

DATE:
7.1.2015

Comments:
Wells MW-123S and SP-05 were installed in a former workshop area. Overhead lights in the garage were too low to operate the Geoprobe, as shown in this photo.

PHOTOGRAPHER:
Nick Guglielmi

DATE:
6.29.2015

Comments:
Wells MW-123S and SP-05 were installed in a former workshop area. Overhead lights in the garage were too low to operate the Geoprobe, and select lights were removed by a licensed electrician. The clearance provided by removing the lights allowed the Geoprobe to be used in the workshop area, as seen in this photo.

Groundwater & Environmental Services
PHOTOGRAPHIC RECORD
PHOTO NO. 19 & 20

PHOTOGRAPHER:
Nick Guglielmi

DATE:
7.7.2015

Comments:
SP-08 was installed outside of the plant building, at the top of a steep, grassy hill. To complete the well installation safely, Allied built a railing prior to soil boring and well installation. The safety railing can be seen in this photo.

PHOTOGRAPHER:
Nick Guglielmi

DATE:
7.8.2015

Comments:
SP-08 was installed outside of the plant building, at the top of a steep, grassy hill. To complete the well installation safely, Allied built a railing prior to soil boring and well installation. Allied can be seen completing soil boring activities at SP-08 in this photo.