



February 14, 2014

Mr. Alex Wardle
Commonwealth of Virginia
Department of Environmental Quality
Northern Virginia Regional Office: Remediation
13901 Crown Court
Woodbridge, VA 22193

**Re: Site Characterization Report Addendum
NRG Potomac River Generating Station
1400 North Royal St, Alexandria, VA 22314
PC #2013-3154**

Dear Mr. Wardle:

On behalf of NRG Potomac River LLC (NRG), URS Corporation (URS) is submitting the Site Characterization Report Addendum for the above referenced site.

If you have any questions regarding the Site Characterization Report Addendum or require additional information, please do not hesitate to contact the undersigned at 301.820.3000.

Sincerely,
URS CORPORATION

A handwritten signature in black ink, appearing to read "Eric Deaver".

Eric Deaver
Program Manager

A handwritten signature in black ink, appearing to read "Mike Myers".

Mike Myers
Environmental Scientist

URS Corporation
12420 Milestone Center Drive, Suite 150
Germantown, MD. 20876
Tel: 301.820.3000
Fax: 301.820.3009

**S I T E C H A R A C T E R I Z A T I O N R E P O R T
A D D E N D U M**

**S I T E C H A R A C T E R I Z A T I O N R E P O R T
A D D E N D U M
P O T O M A C R I V E R G E N E R A T I N G S T A T I O N
1 4 0 0 N O R T H R O Y A L S T R E E T
A L E X A N D R I A , V I R G I N I A
V D E Q P C # 2 0 1 3 - 3 1 5 4**

Prepared for

NRG Potomac River LLC
1400 North Royal Street
Alexandria, Virginia 22314

February 14, 2014

URS

URS Corporation
12420 Milestone Center Drive, Suite 150
Germantown, MD 20876
Project No. 15303531

TABLE OF CONTENTS

SECTION ONE: INTRODUCTION	1-1
SECTION TWO: FACILITY BACKGROUND	2-1
2.1 Facility Location and Area Description	2-1
2.2 Description of Structures and Other Improvements	2-1
2.3 Subsurface Utilities.....	2-1
2.4 Outfall Descriptions	2-2
2.5 Facility Regulatory History.....	2-3
2.6 Facility Petroleum Release Observations	2-4
SECTION THREE: INVESTIGATIVE METHODS	3-1
3.1 Basement Soil Borings.....	3-1
3.2 Private Utility Locate	3-1
3.3 LIF Boring Location Survey	3-2
3.4 Air Knife Excavation for LIF Survey	3-2
3.5 LIF Survey	3-2
3.6 Soil Sampling.....	3-3
3.7 Monitoring Well Installation.....	3-3
3.8 Groundwater Gauging and Sampling.....	3-4
SECTION FOUR: INVESTIGATIVE RESULTS.....	4-1
4.1 Site Geology.....	4-1
4.2 Site Hydrogeology	4-1
4.3 Basement Soil Boring Sample Results	4-2
4.4 LIF Survey Results	4-2
4.4.1 Fuel Signature	4-3
4.4.2 Facility Property LIF Results.....	4-3
4.4.3 NPS Property LIF Results.....	4-3
4.5 LIF Survey Soil Sample Results.....	4-4
4.6 Groundwater Sample Results.....	4-4
4.7 Water Seep Sample Results	4-6
4.8 Liquid Phase Hydrocarbon Monitoring.....	4-6
SECTION FIVE: RISK EVALUATION.....	5-1
5.1 Sensitive Receptor Survey	5-1
5.1.1 Surface Water Bodies	5-1
5.1.2 Sensitive Habitats.....	5-1
5.1.3 Relevant Nearby Structures	5-1
5.1.4 Nearby Wells	5-1
5.2 Transport Medium (Migration/Exposure Routes)	5-2
5.2.1 Groundwater Migration	5-2
5.2.2 Migration along Subsurface Utilities	5-2
5.2.3 Leaching to Groundwater	5-3
5.2.4 Overland Flow/Flooding.....	5-3
5.3 Current or Potential Exposure Points.....	5-3
5.3.1 Soils.....	5-3
5.3.2 Groundwater	5-3

TABLE OF CONTENTS

5.3.3	Surface Water.....	5-4
5.3.4	Contact with Utilities	5-4
5.4	Risk Evaluation Summary	5-4
SECTION SIX: RECOMMENDATIONS		6-1
6.1	Proposed Activities	6-1
SECTION SEVEN: SUMMARY		7-1

Figures

Figure 1	USGS Topographic Map
Figure 2	Facility Map
Figure 3	Site Map
Figure 4	Utility Locations Map
Figure 5	LIF Locations
Figure 6	Soil Sampling Locations Map
Figure 7	Monitoring Well Locations Map
Figure 8	Hydraulic Gradient Map
Figure 9	LIF Response Intensities Map
Figure 10	Soil Analytical Results Map
Figure 11	Groundwater Analytical Results Map

Tables

Table 1	Boring Summary
Table 2	Monitoring Well Summary
Table 3	Monitoring Well Groundwater Gauge Results
Table 4	Basement Soil Sample Laboratory Results
Table 5	LIF Soil Sample Laboratory Results
Table 6	LIF Groundwater Sample Laboratory Results

Appendices

Appendix A	Soil Boring and Monitoring Well Construction Logs
Appendix B	Geologic Cross Sections
Appendix C	Basement Soil Boring Laboratory Analytical Report
Appendix D	Hammer Environmental Services LIF Report
Appendix E	LIF Survey Soil and Groundwater Laboratory Analytical Report

SECTION ONE: INTRODUCTION

On behalf of NRG Potomac River LLC's Potomac River Generating Station (PRGS), URS Corporation (URS) is pleased to submit this Site Characterization Report Addendum (SCRA) for the subject property located at 1400 North Royal Street in Alexandria, VA. Please note that as a result of the merger of GenOn Energy, Inc. and NRG Energy Inc. the subsidiary companies changed names. On May 28, 2013, GenOn Potomac River, LLC changed its name to NRG Potomac River, LLC. Pollution Complaint (PC) #2013-3154 was generated by the Virginia Department of Environmental Quality (VDEQ) to track this case and was opened following the detection of petroleum hydrocarbons during the closure activities associated with two 25,000-gallon heating oil underground storage tanks (USTs). In response to these detections, VDEQ requested that a Site Characterization Report (SCR) be prepared to describe and characterize the type and extent of the contamination stemming from the two USTs. This report was submitted to VDEQ on June 11, 2013, in the form of a "Site Conceptual Model" (SCM). The SCM included a discussion of the initial detections of petroleum hydrocarbons during the closure activities associated with the two heating oil USTs, as well as descriptions of the various subsurface utilities in the vicinity of the USTs.

The Virginia Department of Environmental Quality (VDEQ) requested the submittal of the SCRA in a directive letter dated July 10, 2013. This SCRA describes the activities associated with a subsurface characterization of the Site using laser-induced fluorescence (LIF) data, as well as 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 are also discussed herein.

SECTION TWO: FACILITY BACKGROUND

2.1 Facility Location and Area Description

The Facility is located at 1400 North Royal Street in Alexandria, VA (**Figure 1**). Based on the United States Geological Survey (USGS) Alexandria, Virginia Quadrangle Topographic Map, the Facility is approximately 35 feet above mean sea level (msl). It is adjacent to the Potomac River and slopes toward to the northeast. The general groundwater flow direction throughout the Facility is to the northeast.

2.2 Description of Structures and Other Improvements

The Facility is a recently decommissioned coal power plant. **Figure 2** shows the entire area of the former coal power plant. While in operation, the Facility's five generating units were capable of producing 482 megawatts of electricity. The Facility used Number 2 fuel oil to preheat its generating units and coal as its primary fuel to generate electricity.

The area surrounding the Facility is mixed residential and commercial use, with a condominium building (Marina Towers) approximately 100 yards north. A section of the Mt. Vernon Trail—a multi-use recreational trail used for walking, jogging, bicycling, and other activities—is located adjacent to the Facility along the Potomac River in National Park Service (NPS) property. The NPS property is highlighted in green in the **Figure 3** Site map.

PC #2013-3154 (the subject of this SCRA) refers to the area in the vicinity of two 25,000 gallon USTs (referred to as the Site). The two heating oil USTs are located directly to the east of the Facility's five cooling units, in the area beneath the plant's fly ash collection equipment. The UST area is covered by the precipitator structure and paved with concrete. The two heating oil USTs are each approximately 40 feet long and 10 feet in diameter. Numerous air, electrical, and fluid lines run into and around the surrounding structures, including several 48-inch steel circulating water lines and four outfall drains leading to the Potomac River.

2.3 Subsurface Utilities

A diagram of subsurface structures was created based on a series of site visits, historical site research, photographs, and a private utility locating event. **Figure 4** represents a depiction of all discovered underground utilities. Subsurface utilities located in the vicinity of the heating oil USTs include ten 48-inch-diameter circulating water lines, four concrete ducts (unknown diameters), ten drains varying from 6 to 12 inches in diameter, five 16-inch-diameter water lines, two oil lines, and an air line (unknown diameter). PRGS site personnel were interviewed regarding fill material around the various area utility trenches, but because of the date at which they were installed and the lack of documentation, the fill material is unknown. Site plans associated with an area of the Facility outside of the vicinity of the two heating oil USTs show utility trenches filled with a bottom layer of gravel and a top layer of clean fill. Based on this observation, the site utilities are inferred to be backfilled similarly.

2.4 Outfall Descriptions

Six of the facility's outfalls to the Potomac River—Outfalls 003, 004, 005, 008, 009, and 010—are located in the vicinity of the two 25,000-gallon heating oil USTs. The locations of the outfalls are shown in **Figure 4**. Below is a brief description of each of these outfalls.

Outfall 003 previously carried wastewater from two of the Facility's cooling units and floor drains to the Potomac River. In December 2008, a bolted blind flange was installed in the pipe just west of the bike path that eliminated discharge to the Potomac River. Upstream of the flange (towards the facility), the Outfall 003 pipe contains wastewater under pressure. Downstream of the flange, the pipe is plugged with grout where it daylights at the Potomac River.

Outfall 004 previously carried wastewater from the Facility's unit 5 bearing cooling, unit 5 floor drains, and ramp storm runoff. In October 2008, a bolted blind flange was installed in the pipe just west of the bike path that eliminated discharge to the Potomac River. Upstream of the flange (towards the facility), the Outfall 004 pipe contains wastewater under pressure. Downstream of the flange (towards the Potomac River), the pipe is open to the atmosphere on both ends.

Outfall 005 previously carried wastewater from backwashing and the roof and floor drains in the screen well pump house, as well as from a drain within the Facility. In the area closest to the Potomac River, Outfall 005 consists of a 16" concrete trench, the top of which is level with the ground surface. The trench is approximately four feet deep. Observations made during visits to the Site show that the pipes entering the Outfall-005 trench have been capped.

Outfall 008 is an emergency overflow for a sump that collects stormwater from roofing and paved areas on the east side of the power plant. The pipe is open to the atmosphere on the upstream end, and the discharge end of the pipe is underwater except at times when the tide is exceptionally low.

Outfall 009 passes the two heating oil USTs and leads into a FRP manhole located just inside the facility perimeter fence. The pipe is severed inside the Facility and plugged with concrete, and is also severed within the manhole. This manhole collects any liquids that migrate from the upstream portion of the Outfall 009 pipe. The downstream portion of the pipe is plugged at the Potomac River.

Outfall 010 is located near Outfall 009. As identified in NRG submittal of the *Work Plan for Outfall Decommissioning* to the DDOE in February 2013, the upstream portion of the Outfall 010 pipe was removed from the ground in the mid 1970's during emissions control construction activities. The downstream portion of the pipe runs from the manhole described in the Outfall 009 discussion to the bank of the Potomac River. The pipe is plugged at the Potomac River to prevent discharge.

As indicated above, the Facility has initiated measures to inhibit the pathways that the outfalls have previously conveyed.

2.5 Facility Regulatory History

The following summarizes the known history of the Facility:

- On September 16, 1985, a petroleum release was reported to the Virginia State Water Control Board. Approximately 50 gallons of number 2 fuel oil was released as a result of a space heater valve that had been left open when the boilers were activated. No further investigation was warranted because of the small amount of product lost, the high dilution factor, and the infeasibility of containment.
- In 1987, a leaking 2,500-gallon steel kerosene UST was removed from the ground and replaced with the recently removed 4,000-gallon fiberglass-reinforced plastic (FRP)-coated steel tank in the same location. The area was remediated and the pollution case was closed by VDEQ.
- In 1992, a soil sample collected during the construction of one of the two soil vapor monitoring wells in the area of the 4,000-gallon kerosene UST revealed total petroleum hydrocarbon (TPH) levels of 390 parts per million (ppm). In order to verify integrity of the UST, a precision test was conducted on the UST, with passing results, on August 8, 1992. A site assessment was conducted and as a result, a groundwater recovery system was installed to recover any residual oil that may be present in groundwater. Based on the results of the groundwater samples collected from two monitoring wells, which showed no detectable levels of hydrocarbons, the case was closed by VDEQ in April 1999.
- In June 1996, a leaking UST case referring to a 3,500-gallon diesel UST was closed. When this tank was closed in place, elevated levels of TPH were detected in the soil. Fluor Daniel GTI completed a site characterization, and the VDEQ closed this case. According to PEPCO, which owned and operated the facility at the time, acceptable VDEQ cleanup standards were met.
- On February 19, 2013, UST removal and in-place abandonment activities began at the site as part of plant closure. Details of the UST removal and abandonment activities were documented in the April 2013 submittal of the *UST Closure Report* to the VDEQ.
- On March 11, 2013, PC #2013-3128 was assigned to the 4,000-gallon kerosene UST area of the site when, during the removal of the 4,000-gallon kerosene UST, soil analysis confirmed that a petroleum release had occurred. Details of the site characterization and subsequent activities associated with PC #2013-3128 have been submitted to the VDEQ under separate cover.
- On April 2, 2013, PC #2013-3154 was assigned to the two 25,000-gallon heating oil USTs when, during the in-place abandonment of the tanks, soil and groundwater analyses confirmed that a petroleum release had occurred. Soil borings were advanced in the vicinity of the USTs, and temporary monitoring wells were installed to collect groundwater samples. Of the ten soil samples collected, six contained detectable concentrations of benzene, toluene, ethylbenzene, or xylenes (collectively, BTEX), six

contained detectable total petroleum hydrocarbon (TPH gasoline range organics (GRO), and eight contained detectable TPH diesel range organics (DRO). Of the four groundwater samples collected from the temporary monitoring wells, all four contained detectable BTEX, three contained detectable TPH-GRO, and three contained detectable TPH-DRO.

2.6 Facility Petroleum Release Observations

The following listing refers to observed apparent petroleum releases on the Potomac River as documented by PRGS personnel.

- January 5, 2000 – Approximately 2 gallons of oil was discovered leaking from the union out of the recirculating line of the western #2 heating oil UST contained in the vault. Because site workers were working in that area, the leak was immediately detected and all product was recovered.
- February 18, 2000 – An oil sheen on the river was reported to the Alexandria Health Department. The source was traced back to storm water runoff from an ash truck parked on the north end of the fly ash building. PRGS personnel deployed booms around the storm drain.
- March 1, 2000 – An oil sheen on the river was reported to the Alexandria Health Department. The source of the sheen was not located.
- March 7, 2000 – An oil spill of less than 1 gallon was reported when a demineralized water tank located outside the plant building was overfilled and caused the trench for the Number 2 fuel unloading station to overflow. The trench is connected to the fuel oil spillage tank that is located in the basement of the plant. Rushing water overwhelmed the spillage tank causing oily water to exit the top of the tank through two closed inspection hatches. The oily water spilled onto the basement floor and entered a nearby floor drain, exiting into the Potomac River at Outfall 003. The floor drain was plugged and a visual inspection of other plugged floor drains was conducted.
- March 27, 2000 – An oil sheen was reported to the Alexandria Health Department. The suspected source of the sheen was a floating oil bottle in the Potomac River.
- December 22, 2000 – The Unit 3 Boiler Feed Pump reservoir was drained to the condenser drain, resulting in a visible sheen of oil out of Outfall 003. The spill was reported as potentially less than 1 quart discharged but PRGS personnel observed less than 1 cup.
- January 22, 2001 – Less than 1 gallon of oil was released into the Potomac River from Outfall 003. The source of the spill was a leaking gasket from the Unit #3 initial pressure regulator in the area of the front turbine standard. The oil was accumulating in the cavity and draining down to a floor drain next to the turbine oil reservoir. Plant personnel cleaned out the front standard cavity, vacuumed out the drain area by the turbine oil reservoir, removed the drain pipe going to the drain funnel, and diverted the flow to a

bucket. The spill was reported to the NRC, and the Alexandria Fire Department and a Hazmat team were sent. Alexandria responders were satisfied that sufficient corrective actions were taken and the amount released was not enough to initiate cleanup actions.

- March 16, 2003 – Less than 5 gallons of light lubricating oil was released to the Potomac River via Outfall 003. The event occurred during the pumping out of a circulating water pipe tunnel when the water level dropped too low and oil was discharged with the water.
- June 10, 2004 –As the result of a failed valve that allowed Number 2 ignition oil to enter an air line, between 10 to 25 gallons of oil were released into the Potomac River through Outfall 003. Oil spilled and accumulated on the floor and entered a floor drain that had been unplugged and drained flow directly to the river. All floor drains were permanently sealed as a result of this incident.
- November 19, 2007 – An oil sheen was reported on the Potomac River. PRGS conducted an investigation of all drains that discharged to the River, but could not determine the source. The sheen was reported to the NRC, the U.S. Coast Guard, and the local fire department. A sample collected at Outfall 004 indicated the presence of oil. The local fire department arrived, and after observing that the sheen was contained inside the plant's boom area, decided no further action was required. Visual observations indicated a subsequent reduction in size of the oil sheen, and an additional sample of Outfall 004 indicated no presence of oil.
- February 19, 2008 – A Baltimore Tank Lines tanker delivering number 2 fuel oil ruptured its 7,500-gallon tanker by running into a metal dumpster on the plant property. A small amount of oil traveled into some of the plant storm drains and a slight sheen was visible in the Potomac River.
- April 3, 2008 – A visible sheen was discovered near Outfall 003 when plant personnel assembled to conduct a Potomac River Shoreline cleanup. PRGS called 911 and facility personnel immediately checked equipment but were unable to locate the source. City responders indicated that it seemed to be mostly pollen, which accounted for the thick yellow substance, and a small amount of oil. The City instructed PRGS to continue to monitor the discharge. Plant personnel placed two booms around Outfall 003 to absorb the oil. The sheen was reported to NRC as a minor event.
- July 15, 2008 – Less than 5 gallons of turbine oil discharged through Outfall 004 and was contained by the Facility's oil boom. Spill contractors captured the oil using absorbent materials. All proper notifications were made and City agencies responded.
- March 20, 2009 – An ash truck was exiting the truck washer on the property when the right wheel ran off the ramp, causing the 120-gallon fuel tank to hit the side of the truck washer and rupture. The entire contents of the fuel tank spilled into the truck washer and onto the ground and flowed in the direction of a parking lot drain that discharges out of the National Pollutant Discharge Elimination System (NPDES) outfall leading to the river. An unknown amount of fuel entered the drain. PRGS employees immediately

responded to the spill to block the drain. They also deployed oil absorbent and containment materials. An assessment of the situation found the employees had contained the spill and prevented any additional oil from entering the drain. The NRC was notified of the spill. Upon investigation of the river, no visible sheen was observed; however, a visible sheen was seen during monitoring later that day. It was determined that a spill response contractor was needed to clean up the spill and provide containment for the fuel that entered the River. The City of Alexandria Fire Department arrived on scene to assist with cleanup efforts and used their boats to deploy absorbent booms in the water to control the spill. The plant's spill contractors arrived on site and suctioned fuel from the original receiving drain and a downstream drain. They also completed the shoreline cleanup, which included deployment of sweep and absorbent pads, as well as suctioning of contaminated rocks.

- January 28, 2010 – A small sheen was observed on the Potomac River adjacent to the water intake pump house structure. Upon inspection of the outfalls, no visible sign of oil contamination was present in the discharge. Initial efforts were taken to contain the sheen using plant resources, but contractor support was necessary to deploy booms and absorbent pads. Plant staff was deployed to investigate all plant areas inside and outside to determine a potential source. No definitive sources of the sheen were identified. The NRC, as well as the City of Alexandria Fire Marshall and the District Department of the Environment (DDOE), was notified. Continued visual monitoring of the area was performed and spill contractors returned to replace absorbent pads and booms as needed to complete the cleanup. After continued monitoring, it was determined the sheen on the river was associated with both Outfall 009 and Outfall 010.
- October 2, 2010 – On October 2, a small sheen was observed on the Potomac River adjacent to the water intake pump house structure. Around the same time, a leak occurred from the #2 Turbine Oil Lube Tank in the plant basement; however, whether the leak was the source of the sheen was undetermined. Upon inspection of the outfalls, no visible sign of oil contamination was present. Initial efforts were taken to contain the sheen using plant resources, but contractor support was necessary to deploy booms and absorbent pads. A cleanup subcontractor was on site October 2–4 to conduct cleanup efforts. The City of Alexandria Fire Department assisted in deploying booms while the contractor was mobilizing. Concurrently, plant staff deployed to investigate the potential source of the sheen inside and outside and conducted dye testing to verify plant drainage. No definitive sources of the sheen were identified. The plant contacted the NRC, as well as the City of Alexandria Fire Marshall and DDOE. Continued visual monitoring of the area was performed and spill contractors returned to replace absorbent pads and booms as needed to complete cleanup.
- January 23, 2011 – On this date, GenOn assisted on a spill from the Pepco substation located adjacent to the Facility. A transformer pipe connection failed in the PEPCO substation and discharged mineral oil, which overwhelmed the containment system and overflowed to a trench drain. The trench drain discharged via Outfall 006 into the

Potomac River. Approximately 4,000 to 5,000 gallons of oil spilled into the Potomac River. PRGS worked with PEPCO to provide assistance as needed in spill response and provided initial notifications to the Alexandria Fire Department and NRC. PEPCO assumed full responsibility for the spill and cleanup associated with the event.

- November 18, 2011 – A small sheen was observed inside the boomed structure on the Potomac River. The NRC, as well as the Alexandria Fire Department and the DDOE, was notified. The source of the sheen was from the Outfall 010 pipe that has been retired for many years. The outfall in question was capped, and the facility has followed DDOE direction on how to clean and retire the pipe in question.
- March 29, 2012 – A normally closed and plugged valve on the retired Outfall 009 pipe was discovered unplugged and in the open position during a routine inspection of the outfall and shoreline. The open valve allowed oil-contaminated water to discharge from the pipe and enter the Potomac River along the shoreline creating a small sheen against the shoreline. Upon discovery, the valve was closed and locked, and a new plug was installed. Internal spill response resources, as well as a spill response contractor, were mobilized. Appropriate agencies were notified. The spill (<1 gallon) was completely remediated by March 31.

SECTION THREE: INVESTIGATIVE METHODS

In response to the July 10, 2013 VDEQ directive, URS conducted site characterization activities at the Site to acquire the information needed to select an appropriate corrective action, if needed. The characterization work included the advancement of soil borings for the purpose of laser-induced fluorescence (LIF) analysis and soil sampling, as well as the installation of monitoring wells to collect groundwater samples for chemical analysis. The details of these characterization activities are discussed in the following sections.

3.1 Basement Soil Borings

On July 19, 2013, two soil borings were advanced in an area of the Facility basement approximately 25 feet to the west of the two heating oil USTs. The soil borings were advanced using a direct push Geoprobe[®] rig by Drill Tech Caribbean, Inc. (DTCI), of Jarrettsville, MD, under the oversight of a URS geologist. Prior to the advancement of the soil borings, a private utility mark-out was conducted in the proposed boring area by Line Locators of Leesburg, VA. Subsequent to the utility mark-out, DTCI excavated each of the two boring locations to five feet below ground surface (bgs) using an air-knife rig. Once the locations had been cleared of utilities, the two soil borings, SB-1 and SB-2, were advanced to depths of 30 and 25 feet bgs, respectively. A URS geologist recorded continuous descriptive logs of the soil encountered. Soil cores were collected using disposable 5-foot-long acetate macrocore liners during the direct push drilling. The geologist also used a photo-ionization detector (PID) to measure volatile organic compound (VOC) concentrations from discrete intervals from the recovered cores. Soil boring logs from the basement soil borings are included in **Appendix A**.

Soil samples were collected at 5-foot intervals from each boring location, for a total of six samples from soil boring SB-1 and five samples from soil boring SB-2. Samples were placed in appropriate glassware, stored on ice, and shipped under chain-of-custody to Test America Laboratories (Test America) of Nashville, TN. The soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (collectively, BTEX), naphthalene, and MTBE by EPA Method 8021B, and TPH-DRO and TPH-GRO by EPA Method 8015B.

Because access to the Facility basement area was being permanently sealed off as a part of the plant decommissioning activities on July 22, 2013, the basement soil boring activities were completed well in advance of the LIF activities of November and December 2013.

3.2 Private Utility Locate

Prior to the commencement of subsequent intrusive investigative activities at the Site, a private utility mark-out was conducted in the areas throughout the extent of the proposed investigation area, on November 14 and 15, 2013 by Line Locators of Leesburg, VA. Using the utility locations provided by the mark-out, as well as information provided by historical drawings, a URS geologist marked out 51 proposed boring locations within the Site.

3.3 LIF Boring Location Survey

The coordinates and elevations of each of the boring locations were later measured by URS surveyors. Utilizing a GPS Total Station system, URS surveyors acquired the latitudinal, longitudinal, and elevation data of all proposed boring locations on November 22, 2013 and December 12, 2013.

3.4 Air Knife Excavation for LIF Survey

Because Pepco maintains a 3-acre active electric switchyard on the Facility property and live electric lines could be encountered in the LIF boring areas, air excavation clearance was needed to identify subsurface utilities in addition to the private utility locate. Following the utility mark-out, Ontario Specialty Contracting, Inc. (OSC) of Buffalo, NY, commenced air-knife excavation of the proposed boring locations on November 18, 2013, under the oversight of a URS geologist. Some of the boring locations were located in paved areas, and it was necessary for OSC to saw-cut and jackhammer through as much as two feet of reinforced concrete or asphalt at some locations. Each boring location was cleared to a depth of five feet bgs in order to verify the absence of subsurface utilities at that location. Following the completion of each air-knife location, each hole was backfilled to grade with excavated material. In addition to the boring locations within the facility, several boring locations were also air-knifed along the bike path in the neighboring NPS property to the east. From November 18 through December 10, 2013 (a total of 15 field days onsite), a total of 59 locations were excavated with air-knife, after which OSC demobilized from the Site.

3.5 LIF Survey

On December 5, 2013, the advancement of direct-push soil borings for LIF analysis commenced within the Site. The soil borings were advanced by Hammer Environmental Services of Wasilla, AK, under the oversight of a URS geologist. The borings were advanced using a direct push Geoprobe® drill rig equipped with LIF technology to collect subsurface LIF data from each of the boring locations. The initial LIF borings were advanced in the locations directly adjacent to the two heating oil USTs, with subsequent borings stepping outward from the UST area and along the known subsurface utilities of the facility to determine the lateral and vertical extent of petroleum impacts at the Site. Generally, LIF borings were advanced to a depth of approximately 5 feet below the water table. Due to subsurface refusal, some borings were terminated before they were able to be advanced to this terminal depth.

At various points throughout the investigation, a VDEQ representative requested that additional boring locations be added to the scope of the investigation. In cases where it was not feasible to clear these points with air-knife equipment, a URS geologist cleared the locations to five feet bgs using a hand auger. From December 5 to 16, 2013, a total of 46 LIF borings were advanced at the Site. **Figure 5** depicts the locations of the 46 LIF borings. **Table 1** presents a summary of the soil borings advanced by Hammer Environmental Services, including the date, total depth, and purpose of each of the borings.

3.6 Soil Sampling

In addition to the LIF borings, five direct-push soil borings were advanced at the Site for the purpose of soil sampling. The borings were advanced by Hammer Environmental Services using a direct push Geoprobe[®] drill rig in boring locations B-14, B-27, B-31, B-34, and B-72. **Figure 6** depicts the locations of the five borings from which soil samples were collected. Each of these soil borings was advanced to a depth of approximately 5 feet below the water table. A URS geologist recorded continuous descriptive logs of the encountered soils using disposable 4-foot-long acetate macrocore liners during the direct push drilling. These boring logs are included in **Appendix A**. The geologist also used a photo-ionization detector (PID) to measure VOC concentrations from discrete intervals from the recovered cores.

Two soil samples were selected for laboratory analysis from each soil boring location, with the exception of boring B-34, from which only one soil sample was collected. Generally, one sample was collected from the interval with the highest photoionization detector (PID) reading, and the second sample was collected from the interface of the water table. The soil samples were placed in appropriate glassware, stored on ice, and shipped under chain-of-custody to Test America of Nashville, TN. The soil samples were analyzed for TPH-DRO using EPA Method 8015B.

3.7 Monitoring Well Installation

A total of 13 monitoring wells were installed at the Site in boreholes created by either LIF boring or soil sampling. The locations of the 13 monitoring wells are displayed in **Figure 7**. Each monitoring well was installed so that its screened interval straddled the water table, with the exception of monitoring wells TW-08S, TW-09S, and TW-12S, which were installed at shallower depths. The screened interval of each monitoring well was constructed of 1-inch inside diameter (ID), 0.0020-inch slot, Schedule 40 polyvinyl chloride (PVC), and the riser portion of each well was constructed of 1-inch ID, Schedule PVC riser pipe. A filter sand pack consisting of Morie No. 2 sand was constructed to approximately 2 feet above the top of the screened interval. A 2-foot bentonite seal was constructed above the sand pack, and the remaining annular space was filled with soil to approximately a foot below the top of the PVC riser. A 5-inch manway was installed and centered on the top of each of the wells installed within NPS property, and the surface was completed with a 1-foot diameter concrete pad. Soil boring logs and monitoring well construction diagrams are included in **Appendix A**.

On January 16, 2014, URS installed an additional monitoring well, TW-14, within the Facility property near Outfall 005. The borehole for the monitoring well was advanced using a hand auger, and the well was constructed of similar materials to the previous 13 wells.

A summary of the monitoring wells constructed during the investigation activities, including the wells' locations, installation dates, and construction specifications, is displayed as **Table 2**.

3.8 Groundwater Gauging and Sampling

URS gauged the Site monitoring wells on December 18, 2013 and January 8, 2014, using an oil/water interface probe capable of measuring fluid levels to an accuracy of ± 0.01 foot. The gauging measurements were documented for groundwater depths and liquid phase hydrocarbon (LPH) thicknesses.

From December 16 through 18, 2013, URS collected groundwater samples from monitoring wells TW-01 through TW-07, TW-10, TW-11 and TW-13. No groundwater samples were collected from monitoring wells TW-08S, TW-09S, and TW-12S because no groundwater was detected in these wells at the time of sampling. An additional groundwater sample was collected from monitoring well TW-14 on January 17, 2014. Each groundwater sample was collected using dedicated, disposable PVC bailers, following the removal of at least three well volumes of groundwater from the monitoring well. Additionally, at the request of the on-Site VDEQ representative, a water sample was collected from a water seep observed in the metal retaining wall along the eastern edge of the bike path, between outfalls 003 and 008. Each sample was collected and placed in appropriate laboratory-supplied bottleware and submitted to Test America in Nashville, TN for analysis. The groundwater samples were analyzed for BTEX, naphthalene, and MTBE by EPA Method 8021B, and TPH-DRO by EPA Method 8015B.

SECTION FOUR: INVESTIGATIVE RESULTS

URS reviewed the results of previous site investigation as well as this additional characterization data to define the physical and chemical characteristics of the subsurface at the site. The following sections present the results of the site investigation.

4.1 Site Geology

The Site is located within the Atlantic Coastal Plain Physiographic Province, which is characterized by sequences of marine and terrestrial sedimentary deposits. The western limit of the province is commonly referred to as the Fall Line, where older crystalline rocks of the Piedmont Province begin to dip beneath the relatively new sediments of the Coastal Plain. In general, the Coastal Plain consists of an eastward-thickening wedge of unconsolidated gravels, sands, silts, and clays that have been deposited upon an eroded crystalline basement rock surface that slopes downward toward the east. Many different depositional environments existed during the formation of the Coastal Plain. Glacially influenced marine transgressions and regressions, periods of erosion and deposition, fluvial processes, and structural deformations have all played a part in the evolution of the Coastal Plain. As a result of these processes, the presence, thickness, and lateral continuity of geologic units are highly variable.

The upper 20 feet of soil encountered during the UST closure activities varied widely in composition in the vicinity of the two heating oil tanks, both between the borings and throughout the boring depths. This soil is most likely fill brought in during the construction of the Facility. The soil contained some coarse pebbles, as well as occasional fragments of concrete or brick that were most likely relics of the Facility's construction. At approximately 20 feet below grade, the soil transitions into various layers of native silty clay interbedded with clayey sand, with less of the coarse material found in the soils above. These sediments are consistent with the types of fluvial deposits found regionally in the Potomac Formation.

Similar fill material was encountered to depths between 15 and 20 feet bgs in soil borings advanced across the site. Native soils observed in these borings suggest the subsurface is characterized primarily by firm clay interbedded with gravel and sandy gravel lenses. At depths below 20 feet bgs, clay becomes less predominant, with soils grading to sand and gravelly sand around 30 feet bgs. Cross sections from the June 2013 submission of the Site Conceptual Model Update, which included known underground structures and utilities, were updated to include subsurface geologic conditions as witnessed during the boring activities, where applicable. The geologic cross sections are shown in **Appendix B**.

4.2 Site Hydrogeology

Based on the 7.5-minute USGS topographic map, the nearest surface water body is the Potomac River. The Potomac River is approximately 180 feet east of the two heating oil USTs, and directly adjacent to several of the monitoring wells installed during the December 2013 investigation activities. Since the Fall Line is located approximately 5 miles northwest of the Site, the elevation of the Potomac River is tidally influenced at the Site's location. A URS

survey of a point along the river's shore measured the elevation of the river to be approximately 2 feet msl. Tidal predictions by the National Oceanic and Atmospheric Administration (NOAA) for the Potomac River show a tidal fluctuation of approximately 3 feet for Alexandria, Virginia, in December 2013.

When the monitoring wells were gauged on January 8, 2014, groundwater elevations ranged from 13.07 feet msl in monitoring well TW-04 to 5.45 feet msl in monitoring well TW-03. Groundwater gauging data from the December 2013 and January 2014 gauging events are presented in **Table 3**. This table also presents the tidal fluctuation data recorded by NOAA for the dates and times of the gauging events. The hydraulic gradient for the January 8, 2013 gauging event is illustrated on **Figure 8**. The data from this gauging event demonstrate that localized groundwater flow in the UST area is to the northeast.

4.3 Basement Soil Boring Sample Results

Soil samples collected from the two soil borings advanced in the Site basement were submitted for laboratory analysis. The results of these analyses are provided in **Table 4**. Of the eleven soil samples submitted for analysis, no samples contained concentrations of BTEX above laboratory detection limits. Five of the samples contained detectable concentrations of naphthalene, with a maximum concentration of 0.24 mg/kg in soil boring SB-2 between 14 and 16 feet bgs, and a minimum concentration of 0.0205 mg/kg in soil boring SB-2 between 9 and 11 feet bgs. TPH-GRO was detected in one soil sample from between 14 and 16 feet bgs in soil boring SB-1, at a concentration of 8.13 mg/kg. TPH-DRO was detected in six soil samples, with a maximum concentration of 193 mg/kg in soil boring SB-2 between 14 and 16 feet bgs, and a minimum concentration of 9.56 mg/kg in soil boring SB-1 between 19 and 21 feet bgs.

A copy of the basement soil sampling laboratory analytical report, including the chain-of-custody for the soil samples, is included in **Appendix C**.

4.4 LIF Survey Results

Based on the results of the LIF survey conducted within the Facility property and the neighboring NPS property from December 5 to 16, 2013, it is possible to define the vertical and lateral extent of a subsurface hydrocarbon plume at the Site, as well as draw relative conclusions as to the nature and mode of transport of the contaminants in the area. The LIF survey generates qualitative data, and used independently, does not definitively detect LPH presence. For this reason, LIF technology was paired with monitoring well installation to delineate LPH throughout the Site. These results are discussed in Section 4.8.

The following sections summarize the findings of the LIF survey. For additional discussion of the survey results, see **Appendix D**, which contains the report of the LIF investigation at the Site provided by Hammer Environmental Services.

4.4.1 Fuel Signature

The waveforms produced by the four different wave channels in the LIF provide a “fuel signature” that can be used to interpret the type of contaminant indicated by elevated LIF readings. LIF responses are reported as percentages of the standard reference solution used to calibrate the signal intensity (%RE). The elevated LIF readings obtained during the investigations indicated a Light-Medium signature, which tends to be consistent with diesel fuels. The individual LIF logs for each boring location and three dimensional results modeling are included in **Appendix D**, and include examples of background and elevated LIF responses in each location.

4.4.2 Facility Property LIF Results

A total of 36 LIF borings were advanced on the Facility property. Of these 36 locations, nine met refusal before reaching the target depth of 36 to 40 feet bgs. Of the 27 borings successfully advanced to depth, LIF fuel-type responses were encountered in 16 locations. The maximum LIF response in the Facility was encountered in boring B-5, located directly to the southwest of the two heating oil USTs, with an intensity of 396%RE. Of the 16 boring locations in which LIF fuel-type responses were encountered, 11 locations yielded LIF responses over 100%RE.

Based on the LIF responses observed within the Facility property, it is possible to define a portion of the lateral extent of the subsurface hydrocarbon plume. The most heavily impacted areas were observed in close proximity to the two heating oil USTs. LIF responses in and around the two heating oil USTs displayed the greatest hydrocarbon detections generally in the 20 to 30 feet bgs range. East of the two heating oil USTs source area, just west of the screen well pump house, LIF response indicated subsurface hydrocarbons in the 25 to 32 feet bgs interval. This area is located along the path of 6 subsurface recirculating water lines that enter the screen well pump house and travel east towards the Potomac River. The recirculating water lines are located higher in elevation than the LIF detection responses. LIF response intensity decreased as the distance between the boring locations and the two heating oil USTs increased. The low LIF response in boring B-23 indicates a lack of subsurface hydrocarbons in the area to the north of the USTs, and the low LIF responses in borings B-33 and B-70 indicate a lack of hydrocarbons in the area to the south. The extent of the plume within the Facility property could not be completely delineated due to the Facility structure to the west and the steep topography to the east.

4.4.3 NPS Property LIF Results

A total of 10 LIF borings were advanced along the bike trail within the NPS property, directly to the east of the Facility and directly to the west of the Potomac River. Although several NPS borings did return elevated LIF responses, the responses in the NPS boring locations were significantly lower than those in the Facility, with no responses that exceeded 100%RE. Elevated LIF responses were observed in several of the LIF borings advanced in the vicinity of outfalls 003, 009, and 010. LIF responses in this area were generally in the 6 to 10 feet bgs range, lower in elevation than the surrounding outfalls.

A model of recorded LIF response intensities overlain on a Site features map that represents both the Facility property and NPS property is represented in **Figure 9**. The LIF survey defined the subsurface hydrocarbon plume to the north and east, but was unable to fully define the plume to the south due to Site terrain. Due to the Facility building just west of the source area, LIF could not be used to delineate in that direction.

4.5 LIF Survey Soil Sample Results

Soil samples were collected from the five soil borings advanced during the LIF investigation activities and were submitted for laboratory analysis. The results of these analyses are provided in **Table 5**. Out of the nine soil samples submitted for analysis, TPH-DRO concentrations were detected in five, with a minimum detection of 10.4 mg/kg in soil boring B-72 between 31 and 32 feet bgs, and a maximum concentration of 2,490 mg/kg in soil boring B-14 between 28 and 29 feet bgs.

Locations and analytical results of the soil samples are depicted in **Figure 10**. The greatest impact was observed in the locations to the north and northeast of the two heating oil USTs. Based on analytical results, the greatest impact to soils vertically was observed between 20 and 29 feet bgs. Field screening confirmed this finding, as PID readings were often elevated within this interval. Chemical analysis of the soil samples collected at the Site is consistent with the results of the LIF survey when compared to both lateral and vertical detections.

A copy of the laboratory analytical reports, including the chain-of-custody for the soil samples, is included in **Appendix E**.

4.6 Groundwater Sample Results

From January 16 through 18, 2013, and on January 17, 2014, groundwater samples were collected and submitted from eleven site monitoring wells for laboratory analysis. The results of these analyses are provided in **Table 6** and are summarized below:

- Benzene concentrations were detected in nine of the monitoring wells sampled, at a maximum concentration of 14.3 µg/L in monitoring well TW-01 and a minimum concentration of 1.09 µg/L in monitoring well TW-06.
- Toluene concentrations were detected in one monitoring well, TW-11, at a concentration of 0.664 µg/L.
- Ethylbenzene concentrations were detected in nine of the monitoring wells sampled, at a maximum concentration of 62.8 µg/L in monitoring well TW-05 and a minimum concentration of 0.969 µg/L in monitoring well TW-07.
- Total xylene concentrations were detected in eight of the monitoring wells sampled, at a maximum concentration of 137 µg/L in monitoring well TW-13 and a minimum concentration of 4.99 µg/L in monitoring well TW-10.

- Total BTEX concentrations were detected in nine of the monitoring wells sampled, at a maximum concentration of 187.56 µg/L in monitoring well TW-13 and a minimum concentration of 3.349 µg/L in monitoring well TW-07.
- Naphthalene concentrations were detected in nine of the monitoring wells sampled, at a maximum concentration of 263 µg/L in monitoring well TW-11 and a minimum concentration of 27.7 µg/L in monitoring well TW-04.
- TPH-DRO concentrations were detected in all 11 of the monitoring wells sampled, at a maximum concentration of 170,000 µg/L in monitoring well TW-11 and a minimum concentration of 351 µg/L in monitoring well TW-03.
- MTBE was detected in four of the monitoring wells sampled, at a maximum concentration of 1.55 µg/L in monitoring well TW-01 and a minimum concentration of 0.536 in monitoring well TW-14.

The locations and analytical results of the groundwater samples are depicted on **Figure 11**. Laterally, the greatest impact was observed in the areas to the east and northeast of the heating oil USTs, directly adjacent to the screen well pump house and along the Potomac River near outfalls 003 and 009.

Chemical analysis of the groundwater samples collected at the site is consistent with the results of the LIF survey results when compared spatially. The dissolved phase hydrocarbon plume is defined to the north and east, but additional characterization is needed to fully define the plume to the south. The location of the Facility building to the west inhibits plume delineation in that direction.

A copy of the laboratory analytical reports, including the chain-of-custody for the groundwater samples, is included in **Appendix E**.

4.7 Water Seep Sample Results

At the request of the on-Site VDEQ representative, a water sample was collected from a water seep observed in the metal retaining wall along the eastern edge of the bike path, between outfalls 003 and 008.

The water sample collected from the water seep in the retaining wall adjacent to the Potomac River (“Wall Seep”) contained detections of benzene (2.09 µg/L), ethylbenzene (µg/L), total xylenes (3.0 µg/L), naphthalene (19.9 µg/L), and TPH-DRO (989 µg/L). The location and analytical results of the water seep sample is depicted on **Figure 11** and a copy of the laboratory analytical report, including the chain-of-custody for the water seep is included in **Appendix E**.

4.8 Liquid Phase Hydrocarbon Monitoring

On December 18, 2013, and January 8, 2014 monitoring wells TW-01 through TW-13 were gauged using an oil/water interface probe for presence of LPH. Monitoring well TW-14 was gauged on January 17, 2014. During the gauging event, LPH was measured in monitoring wells TW-01 and TW-09S, with thicknesses of 0.01 and 0.46 feet, respectively. TW-01 and TW-09S are the closest two monitoring wells to the source area, both located approximately 15 to 25 feet south of the USTs. LPH is fully delineated to the north, east and south of the site, but was not fully delineated to the west due to the presence of the Facility structure.

SECTION FIVE: RISK EVALUATION

URS performed a risk evaluation to assess the potential for contact with contaminants originating from the Site. The methods and results of the evaluation are discussed below.

5.1 Sensitive Receptor Survey

URS acquired data for a sensitive receptor survey from Environmental Data Resources (EDR). The data were acquired to help evaluate the potential risk at the Site. The findings are discussed below.

5.1.1 Surface Water Bodies

Based on the 7.5-minute USGS topographic map, the nearest surface water body is the Potomac River. The Potomac River is located approximately 180 feet east of two heating oil USTs. Based on a review of site topography, and based on the groundwater elevation gathered during the investigation, the Potomac River is located in a hydraulically downgradient direction.

5.1.2 Sensitive Habitats

As discussed above, the Potomac River is located approximately 180 feet east of the two heating oil USTs. A habitat survey has not been conducted to determine if the Potomac River is a sensitive habitat.

5.1.3 Relevant Nearby Structures

The *Environmental Data Resource (EDR) Radius Map with Geocheck* is a database which queries and identifies historic and current relevant nearby structures and potential receptors using known area topographic data. The *EDR Radius Map with Geocheck* was used to determine the location of other Leaking Underground Storage Tank (LUST) sites. The report revealed that there are 10 LUST sites within ½ mile of the Site.

The *EDR Radius Map with Geocheck* identified St. Anthony's Day School located approximately 1,250 feet south of the Site.

5.1.4 Nearby Wells

URS reviewed the *EDR Radius Map with Geocheck* to determine the presence of agricultural, industrial, drinking water, or other wells within 1 mile of the site. Thirteen wells were identified in the USGS database. The wells identified were as follows:

- Well A1; located ¼ to ½ mile from the Site; hydraulically upgradient
- Well A2; located ¼ to ½ mile from the Site; hydraulically upgradient
- Well 3; located ¼ to ½ mile from the Site; hydraulically downgradient
- Well B4; located ½ to 1 mile from the Site; hydraulically upgradient
- Well B5; located ½ to 1 mile from the Site; hydraulically upgradient

- Well B6; located ½ to 1 mile from the Site; hydraulically upgradient
- Well 7; located ½ to 1 mile from the Site; hydraulically upgradient
- Well C8; located ½ to 1 mile from the Site; hydraulically upgradient
- Well C9; located ½ to 1 mile from the Site; hydraulically upgradient
- Well 10; located ½ to 1 mile from the Site; hydraulically downgradient
- Well 11; located ½ to 1 mile from the Site; hydraulically upgradient
- Well D12; located ½ to 1 mile from the Site; hydraulically downgradient
- Well D13; located ½ to 1 mile from the Site; hydraulically downgradient

Though the *EDR Radius Map with Geocheck* lists four of the wells as hydraulically downgradient, groundwater elevation data indicates Site groundwater does not flow towards any vicinity wells.

One well was identified in the Federal Public Water Supply System database. It is named Well 14 in the EDR database and is located ½ to 1 mile from the Site in a hydraulically upgradient direction. According to the EPA's Public Water Supply Database, this well was closed in 1997, therefore can no longer be considered a potential site receptor.

5.2 Transport Medium (Migration/Exposure Routes)

Migration/exposure routes of petroleum-related hydrocarbons in the subsurface are influenced primarily by subsurface conditions including soil types, the velocity and direction of groundwater flow, natural or manmade conduits within and above the groundwater table, and overland/surface flow. Migration routes allow movement of soil gas, groundwater, and LPH (if present). Primary migration routes include groundwater migration, migration around and in subsurface utilities, leaching into the groundwater, and overland flow/flooding.

5.2.1 Groundwater Migration

When the monitoring wells were gauged on January 8, 2014, groundwater elevations ranged from 13.07 feet msl in monitoring well TW-14 to 4.18 feet msl in monitoring well TW-04. Groundwater elevations were contoured to determine the direction of groundwater flow in the area. Based on the January 8, 2014 measurements, groundwater flows northeast at the site. Additional evaluations are necessary to better evaluate the direction of the groundwater flow and monitor for seasonal changes in groundwater elevation to determine exposure pathways and risk.

5.2.2 Migration along Subsurface Utilities

An extensive series of subsurface utilities occupy much of the Site. Results of the environmental investigation indicate that hydrocarbons were detected in the subsurface around both Site recirculating water pipes and outfall piping. There is a possibility that hydrocarbons have migrated through these subsurface utilities. A vapor survey at utility access points such as

manways and junctions may be necessary to determine if there are vapor phase hydrocarbon impacts inside the utilities.

5.2.3 Leaching to Groundwater

The LIF investigation and laboratory analytical results from this and previous investigative activities indicate the presence of petroleum-related compounds in soil at the Site. The petroleum-related compounds have been detected as shallow as 5 feet bgs and as deep as 32 feet bgs. As mentioned previously, the groundwater table has been measured between 2.48 feet and 30.56 feet bgs onsite. Detections of hydrocarbons in site characterization groundwater samples indicate hydrocarbons have been leaching to site groundwater.

5.2.4 Overland Flow/Flooding

Based on the 7.5-minute topographic map of the area, the Potomac River is located topographically downgradient of the Site. Overland flow due to storms and surface drainage would likely flow east, toward the river.

Flooding from the Potomac River is possible along the NPS property, which is located an elevation just above sea level. However, the western portion of the Site is located approximately 35 feet above the river, and is not likely to be inundated during a flood event.

5.3 Current or Potential Exposure Points

5.3.1 Soils

Petroleum-impacted soils have been detected in soil samples collected onsite at depths as shallow as 20 feet bgs within the Facility property and as shallow as 5 feet bgs in the adjacent NPS property. The Facility is covered mostly by concrete and pavement in most areas, but there is some grass cover in the eastern portions of Facility along the fence line. Petroleum-impacted soils have been detected in soil samples collected onsite at depths as shallow as 20 feet bgs within the Facility property and as shallow as 5 feet bgs in the adjacent NPS property. The Facility is covered mostly by concrete and pavement in most areas, but there is some grass cover in the eastern portions of Facility along the fence line. Besides the paved bike trail and vegetative cover, the soil in the NPS property is exposed. Due to a minimum 5 feet depth of petroleum impact to the soils, no current complete direct human contact pathway exists. The direct human contact pathway may become complete in the future if soils are disturbed.

5.3.2 Groundwater

Depths to groundwater have been measured as shallow as 26.40 feet bgs (monitoring well TW-11) in the area of the Facility proximate to the heating oil USTs, and as shallow as 2.48 feet bgs (monitoring well TW-14) in other portions of the Facility. On NPS property, depths to groundwater have been measured as shallow as 5.48 feet bgs (TW-03). Groundwater at the site is not being used and therefore exposure to groundwater onsite via ingestion can be eliminated as a potential concern. As discussed in Section 5.1.4 Nearby Wells, groundwater is being used offsite.

5.3.3 Surface Water

The nearest topographically downgradient surface water body is the Potomac River located approximately 180 feet east of the two heating oil USTs. Due to the close proximity, direction of groundwater flow towards the River, and the potential presence of subsurface preferential pathways, surface water impact is possible.

5.3.4 Contact with Utilities

Extensive subsurface utilities are present at the Site. The depth to these utilities varies from utility type and utility location. Soil gas from impacted soils may migrate in and around the utilities. The Facility building is decommissioned and vacant of workers, so indoor exposure is unlikely at the present time. Depending on the Facility building plans, the possibility exists of coming into contact with vapor phase hydrocarbons in the future.

5.4 Risk Evaluation Summary

The source of the petroleum hydrocarbon release detected in the subsurface is likely associated with the two 25,000 gallon Number 2 heating oil USTs, based on the field observations and laboratory analytical data. The risk evaluation indicates the following:

- An evaluation of the presence of agricultural, industrial, drinking water, or other wells in the vicinity revealed the presence of 14 water wells near the Site. The EDR Report listed four of the wells as hydraulically downgradient. However, it is unlikely that these wells would be impacted by site contaminants because groundwater elevation data indicates localized flow is northeast, towards the Potomac River.
- Direct contact with impacted soil and groundwater by onsite employees and visitors can be eliminated due to the depths to impacted soil and groundwater, and that groundwater monitoring wells are secured and covered. If there is future excavating work, subsurface activities could expose future Site workers to come into contact with impacted soil and groundwater. A future land use restriction on the NRG property could remove this potential pathway. Direct contact cannot be eliminated as a potential pathway on the NPS property due to the absence of property use restrictions. For screening purposes, groundwater chemical concentrations collected on NPS property were compared to the VDEQ Voluntary Remediation Program (VRP) Tier II Screening Levels. VDEQ VRP Tier II Screening Levels are used as an initial screening tool. The Tier II Screening Levels are very conservative concentrations under which it can be assumed that potential risks to receptors are de minimus and measures need not be taken to further assess risks or to abate the contaminants. The below groundwater concentrations exceed the Screening Levels for direct contact at an unrestricted site.

Sample ID	Date	Naphthalene (ug/L)	Benzene (ug/L)
Screening Level (ug/L)		0.14	5
Wall Seep	12/18/2013	19.9	~
TW-04	12/16/2013	27.7	~
TW-05	12/16/2013	240	7.68
TW-06	12/16/2013	174	~
TW-07	12/16/2013	34	~

- The Site’s groundwater flow direction is generally northeast based on groundwater elevation data and the Potomac River is located approximately 180 feet east of the heating oil USTs. Due to the location and direction of groundwater flow, surface water impacts on the Potomac River are a possibility. The DDOE Risk Based Screening Levels (RBSLs) for Groundwater and Surface Water Standards at the Point of Exposure (POE) were used as an initial screening tool to determine whether further risk evaluation or interim measures are warranted at the Site. In a similar manner to the Tier II Screening Levels, the DDOE RSBLs can be used as very conservative concentrations under which it can be stated that no risk to surface water quality is presented by the contaminants in the subsurface. As with Tier II Screening Level exceedances, the DDOE RSBLs do not necessarily equate to unacceptable risks to the receptor. The below groundwater concentrations collected on NPS property exceed DDOE RBSLs at the POE.

Sample ID	Date	Naphthalene (ug/L)	Benzene (ug/L)
RBSL (ug/L)		0.268	5
Wall Seep	12/18/2013	19.9	~
TW-04	12/16/2013	27.7	~
TW-05	12/16/2013	240	7.68
TW-06	12/16/2013	174	~
TW-07	12/16/2013	34	~

SECTION SIX: RECOMMENDATIONS

6.1 Proposed Activities

Based on the results of this investigation, URS proposes the following activities to further investigate and monitor soil and groundwater at and near the Site.

Initial Abatement Measures

- Conduct an engineering evaluation of the feasibility of limited soil excavation on NPS property in the vicinity of soil borings B-60, B-63, B-65 and B-67, removal of closed area outfall pipes (Outfall 003, 009, and 010) from the NPS property, and installation of a permeable reactive carbon barrier at the NRG and NPS property boundary to prevent recontamination of NPS property and groundwater flowing towards the Potomac River. If feasible, then pursue performance of these measures subject to the approval of the VDEQ and NPS.

Monitoring Program

- Install two additional monitoring wells and concurrently collect additional soil samples south of TW-14 to delineate the hydrocarbon plume further in the southern direction of the Site. This southern portion of the Site was inaccessible by drilling and LIF equipment during the investigation, thus not completely delineated in that direction.
- Complete monthly groundwater gauging events on existing Site monitoring wells.
- Complete quarterly groundwater sampling events on site monitoring wells, which will include analysis of BTEX, MTBE, Naphthalene, and TPH-DRO.
- Complete a quarterly utility vapor survey throughout the Site to evaluate the presence of volatile soil gas in site utilities.

SECTION SEVEN: SUMMARY

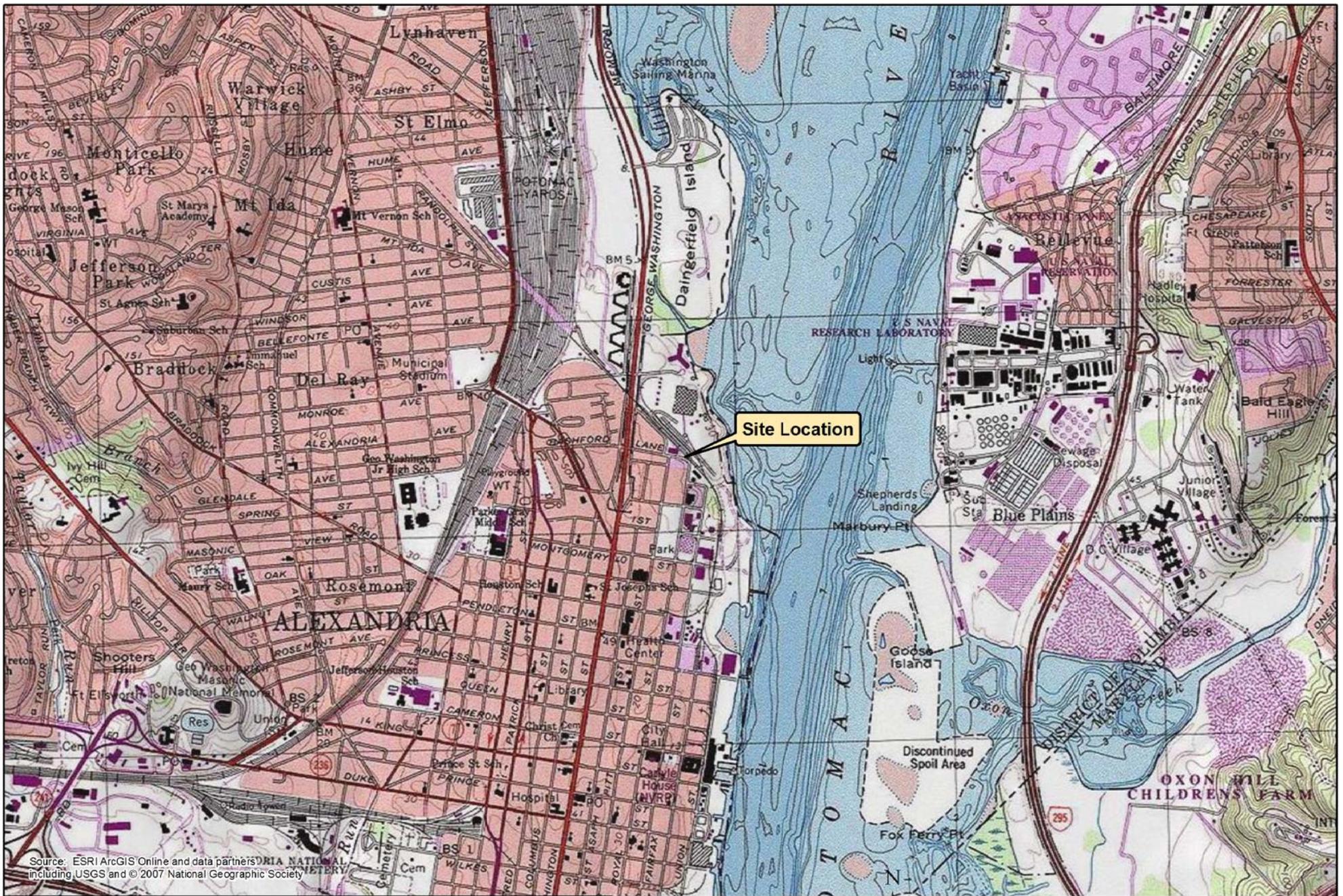
This SCRA was completed to evaluate subsurface impacts at the Site from the former two 25,000 gallon #2 heating oil USTs. URS' findings are summarized below.

- A total of 46 LIF soil borings were advanced at the Site for the purpose of LIF analysis. Borings were generally advanced to approximately five feet below the depth at which groundwater was encountered. Elevated LIF readings were observed in 21 of the borings, with waveforms that were consistent with a diesel-range fuel type. The LIF data gathered during the investigation were used to define the zone of contamination through the Site. The LIF data showed a plume extending from the area of the two heating oil USTs to the northeast towards the Potomac River. The highest LIF responses were observed directly adjacent to the heating oil USTs, with responses decreasing with increasing distance from the UST area.
- Five soil borings (B-14, B-27, B-31, B-34 and B-72) were advanced at the Site for the purpose of soil sampling, in an attempt to better characterize subsurface conditions and aid in the interpretation of the LIF results. Soils samples were collected from each boring location and submitted for laboratory analysis. Each sample was submitted for laboratory analysis of TPH-DRO.
- Based on laboratory analytical results, the highest concentrations of petroleum-related compounds were found in soil borings to the east and northeast two heating oil USTs, in soil borings B-14, B-27, and B-72. None of the soil samples from soil borings B-31 and B-34, located to the southeast of the two heating oil USTs, exhibited concentrations of TPH-DRO above laboratory reporting limits.
- Fourteen monitoring wells (TW-01 through TW-14) were constructed in LIF or soil sampling boreholes. When possible, groundwater samples were collected from each monitoring well and submitted for laboratory analysis. Each sample was submitted for laboratory analysis of BTEX, MTBE, naphthalene, and TPH-DRO.
- Recent laboratory analytical results indicate dissolved-phase compounds in all groundwater samples collected from the Site monitoring wells. Based on reported concentrations, the analytical data indicate the highest groundwater hydrocarbon concentrations in the areas to the east and northeast of the two heating oil USTs.
- LPH was detected in the two Site monitoring wells TW-01 (0.01 feet) and TW-09 (0.46 feet).

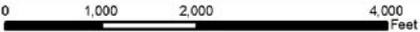
Based on these findings, URS proposes to conduct an engineering evaluation of the feasibility of limited soil excavation on NPS property in the vicinity of soil borings B-60, B-63, B-65 and B-67, removal of closed area outfall pipes (Outfall 003, 009, and 010) from the NPS property, and installation of a permeable reactive barrier at the NRG and NPS property boundary. If feasible, then pursue performance of these measures subject to the approval of the VDEQ and NPS. URS also proposes the installation and sampling of two additional monitoring wells to further

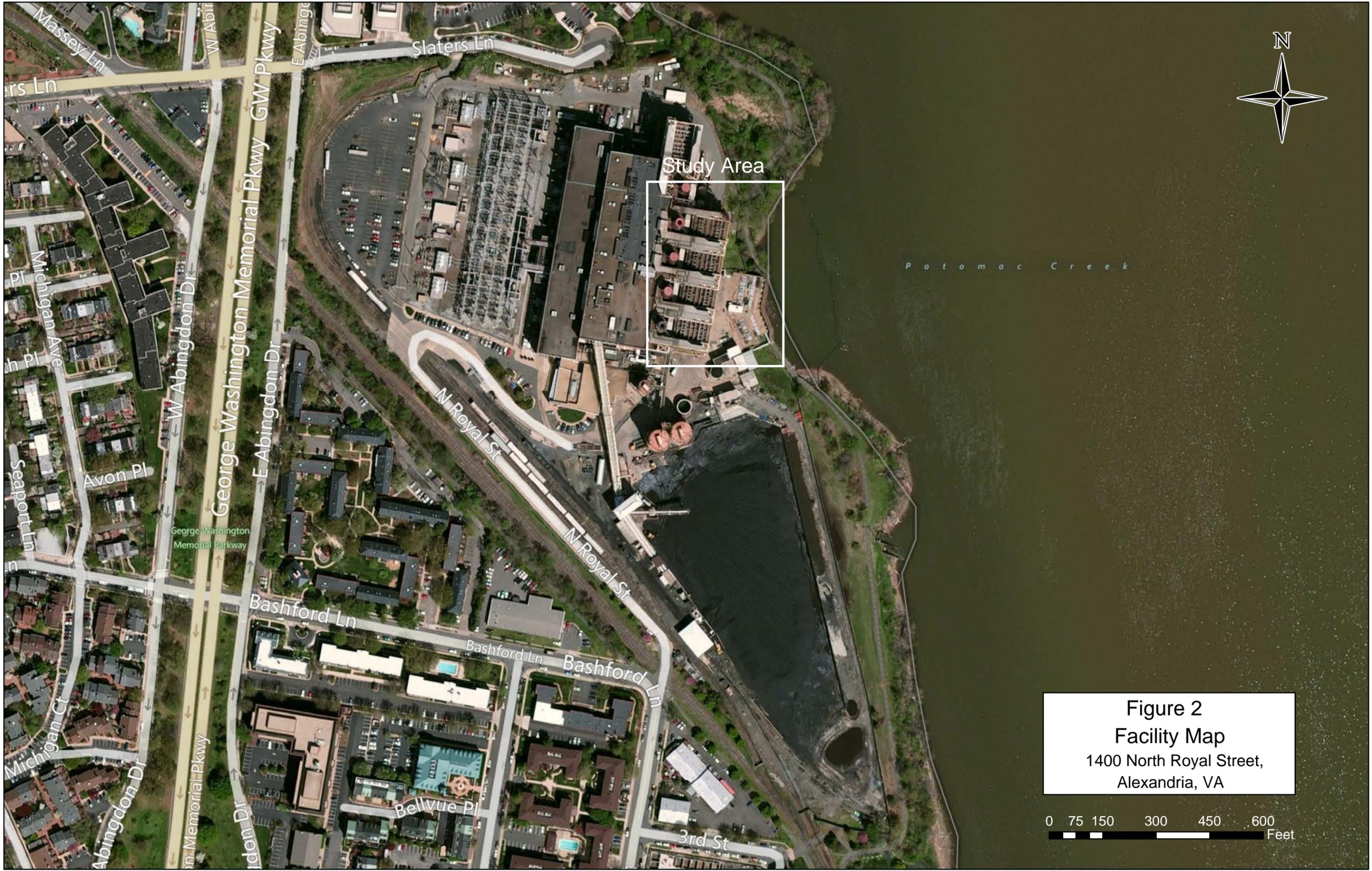
delineate the Site south of monitoring well TW-14, monthly groundwater gauging and quarterly groundwater sampling events of all Site monitoring wells, and a quarterly utility vapor survey throughout the Site.

Figures



Source: ESRI ArcGIS Online and data partners ALEXANDRIA NATIONAL MEMORIAL PARK and DISTRICT, including USGS and © 2007 National Geographic Society

SITE		Potomac River Generating Station				TITLE		USGS Topographic Map		
SCALE	1:24,000						12420 Milestone Center Drive Germantown, MD 20876		Site Address: 1400 North Royal Street, Alexandria, VA	
REVISION NO	0	DES BY	JK	03/21/2013					FIGURE 1	
G:\Projects\Shell\PotomacRGS\MXD\PotomacRGS_SiteLocale.mxd		CHK BY	ES	03/21/2013						

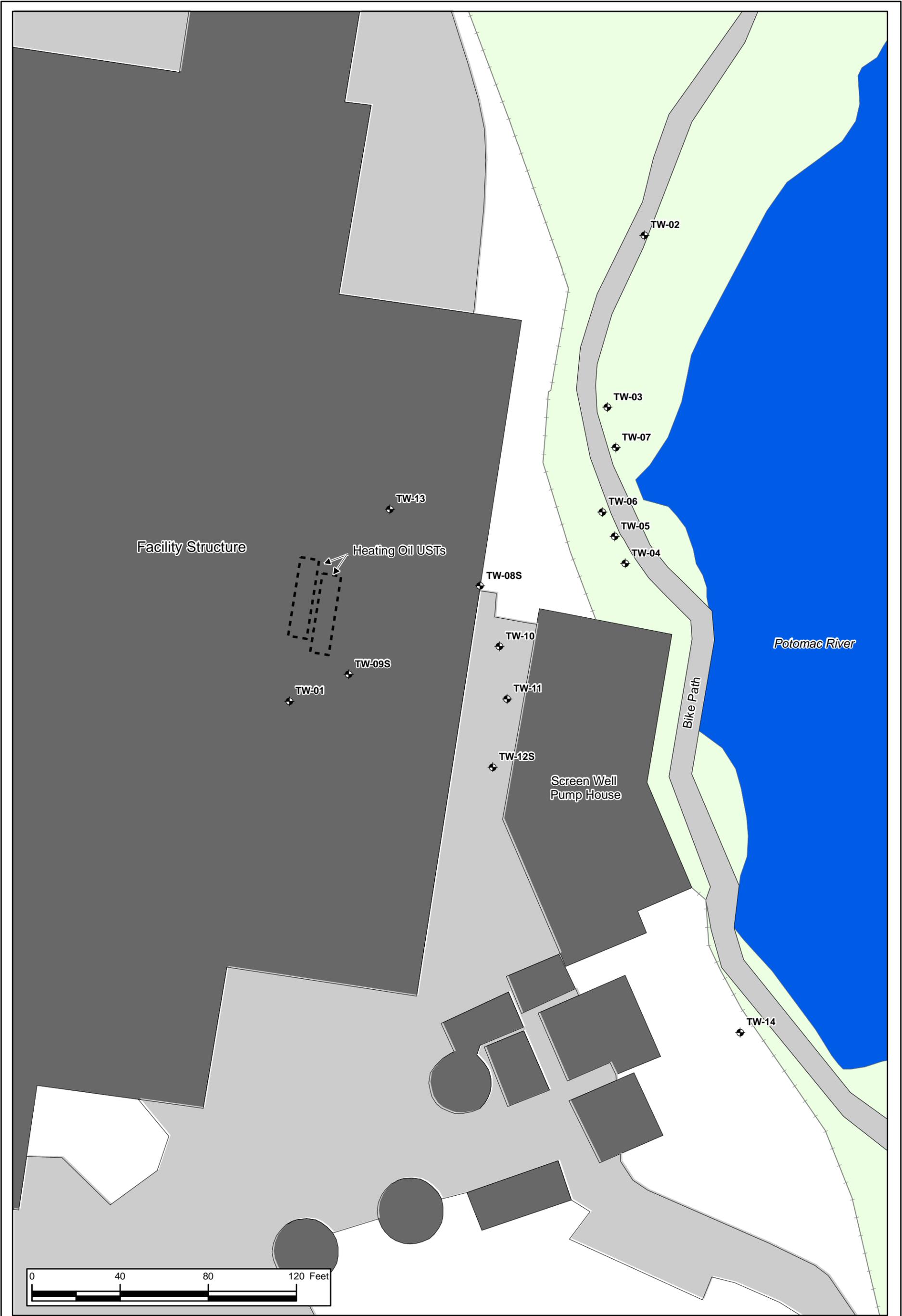


Study Area

P o t o m a c C r e e k

Figure 2
Facility Map
1400 North Royal Street,
Alexandria, VA

0 75 150 300 450 600
Feet



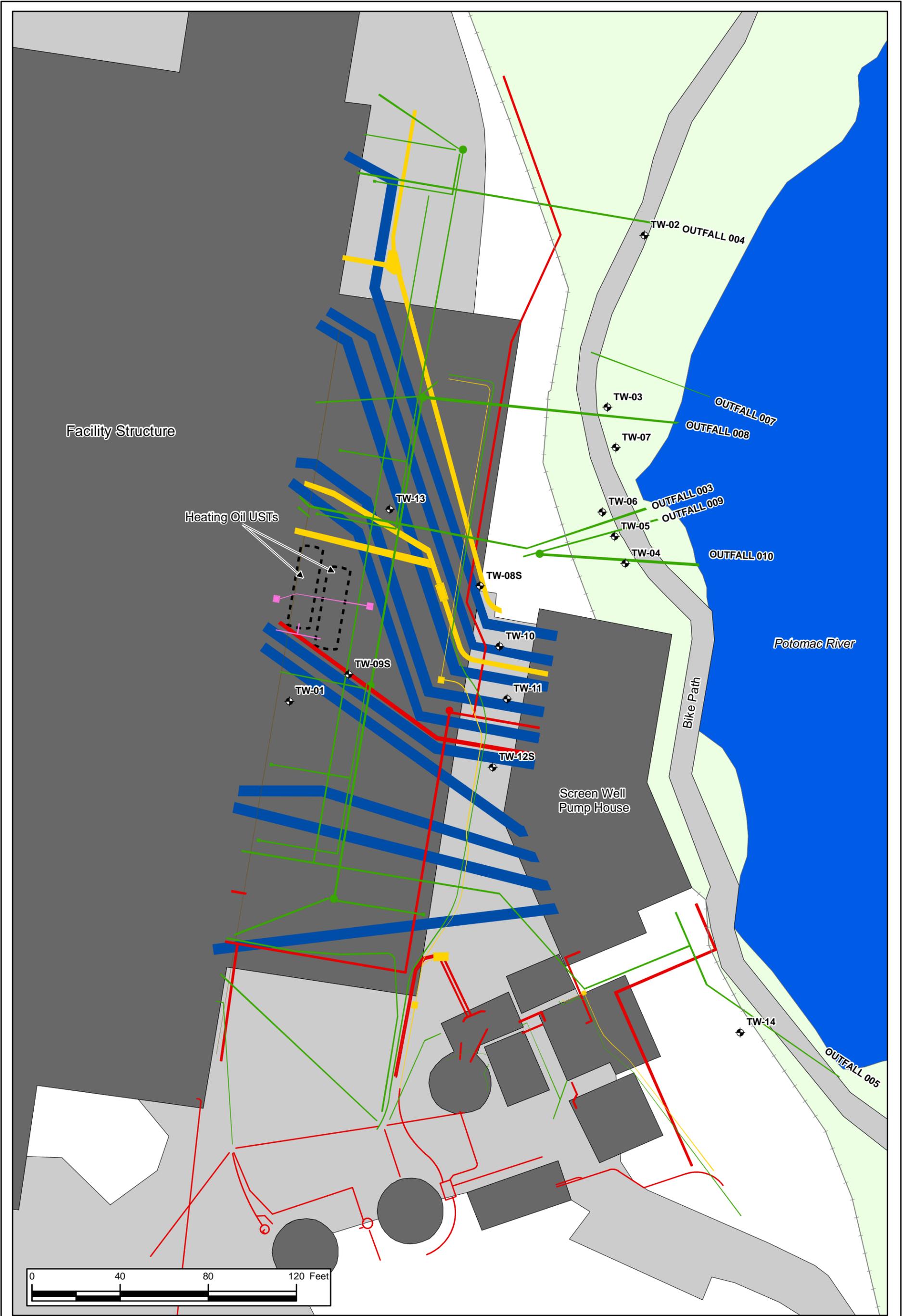
CLIENT	NRG Potomac River LLC		
PROJ	Potomac River Generating Station		
REVISION NO	0	DES BY	AW 02/05/2014
SCALE	1:480	DR BY	xxx 00/00/00
P:\Geophysics\Mirant-Potomac\Nov_2013_Survey\E_Data\GIS\MXDs\Basemap.mxd	CHK BY	xxx	00/00/00



TITLE: Figure 3 Site Map

URS 12420 Milestone Center Drive
Germantown, MD 20876

Monitoring Well	Asphalt/Pavement
UST	NPS Property
Fenceline	River
Facility Structure	



CLIENT	NRG Potomac River LLC		
PROJ	Potomac River Generating Station		
REVISION NO	0	DES BY	AW
			02/07/2014
SCALE	1:480	DR BY	xxx
			00/00/00
P:\Geophysics\Mirant-Potomac\Nov_2013_Survey\E_Data\GIS\MXD\SubsurfaceUtilities.mxd	CHK BY	xxx	00/00/00

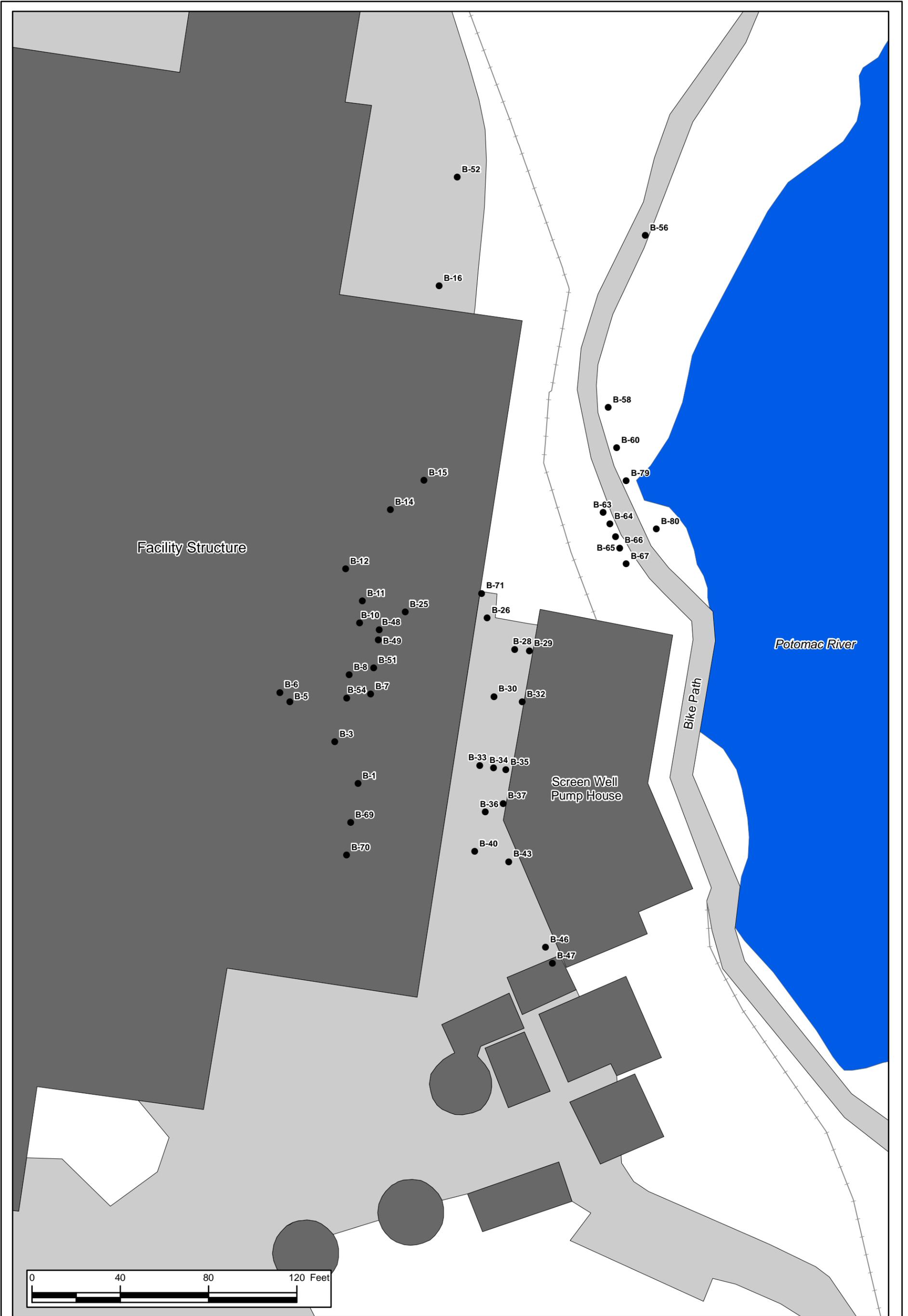


TITLE

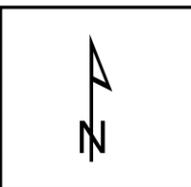
Figure 4 - Utility Location Map

URS 12420 Milestone Center Drive
 Germantown, MD 20876

Monitoring Well	NPS Property	Concrete Duct
Facility Structure	River	Drain
Asphalt/Pavement	Manhole	Air Line
UST	Circulating Water Line (Underground)	Oil Line
Fenceline	Water Line	



CLIENT	NRG Potomac River LLC		
PROJ	Potomac River Generating Station		
REVISION NO	0	DES BY	AW
			01/29/14
SCALE	1:enter scale	DR BY	xxx
			00/00/00
P:\Geophysics\Mirant-Potomac\Nov_2013_Survey\E_Data\GIS\MXDs\Basemap.mxd	CHK BY	xxx	00/00/00

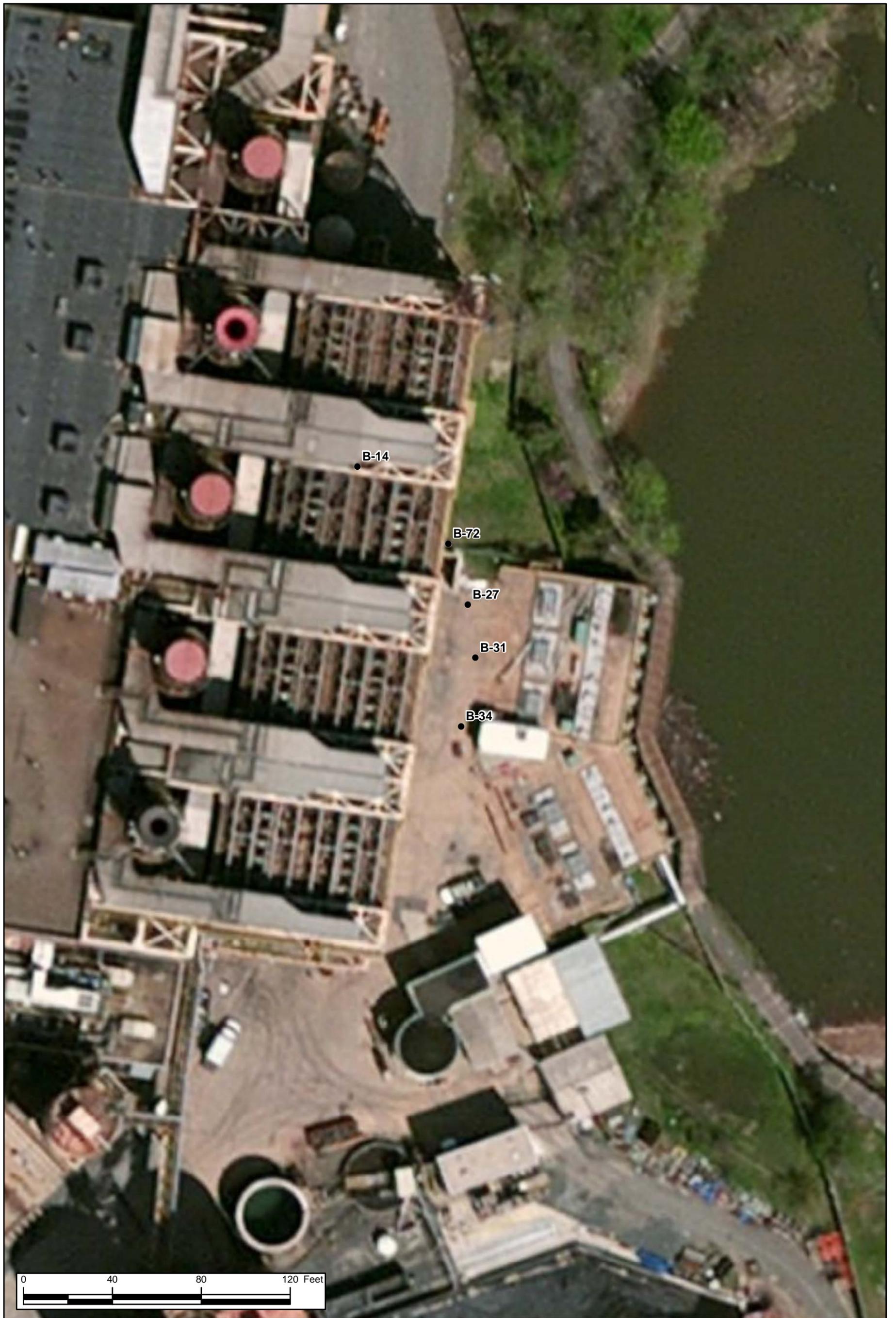


TITLE

Figure 5
Laser Induced Fluorescence (LIF) Locations Map

URS 12420 Milestone Center Drive
Germantown, MD 20876

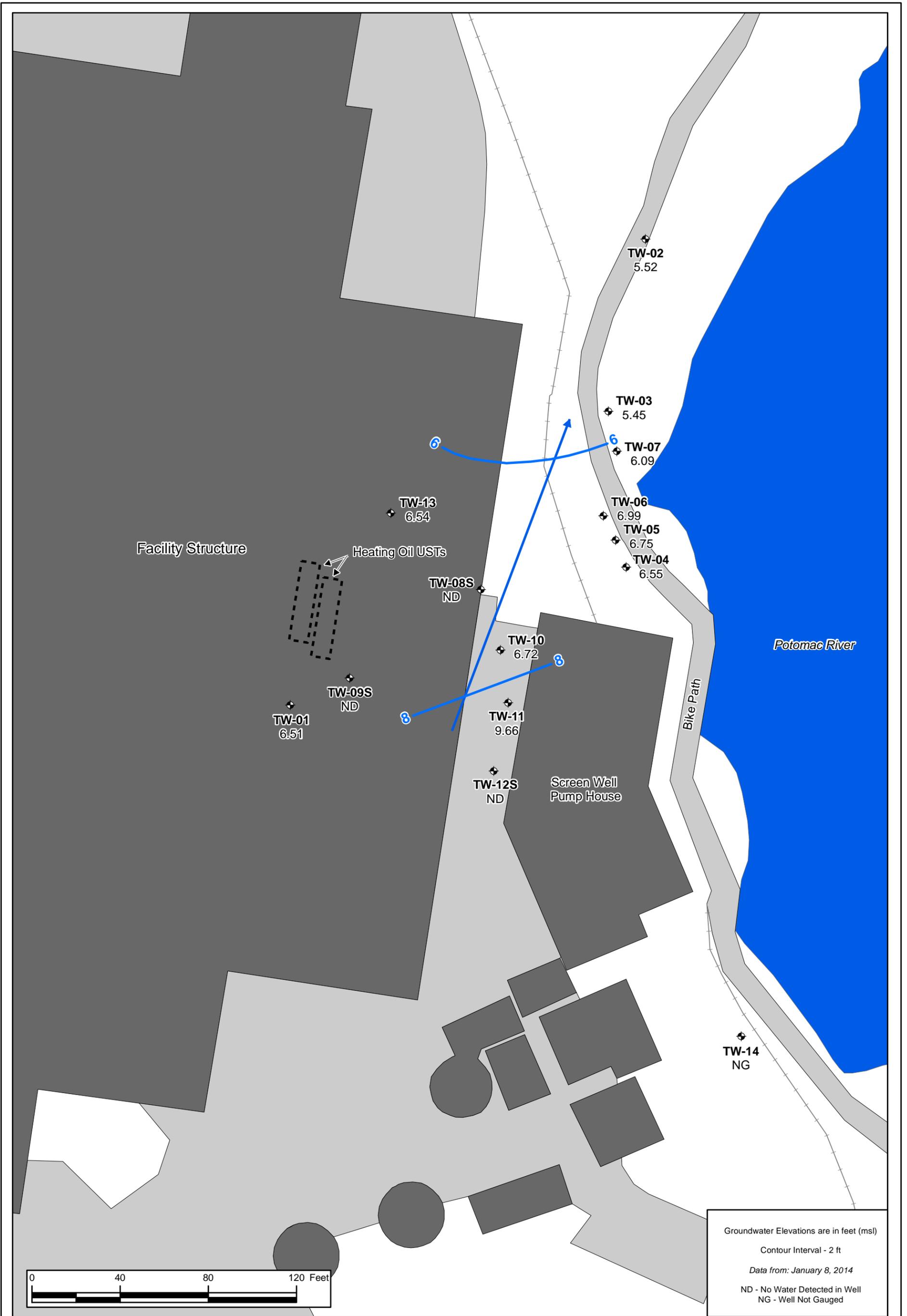
● Soil Boring	■ Facility Structure
— Fenceline	■ Asphalt/Pavement
	■ River



CLIENT		NRG Potomac River LLC				TITLE		Figure 6 Soil Sampling Locations Map		
PROJ		Potomac River Generating Station						PROJ NO		00000000
REVISION NO	0	DES BY	AW	01/29/14				12420 Milestone Center Drive Germantown, MD 20876		FIGURE
SCALE	1:480	DR BY	xxx	00/00/00		P:\Geophysics\Mirant-Potomac\Nov_2013_Survey\E_Data\GIS\MXD\SoilSamplingResults.mxd				
		CHK BY	xxx	00/00/00						



CLIENT				NRG Potomac River LLC					TITLE		Figure 7 Monitoring Well Locations Map	
PROJ				Potomac River Generating Station					UR		PROJ NO 0000000	
REVISION NO	0	DES BY	AW	01/29/14		12420 Milestone Center Drive Germantown, MD 20876			FIGURE		7	
SCALE	1:480	DR BY	xxx	00/00/00								
P:\Geophysics\Mirant-Potomac\Nov_2013_Survey\E_Data\GIS\MXD\GroundwaterSamplingResults.mxd				CHK BY	xxx	00/00/00						



CLIENT NRG Potomac River LLC					TITLE Figure 8 Hydraulic Gradient Map		
PROJ Potomac River Generating Station					 12420 Milestone Center Drive Germantown, MD 20876	Monitoring Well Facility Structure	
REVISION NO	0	DES BY	AW			01/29/14	UST Asphalt/Pavement
SCALE	1:480	DR BY	xxx			00/00/00	Fenceline River
P:\Geophysics\Mirant-Potomac\Nov_2013_Survey\E_Data\GIS\MXD\GWContours.mxd				CHK BY	xxx	00/00/00	

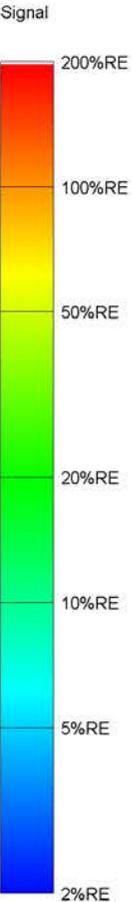
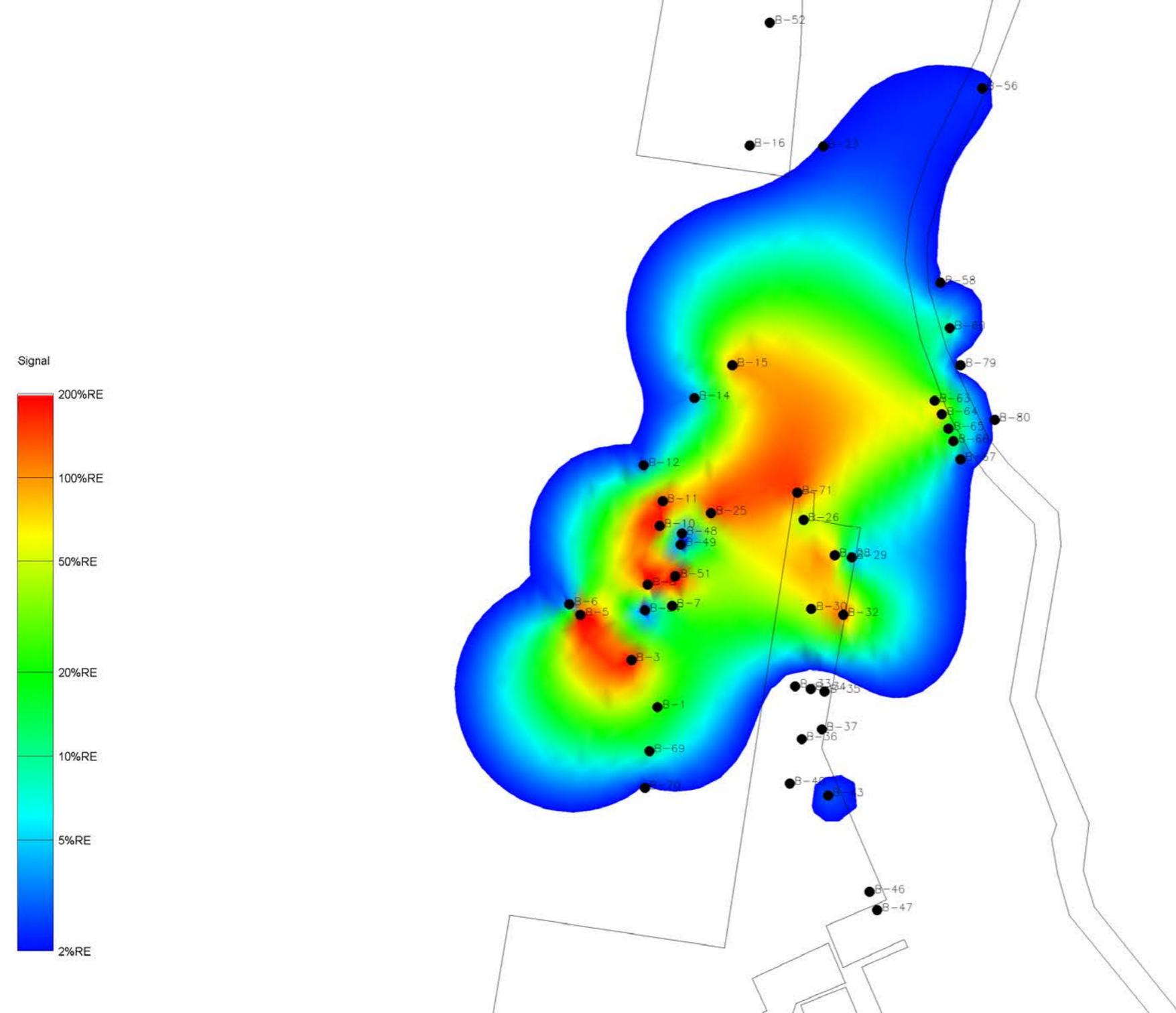
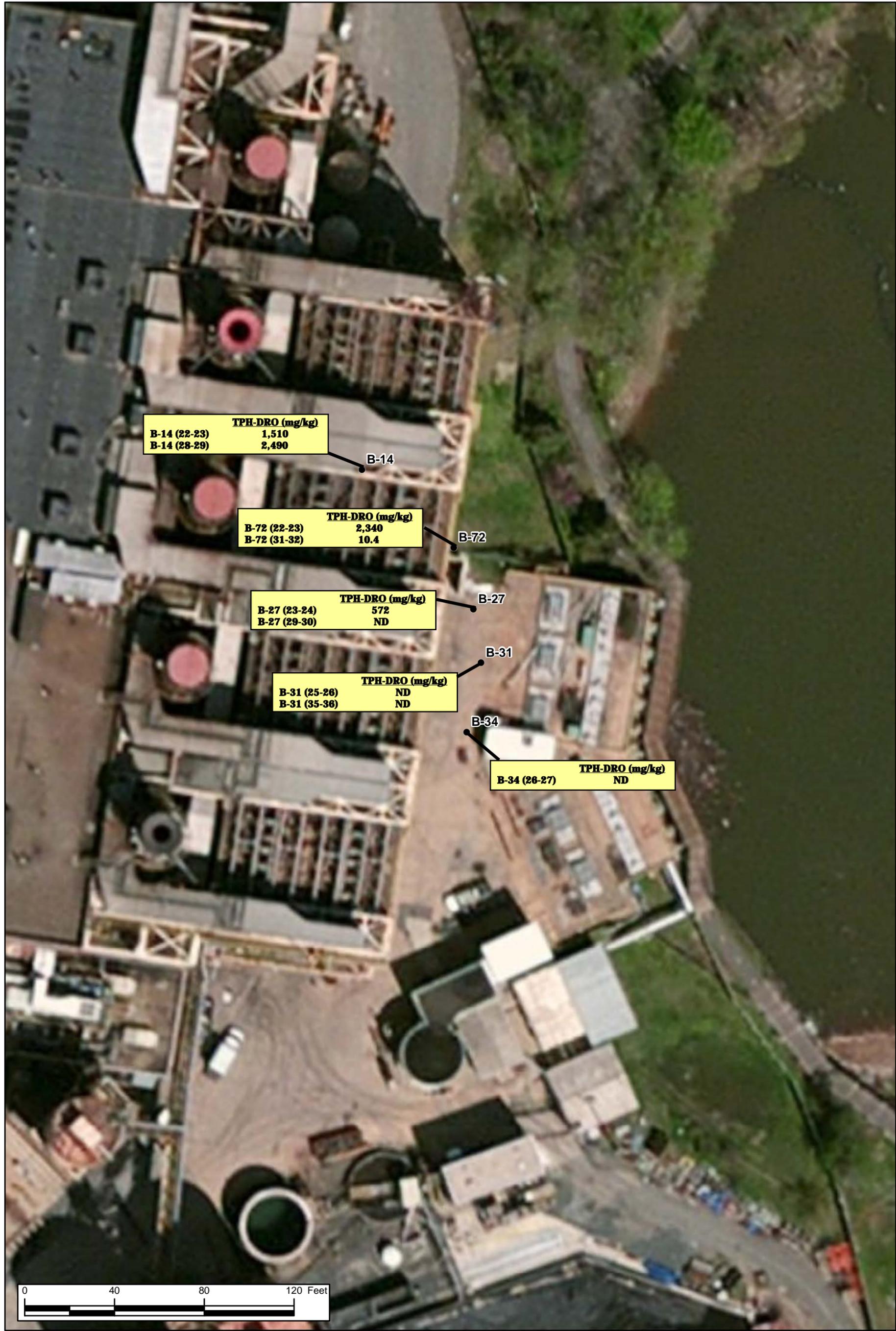


Figure 9
Potomac River Generating Station
1400 N Royal St, Alexandria, VA
LIF Response Intensities



CLIE NRG Potomac River LLC PROJ Potomac River Generating Station					TITLE Figure 10 Soil Analytical Results Map		PROJ NO 0000000
REVISION NO	0	DES BY	AW		01/29/14	12420 Milestone Center Drive Germantown, MD 20876	FIGURE 9
SCALE	1:480	DR BY	xxx		00/00/00		
P:\Geophysics\Mirant-Potomac\Nov_2013_Survey\E_Data\GIS\MXD\SoilSamplingResults.mxd							
		CHK BY	xxx	00/00/00			



CLIENT	NRG Potomac River LLC				TITLE	Figure 11 Groundwater Analytical Results Map	
PROJ	Potomac River Generating Station					12420 Milestone Center Drive Germantown, MD 20876	PROJ NO 00000000
REVISION NO	0	DES BY	AW			01/29/14	FIGURE 10
SCALE	1:480	DR BY	xxx		00/00/00		
P:\Geophysics\Mirant-Potomac\Nov_2013_Survey\E_Data\GIS\MXD\GroundwaterSamplingResults.mxd				CHK BY	xxx	00/00/00	

Tables

Table 1
Boring Summary
Potomac River Generating Station
1400 North Royal St, Alexandria, VA

Boring ID	Date	Total Depth (feet)	LIF	Soil Sample	Well Install
B-01	12/6/2013	36.08	X		
B-03	12/6/2013	34.09	X		
B-05	12/5/2013	34.49	X		X
B-06	12/5/2013	11.73	X		
B-07	12/6/2013	10.85	X		
B-08	12/5/2013	34.05	X		X
B-10	12/5/2013	32.24	X		
B-11	12/6/2013	36.00	X		
B-12	12/6/2013	14.34	X		
B-14	12/6/2013	15.87	X		
B-14	12/18/2013	36.00		X	X
B-15	12/6/2013	22.48	X		
B-16	12/9/2013	36.04	X		
B-23	12/9/2013	36.02	X		
B-25	12/6/2013	36.03	X		
B-26	12/10/2013	36.06	X		
B-27	12/17/2013	36.00		X	X
B-28	12/9/2013	36.03	X		
B-29	12/9/2013	9.52	X		
B-30	12/16/2013	36.01	X		
B-31	12/17/2013	36.00		X	X
B-32	12/10/2013	38.31	X		
B-33	12/10/2013	35.80	X		
B-34	12/10/2013	28.50	X		
B-34	12/17/2013	28.00		X	X
B-35	12/10/2013	13.66	X		
B-36	12/16/2013	36.05	X		
B-37	12/9/2013	36.08	X		
B-40	12/16/2013	36.04	X		
B-43	12/9/2013	36.01	X		
B-46	12/9/2013	33.71	X		
B-47	12/9/2013	8.57	X		
B-48	12/6/2013	3.98	X		
B-49	12/6/2013	4.27	X		
B-51	12/6/2013	40.04	X		
B-52	12/9/2013	36.02	X		
B-54	12/6/2013	10.93	X		
B-56	12/12/2013	30.28	X		X
B-58	12/12/2013	20.10	X		X
B-60	12/13/2013	20.16	X		X
B-63	12/13/2013	20.09	X		X
B-64	12/13/2013	19.87	X		

Table 1
Boring Summary
Potomac River Generating Station
1400 North Royal St, Alexandria, VA

Boring ID	Date	Total Depth (feet)	LIF	Soil Sample	Well Install
B-65	12/13/2013	30.04	X		X
B-66	12/13/2013	30.07	X		
B-67	12/13/2013	30.00	X		X
B-69	12/10/2013	34.70	X		
B-70	12/10/2013	36.02	X		
B-71	12/16/2013	36.03	X		
B-72	12/16/2013	35.50		X	X
B-79	12/13/2013	20.02	X		
B-80	12/13/2013	19.95	X		
	Total Borings	51	46	5	13
	Total Footage	1,425	1,253	172	311

Table 2
Well Summary
Potomac River Generating Station
1400 North Royal St, Alexandria, VA

Well ID	Boring Location	Date Installed	Total Depth	Length Casing	Length Screen
TW-01	B-5	12/12/2013	35	25	10
TW-02	B-56	12/12/2013	24	14	10
TW-03	B-58	12/12/2013	15	5	10
TW-04	B-67	12/13/2013	15	5	10
TW-05	B-65	12/13/2013	10	0	10
TW-06	B-63	12/13/2013	15	5	10
TW-07	B-60	12/13/2013	15	5	10
TW-08S	B-72	12/17/2013	25	15	10
TW-09S	B-8	12/17/2013	25	15	10
TW-10	B-27	12/17/2013	36	26	10
TW-11	B-31	12/17/2013	36	26	10
TW-12S	B-34	12/18/2013	25	15	10
TW-13	B-14	12/18/2013	35	25	10
TW-14	B-73	1/15/2014	5.5	1	5

Table 3
Monitoring Well Groundwater Gauge Results
Potomac River Generating Station
1400 North Royal St, Alexandria, VA

Well ID	Date	River Level* (ft relative to mean)	GW Depth (ft TOC)	GW Elevation (ft msl)	Product Thickness (ft)	Total Well Depth (ft)	Location
TW-01	12/18/2013	-0.1	31.38	6.93	ND	37.25	onsite
TW-02	12/18/2013	-0.1	15.52	5.08	ND	24.05	NPS
TW-03	12/18/2013	-0.1	9.08	5.79	ND	15.40	NPS
TW-04	12/18/2013	-0.1	6.25	7.01	ND	15.10	NPS
TW-05	12/18/2013	-0.1	6.45	7.28	ND	15.15	NPS
TW-06	12/18/2013	-0.1	6.21	7.76	ND	15.16	NPS
TW-07	12/18/2013	-0.1	7.56	6.44	ND	15.24	NPS
TW-08S	12/18/2013	-0.1	DRY	~	ND	25.80	onsite
TW-09S	12/18/2013	-0.1	DRY	~	ND	26.02	onsite
TW-10	12/18/2013	-0.1	30.31	6.97	ND	36.00	onsite
TW-11S	12/18/2013	-0.1	26.40	10.99	ND	36.00	onsite
TW-12	12/18/2013	-0.1	Dry	~	ND	26.53	onsite
TW-13	12/18/2013	-0.1	30.09	6.90	ND	36.40	onsite
TW-01	1/8/2014	+0.5	31.80	6.51	0.01	37.25	onsite
TW-02	1/8/2014	+0.5	15.08	5.52	ND	24.05	NPS
TW-03	1/8/2014	+0.5	9.42	5.45	ND	15.40	NPS
TW-04	1/8/2014	+0.5	6.71	6.55	ND	15.10	NPS
TW-05	1/8/2014	+0.5	6.98	6.75	ND	15.15	NPS
TW-06	1/8/2014	+0.5	6.98	6.99	ND	15.16	NPS
TW-07	1/8/2014	+0.5	7.91	6.09	ND	15.24	NPS
TW-08S	1/8/2014	+0.5	DRY	~	ND	25.80	onsite
TW-09S	1/8/2014	+0.5	DRY	~	0.46	26.02	onsite
TW-10	1/8/2014	+0.5	30.56	6.72	ND	36.00	onsite
TW-11S	1/8/2014	+0.5	27.73	9.66	ND	36.00	onsite
TW-12	1/8/2014	+0.5	DRY	~	ND	26.53	onsite
TW-13	1/8/2014	+0.5	30.45	6.54	ND	36.40	onsite
TW-14	1/17/2014	+2.1	2.48	13.07	ND	5.43	onsite

*Tidal fluctuation data obtained from the National Oceanic and Atmospheric Administration

Table 4
Basement Soil Sample Laboratory Results
Potomac River Generating Station
1400 North Royal St, Alexandria, VA

Sample Name	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)
SB-1 (5-7)	7/19/2013	ND	ND	ND	ND	ND	ND	29.1
SB-1 (9-11)	7/19/2013	ND	ND	ND	ND	ND	ND	ND
SB-1 (14-16)	7/19/2013	ND	ND	ND	ND	0.0901	8.13	41.4
SB-1 (19-21)	7/19/2013	ND	ND	ND	ND	0.0234	ND	9.56
SB-1 (24-26)	7/19/2013	ND	ND	ND	ND	ND	ND	ND
SB-1 (28-30)	7/19/2013	ND	ND	ND	ND	ND	ND	ND
SB-2 (5-7)	7/19/2013	ND	ND	ND	ND	ND	ND	ND
SB-2 (9-11)	7/19/2013	ND	ND	ND	ND	0.0205	ND	80.7
SB-2 (14-16)	7/19/2013	ND	ND	ND	ND	0.24	ND	193
SB-2 (19-21)	7/19/2013	ND	ND	ND	ND	0.0885	ND	12.1
SB-2 (23-25)	7/19/2013	ND	ND	ND	ND	ND	ND	ND

ND = Non-detect

Table 5

Soil Sample Laboratory Results

Sample Name	Date	TPH-DRO (mg/Kg)
B-14 (22-23)	12/18/2013	1,510
B-14 (28-29)	12/18/2013	2,490
B-27 (23-24)	12/17/2013	572
B-27 (29-30)	12/17/2013	ND
B-31 (25-26)	12/17/2013	ND
B-31 (35-36)	12/17/2013	ND
B-34 (26-27)	12/18/2013	ND
B-72 (22-23)	12/17/2013	2,340
B-72 (31-32)	12/17/2013	10.4

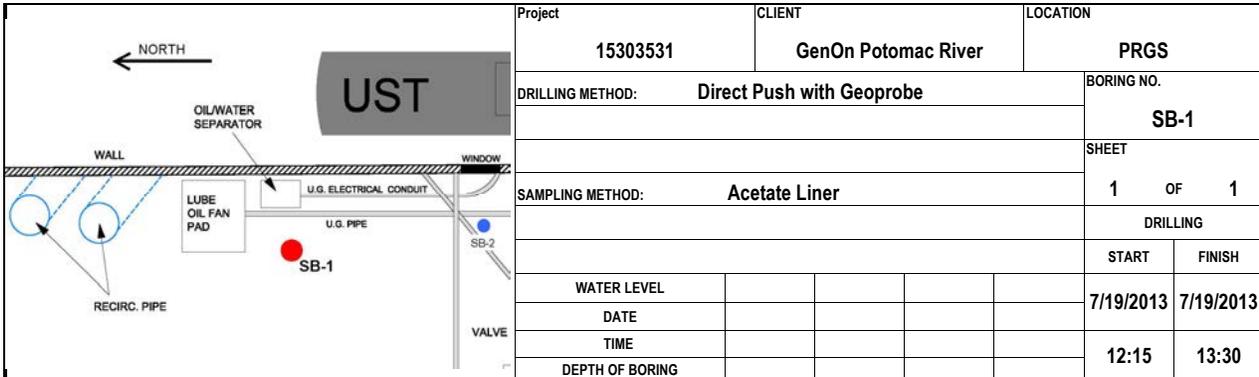
ND = Non-detect

Table 6
Groundwater Sample Laboratory Report
Potomac River Generating Station
1400 North Royal St, Alexandria, VA

Sample Name	Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	BTEX (ug/L)	Naphthalene (ug/L)	TPH-DRO (ug/L)	Methyl tert-butyl ether (ug/L)
TW-01	12/16/2013	14.3	ND	13.1	63.5	90.9	119	14,100	1.55
TW-02	12/16/2013	ND	ND	ND	ND	ND	ND	584	0.791
TW-03	12/16/2013	ND	ND	ND	ND	ND	ND	351	ND
TW-04	12/16/2013	2.2	ND	3.45	7.11	12.76	27.7	2,000	ND
TW-05	12/16/2013	7.68	ND	62.8	40.3	110.78	240	136,000	ND
TW-06	12/16/2013	1.09	ND	20.3	7.86	29.25	174	47,000	ND
TW-07	12/16/2013	2.38	ND	0.969	ND	3.349	34	3,290	ND
TW-10	12/18/2013	2.51	ND	19.7	4.99	27.2	131	3,040	ND
TW-11	12/18/2013	1.55	0.664	8.3	9.67	20.184	263	170,000	0.578
TW-13	12/18/2013	6.06	ND	44.5	137	187.56	239	3,580	ND
TW-14	1/17/2014	ND	ND	ND	ND	ND	ND	2,290	0.536
Wall Seep	12/18/2013	2.09	ND	1.07	3.0	6.16	19.9	989	ND

ND = Non-detect

Appendix A
Soil Boring and Monitoring Well Construction Logs

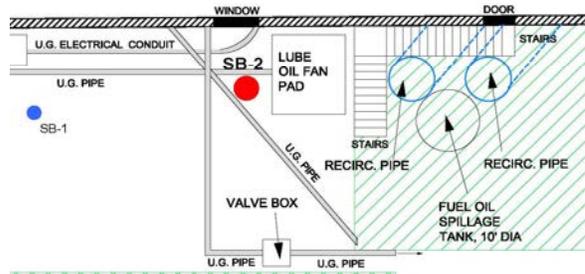


Project	15303531	CLIENT	GenOn Potomac River	LOCATION	PRGS
DRILLING METHOD:	Direct Push with Geoprobe			BORING NO.	
				SB-1	
SAMPLING METHOD:	Acetate Liner			SHEET	
				1 OF 1	
				DRILLING	
				START	FINISH
WATER LEVEL				7/19/2013	7/19/2013
DATE					
TIME				12:15	13:30
DEPTH OF BORING					

SAMPLE TYPE	Inches Driven / Inches Recovered	SAMPLE TIME	SAMPLE NO.	PID (ppm)	DEPTH IN FEET	USCS GROUP SYMBOL	DESCRIPTION
					0		SURFACE CONDITIONS: 8" reinforced concrete
							Notes: PID readings abnormally high, possibly due to equipment malfunction
	60/0				1-4	Airknife	CLEARED BY AIR KNIFE TO 5' BELOW GRADE
				3.2	5	ML	ML - Yellowish red SANDY SILT, well graded, medium loose, moist to dry, some occasional pea-sized gravel
			SB-1 (5-7)	75.7	6	SANDSTONE	SANDSTONE - light brown SANDSTONE, few fines, homogeneous, well sorted
	60/40			10.1	7		
				2.6	8		
				7.6	9	CL	CL - yellowish red SILTY SAND, poorly sorted, medium loose, dry to moist, some rocksalt- to pea-sized clasts
			SB-1 (9-11)	252.2	10		
				59.4	11		
	60/60			592.4	12	SP	SP - yellowish red SAND, fine to medium, poorly graded, little coarse material, medium dense, moist, occasional angular gravel (<1" diameter)
				74.3	13	CH	CH - yellowish red CLAY, well sorted, no coarse material, medium dense, moist, high plasticity, occasional 1" bands with some silt, increasing silt with depth
			SB-1 (14-16)	37.4	14	CL	
				160.8	15	SM	SM - yellowish red SANDY SILT, fine sand, medium dense, moist, occasional pieces of angular gravel (approximately 1" diameter)
				106.7	16		
	60/60			9.5	17	CH/SM	CH/SM - Yellowish red alternating bands of SILT and CLAY, each approximately 2" thick, medium dense (silt slightly looser), little coarse material, moist to very moist, fine sand mixed in with silt
				6.9	18		
			SB-1 (19-21)	9.8	19		
				7.3	20	SM	SM - yellowish red SANDY SILT, fine sand, medium dense, moist, WET AT 20.5'
				15.2	21	CH	CH - yellowish red CLAY, same as from 13'-14.5', but wet
						SM	SM - yellowish red SANDY SILT, same as from 20.5'-21'
	60/60			7.1	22	CH	CH - same as above
						SM	SM - same as above
				5.9	23	CH	CH - same as above
				3.9	24	SP	SP - yellowish red SAND, fine, poorly graded, little coarse material, medium dense, wet
			SB-1 (24-26)	3.6	25	SW	SW - yellowish red SAND, medium to coarse, well graded, medium loose, pea-sized and larger gravel clasts
	60/60			42.8	26		
				6.8	27	GW	GW - yellowish red GRAVELLY SAND, coarsening with depth, few fines. At 29', rounded pebbles up to 1" in diameter, occasional dark bands of organics
				2.2	28		
			SB-1 (28-30)	4.6	29		
					30		BORING TERMINATED AT 30 FEET BELOW GRADE



NORTH ←



Project	15303531	CLIENT	GenOn Potomac River	LOCATION	PRGS
DRILLING METHOD:	Direct Push with Geoprobe			BORING NO.	
				SB-2	
SAMPLING METHOD:	Acetate Liner			SHEET	
				1 OF 1	
				DRILLING	
				START	FINISH
WATER LEVEL				7/19/2013	7/19/2013
DATE					
TIME				14:00	14:45
DEPTH OF BORING					

SAMPLE TYPE	Inches Driven / Inches Recovered	SAMPLE TIME	SAMPLE NO.	PID (ppm)	DEPTH IN FEET	USCS GROUP SYMBOL	DESCRIPTION
					0		
	60/0				1	Airknife	
					2		
					3		
					4		
					5		
			SB-2 (5-7)	31.9	5		
				48.6	6		
	60/42			376.6	7	GW	GW - light brown to brown SANDY GRAVEL, few fines, medium dense, dry to moist, angular sandstone gravel up to 1" in diameter
				19.5	8		
			SB-2 (9-11)	498.4	9		
				69.9	10		
				789.8	11	SW	SW - brown gravelly SAND, some rounded clasts, moist, petroleum odor
	60/60			96.0	12	SP	SP - yellowish brown SAND, medium sized, less gravel than above, very moist
						SW	SW - same as above, but no discernible petroleum odor
				58.7	13	CH	CH - yellowish red CLAY, well sorted, no coarse material, medium dense, high plasticity, moist
			SB-2 (14-16)	26.5	14	SM	SM - yellowish red SANDY SILT, fine sand, medium dense, moist,
				363.7	15	SP	SP - same as SP above, petroleum odor
						CH	CH - same as CH above, no discernible petroleum odor
				390.3	16	SW	SW - yellowish red gravelly sand, fine-medium sand, moist, some dark coloring
	60/60			70.2	17		
				18.4	18	CH	CH - yellowish red CLAY, well sorted, no coarse material, medium dense, high plasticity, moist
			SB-2 (19-21)	108.9	19		
				155.6	20	SM	SM - same as SM above, petroleum odor at 20'
				104.1	21		
	60/30			85.3	22	CH	CH - same as CH above, no discernible petroleum odor
			SB-1 (23-25)	35.2	23		
				289.3	24	SW	SW - yellowish red gravelly sand, fine to medium sand, WET AT 23', no discernible odor, piece of light brown gravel at bottom of boring
					25		BORING TERMINATED AT 25 FEET BELOW GRADE

SURFACE CONDITIONS: 8" reinforced concrete

Notes: PID readings abnormally high, possibly due to equipment malfunction

CLEARED BY AIR KNIFE TO 5' BELOW GRADE

GW - light brown to brown SANDY GRAVEL, few fines, medium dense, dry to moist, angular sandstone gravel up to 1" in diameter

SW - brown gravelly SAND, some rounded clasts, moist, petroleum odor

SP - yellowish brown SAND, medium sized, less gravel than above, very moist

SW - same as above, but no discernible petroleum odor

CH - yellowish red CLAY, well sorted, no coarse material, medium dense, high plasticity, moist

SM - yellowish red SANDY SILT, fine sand, medium dense, moist,

SP - same as SP above, petroleum odor

CH - same as CH above, no discernible petroleum odor

SW - yellowish red gravelly sand, fine-medium sand, moist, some dark coloring

CH - yellowish red CLAY, well sorted, no coarse material, medium dense, high plasticity, moist

SM - same as SM above, petroleum odor at 20'

CH - same as CH above, no discernible petroleum odor

SW - yellowish red gravelly sand, fine to medium sand, WET AT 23', no discernible odor, piece of light brown gravel at bottom of boring

BORING TERMINATED AT 25 FEET BELOW GRADE



Project	15303533	CLIENT	NRG Energy	LOCATION	PRGS
DRILLING METHOD:	Direct Push with Geoprobe			BORING NO.	B-14
SAMPLING METHOD:	4' Acetate Liner			SHEET	1 OF 1
				DRILLING	
WATER LEVEL				START	FINISH
DATE				12/18/2013	12/18/2013
TIME				13:15	14:30
DEPTH OF BORING					

SAMPLE TYPE	Inches Driven / Inches Recovered	SAMPLE TIME	SAMPLE NO.	PID (ppm)	DEPTH IN FEET	USCS GROUP SYMBOL	DESCRIPTION
	60/0				0	Airknife	Cleared by air knife
	132/0				5	Not Sampled	Not sampled - fill material
	48/30				16	CH	Yellowish red GRAVELLY CLAY, well sorted, medium firm to very firm at some points, moist to very moist, pea-sized subangular gravel clasts
	48/40	14:00	B-14 (22-23)		18	GP	Yellowish red SANDY GRAVEL, few fines, medium to coarse sand, fine to medium gravel, moist, medium compact, subangular sandstone clasts, pockets of yellowish brown sand, occasional pebbles
	48/44				20	GP	At 20' below grade, increase in fine sand fraction, dark staining, petroleum odor
	48/48	14:30	B-14 (28-29)		24	SW	Yellowish red GRAVELLY SAND, fine to coarse sand, very moist, medium loose, some dark staining and petroleum odor
	48/42				26	CL	Yellowish red SANDY CLAY, fine sand, well sorted, little coarse material, moist, medium soft, dark staining and petroleum odor at 28' below grade (none above in CL)
					28	CH	Yellowish red CLAY, some fine sand, well sorted, very moist (WET AT 29'), high plasticity
					30	CL	Same as CL above, no apparent staining or petroleum odor
					31	CH	Same as CH above
					32	CL	Same as CL above
					33	CH	Same as CH above
					34	CL	Same as CL above
					35	CH	Same as CH above
					35	CL	Same as CL above
							BORING TERMINATED 36' BELOW GRADE - SET MONITORING WELL TW-13

PID readings not recorded for boring B-14



Project	15303533	CLIENT	NRG Energy	LOCATION	PRGS
DRILLING METHOD:	Direct Push with Geoprobe			BORING NO. B-27	
SAMPLING METHOD:	4' Acetate Liner			SHEET 1 OF 1	
				DRILLING	
WATER LEVEL				START	FINISH
DATE				12/17/2013	12/17/2013
TIME				10:10	12:30
DEPTH OF BORING					

SAMPLE TYPE	Inches Driven / Inches Recovered	SAMPLE TIME	SAMPLE NO.	PID (ppm)	DEPTH IN FEET	USCS GROUP SYMBOL	Notes
	60/0				0	Airknife	
					1		
					2		Cleared by air knife
					3		
					4		
	84/0				5	Not Sampled	
					6		
					7		
					8		Not sampled - fill material
					9		
					10		
					11		
				0.1	12		
	48/16			0.0	13	CL	Yellowish red SILTY CLAY, well graded, some fine sand, medium firm, moist, low plasticity, occasional pebbles up to 1" diameter, occasional dark mottling,, small bands of varying composition throughout including pebbles, coarse sands, and well graded sands
				0.1	14		
				0.2	15		
				0.5	16		
	48/30			0.4	17		
				0.2	18		
				0.2	19		
				0.6	20	CL	Yellowish red SANDY CLAY, well graded, medium soft, moist, medium plasticity, some occaasional coarse sand, increasing sand with depth, dark staining, petroleum odor at 21.5'
	48/48			20.2	21		
				39.4	22	SW	Dark gray SAND, well graded, fine to coarse, some pea-sized gravel, some fines, medium loose, moist, dark staining, petroleum odor
		10:30	B-27 (23-24)	85.7	23	CH	Yellowish red CLAY, poorly graded, moist, high plasticity, less staining and odor than above
				4.3	24	GW	Yellowish red CLAYEY GRAVEL, clay matrix similar to CH above, sandstone clasts
	48/48			2.1	25	CL	Yellowish red GRAVELLY CLAY, medium to coarse sand, well graded, medium soft to 25', very soft 25'+, black staining, petroleum odor, staining and odor increase with depth
				7.4	26	CH	Yellowish red CLAY, well sorted, firm, moist, high plasticity
				7.4	26	ML	Orange CLAYEY SAND, poorly graded, fine sand, moist, low-medium plasticity
				2.2	27	CL	Yellowish red SANDY CLAY, moist, medium soft, moderate plasticity, occasional bands of ML (same as above) less than 1" thick
				1.1	28	CH	Yellowish red CLAY, well sorted, firm, high plasticity, moist, little sand or coarse material
				1.1	28	CL	Yellowish red SANDY CLAY, fine to medium sand, very moist, medium soft, medium plasticity
	48/48	12:00	B-27 (29-30)	0.8	29	CH	Same as CH above
				0.7	30	CL	Same as CL above, some black mottling, possibly staining, very moist, wet at 31'
				0.0	31	SC	Yellowish red CLAYEY SAND, wet, medium loose, black and orange mottling
				0.6	32	CL	Same as CL above, but medium firm
				0.6	32	SC	Same as SC above, black staining
	48/48			0.5	33	CL	Yellowish red SANDY CLAY, fine to medium sand, medium soft (firmer 34.5'-35'), dark staining 33'-33.5'
				0.6	34		
				0.4	35	CH	Same as CH above
				0.4	35	SP	Brownish tan SAND, fine to medium, loose, wet, black staining increasing with depth
					36	BORING TERMINATED 36' BELOW GRADE - SET MONITORING WELL TW-10	



Project	15303533	CLIENT	NRG Energy	LOCATION	PRGS
DRILLING METHOD:	Direct Push with Geoprobe			BORING NO.	B-31
SAMPLING METHOD:	4' Acetate Liner			SHEET	1 OF 1
				DRILLING	
WATER LEVEL				START	FINISH
DATE				12/17/2013	12/17/2013
TIME				13:05	15:00
DEPTH OF BORING					

SAMPLE TYPE	Inches Driven / Inches Recovered	SAMPLE TIME	SAMPLE NO.	PLD (ppm)	DEPTH IN FEET	USCS GROUP SYMBOL	Notes
					0		
	60/0				1	Airknife	
					2		Cleared by air knife
					3		
					4		
					5		
					6		
					7		
					8		
					9		
	132/0				10	Not Sampled	
					11		
					12		
					13		
					14		
					15		
					16		
					17		
	48/12			0.3	18		
					19		
					20	CL	Yellowish red GRAVELLY CLAY, well graded, fine to coarse sand, fine to coarse gravel, moist, moderate plasticity, occasional dark mottling, occasional grey mottling, red varves that increase at 22', subangular to subrounded clasts, poor recovery in sampling liner
				0.3	21		
				0.2	22		
	48/20			0.2	23		
				0.2	24		
				0.3	25	GC	Yellowish brown CLAYEY GRAVEL, fine to medium sand, medium loose, moist, black staining at top, petroleum odor , subrounded gravel clasts up to 1" diameter
	48/24	13:30	B-31 (25-26)	18.5	26	CL	Yellowish brown SANDY CLAY, some marble-sized subrounded gravel clasts, very moist, orange mottling, some dark grey coloration (possibly staining)
				10.3	27		
				2.1	28		
					29		
					30	CH	Yellowish brown CLAY, some fine to medium sand and gravel, soft, very moist, high plasticity, some orange mottling, occasional grey varves
	48/2			1.3	31		
					32		
				4.1	33	SC	Yellowish brown CLAYEY SAND, fine sand, little coarse material, medium loose, WET, dark staining beginning at 33.75'
				0.6	34	CL	Yellowish brown SANDY CLAY, fine sand, medium soft, wet, patches of dark staining
	48/48			0.5	35	SC	Same as SC above, black staining increases with depth
		14:50	B-31 (35-36)	0.0	35	GC	Dark brown GRAVEL-SAND-CLAY MIX, subrounded to subangular clasts up to 1" diameter, medium dense, wet, tan mottling, dark staining
					36		BORING TERMINATED 36' BELOW GRADE - SET MONITORING WELL TW-11



Project	15303533	CLIENT	NRG Energy	LOCATION	PRGS
DRILLING METHOD:	Direct Push with Geoprobe			BORING NO.	
				B-34	
SAMPLING METHOD:	4' Acetate Liner			SHEET	
				1 OF 1	
				DRILLING	
				START	FINISH
WATER LEVEL				12/17/2013	12/18/2013
DATE					
TIME				15:15	12:45
DEPTH OF BORING					

SAMPLE TYPE	Inches Driven / Inches Recovered	SAMPLE TIME	SAMPLE NO.	PID (ppm)	DEPTH IN FEET	USCS GROUP SYMBOL	Notes
	60/0				0	Airknife	Cleared by air knife to 5' below grade
					1		
					2		
					3		
					4		
	132/0				5	Not sampled	Not sampled - fill material
					6		
					7		
					8		
					9		
					10		
					11		
					12		
					13		
					14		
					15		
				0.0	16	GC	Dark brown CLAYEY GRAVEL, fine sand, well graded, moist, compact, angular clasts, piece of coal at 16.3'
	48/40			0.0	17	CL	Yellowish red SANDY CLAY, fine sand, moist, soft, medium plasticity, some occasional fine gravel
				0.0	18	CL	
				0.0	19	CH	Gray-brown GRAVELLY CLAY, some fine sand, fine subrounded gravel, moist, medium firm, high plasticity, some dark staining
				0.2	20	CL	Same as CL above, with occasional dark coloring (possibly staining)
	48/46			0.1	21	CL	
				0.0	22	SC	Yellowish red CLAYEY SAND, fine gravel, fine-medium sand, moist, medium loose, black varves
				0.0	23	CL	Same as CL above, coal fragment at 23.5'
				0.2	24	CH	Same as CH above, no apparent staining
				0.0	25	CH	
	48/36			0.0	26	SC	Yellowish red CLAYEY SAND, well graded, fine sand to marble-sized gravel, moist, medium loose, subangular to subrounded clasts, black varves
		13:00	B-34 (26-27)	0.2	26	CL	Yellowish red SANDY CLAY, high sand fraction, very moist, low to medium plasticity
					27	CONC	Concrete
					28		REFUSAL AT 28' BELOW GRADE, BORING TERMINATED - SET MONITORING WELL TW-12

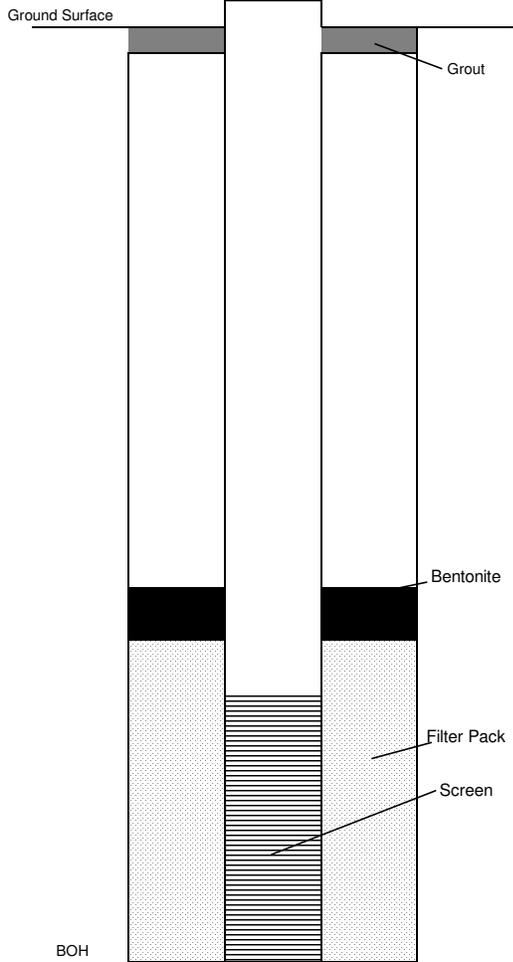


Project	15303533	CLIENT	NRG Energy	LOCATION	PRGS
DRILLING METHOD:	Direct Push with Geoprobe			BORING NO. B-72	
SAMPLING METHOD:	4' Acetate Liner			SHEET 1 OF 1	
				DRILLING	
WATER LEVEL				START	FINISH
DATE				12/16/2013	12/17/2013
TIME				14:45	9:30
DEPTH OF BORING					

SAMPLE TYPE	Inches Driven / Inches Recovered	SAMPLE TIME	SAMPLE NO.	PID (ppm)	DEPTH IN FEET	USCS GROUP SYMBOL	Notes:
							SURFACE CONDITIONS: Grass
							Notes:
	60/0				0	Airknife	
					1		
					2		Cleared by air knife
					3		
					4		
	84/0				5	Not Sampled	
					6		
					7		
					8		Not sampled - fill material
					9		
					10		
					11		
	48/41			0.0	12		
				0.0	13		
				278.1	14	CL	Yellowish red SANDY CLAY, fine to medium sand, medium soft, moist, low to medium plasticity, some occasional gravel, gravel increases with depth, piece of wood at 14.5' stained black with petroleum odor
				3.8	15		
				2.0	16		
	48/48			1.2	17	MH	Orangish brown CLAYEY SILT, some fine sand, little coarse material, very firm, moist
				0.9	18		
				0.7	19	GW	Brownish yellow SANDY GRAVEL, well graded, fine to coarse sand, few fines, moist, angular sandstone gravel clasts, coarseness increases with depth, sand decreases with depth
				0.8	20		
	48/44			142.8	21	SP	Black (stained) SAND, well sorted, medium size, dark staining, petroleum odor
		9:50	B-72 (22-23)	156.9	22	GW	Same as GW above, with some dark staining
				10.5	23	SW	Dark grey (stained) SAND, well graded, some pea-sized angular gravel, medium loose, moist, dark staining, petroleum odor
				7.0	24	SP	Orange SAND, well sorted, some pea-sized clasts, medium loose, moist, minimal staining
	48/48			4.3	25	CL	Brownish orange CLAY, well sorted, few coarse materials, medium firm, moist, low plasticity, no apparent staining, petroleum odor
				3.7	26		
				0.2	27	SP	Orange-brown SAND, medium sized, well sorted, v. moist, dark staining, petroleum odor
					27	CL	Same as CL above
				0.0	28	SP	Yellowish red SAND, well sorted, fine to medium, medium loose, very moist
	48/48			0.0	29	CL	Yellowish red SANDY CLAY, well sorted, little coarse material, medium soft, very moist
				0.2	30	SP	Yellowish red sand, fine-medium, poorly graded, little coarse material or fines, very moist
					30	CL	Same as CL above, very moist
		9:55	B-72 (31-32)	0.5	31	SC	Yellowish red CLAYEY SAND, fine to medium sand, some small rounded pebbles, medium soft, very moist
				0.0	32		
	36/36			0.0	33	SP	Same as SP above
					33	SW	SW - yellowish red GRAVELLY SAND, fine-coarse sand, pea-sized gravel, few fines
				0.4	34	SP	Same as SP above
					34	SW	SW- same as SW above, dark staining at 35'-35.5'
					35		
BORING TERMINATED 35.5' BELOW GRADE - SET MONITORING WELL TW-08							

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-01	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/12/13	INSPECTOR:	DEPTH TO GROUNDWATER: 29.13



TOP OF RISER PIPE TO GROUND SURFACE: 29.52 inches

TYPE OF SURFACE SEAL: Portland cement
 DEPTH OF SEAL: 1.00 feet

I.D. OF SURFACE CASING: NA
 TYPE OF SURFACE CASING: None

I.D. OF RISER PIPE: 1.00 inches
 TYPE OF RISER PIPE: PVC

TYPE OF GROUT: None

DEPTH TO TOP OF SEAL: 21.00 feet
 TYPE OF SEAL: Bentonite Pellet

DEPTH TO TOP OF FILTER PACK: 23.00 feet
 TYPE OF FILTER PACK: #2 Filter Sand

DEPTH TO TOP OF SCREEN: 25.00 feet
 TYPE OF SCREEN: PVC
 SLOT SIZE AND LENGTH: 0.0100
 I.D. OF SCREEN: 1.00 inches

DEPTH TO BOTTOM OF SCREEN: 35.00 feet
 BOREHOLE DIAMETER: 3.00 inches

BOTTOM OF HOLE: 35.00 feet

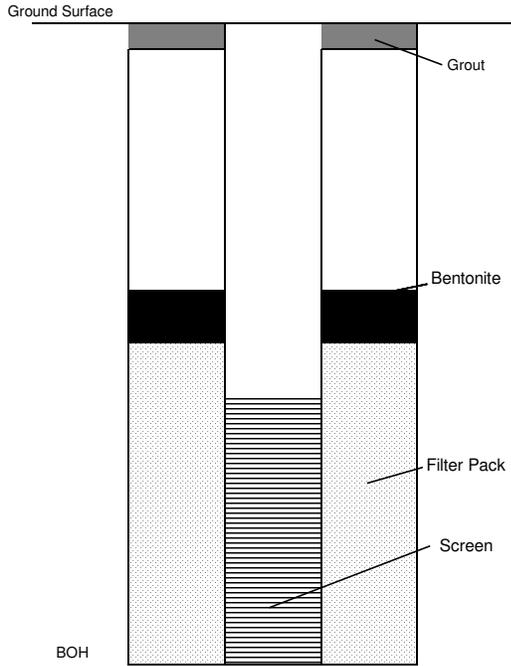
WELL DATA COLLECTED ON 12/12/13

DEPTH TO WATER (TOC PVC): 31.59 feet
 DEPTH TO WELL BOTTOM (TOC PVC): 35.00 feet
 WATER COLUMN: 3.41 feet

PROJECT: PC 2013-3154, UVOST Survey	HOLE NO.: TW-01
--	---------------------------

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-02	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/12/13	INSPECTOR:	DEPTH TO GROUNDWATER: 15.46

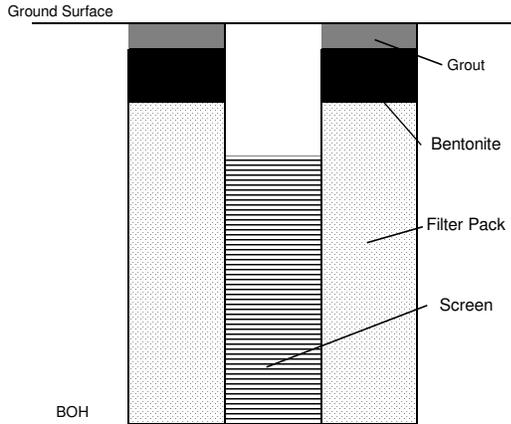


TOP OF RISER PIPE TO GROUND SURFACE:	<u>2.00</u> inches
TYPE OF SURFACE SEAL:	Portland cement
DEPTH OF SEAL:	<u>1.00</u> feet
I.D. OF SURFACE CASING:	<u>5.00</u> inches
TYPE OF SURFACE CASING:	<u>Steel</u>
I.D. OF RISER PIPE:	<u>1.00</u> inches
TYPE OF RISER PIPE:	<u>PVC</u>
TYPE OF GROUT:	<u>None</u>
DEPTH TO TOP OF SEAL:	<u>10.00</u> feet
TYPE OF SEAL:	<u>Bentonite Pellet</u>
DEPTH TO TOP OF FILTER PACK:	<u>12.00</u> feet
TYPE OF FILTER PACK:	<u>#2 Filter Sand</u>
DEPTH TO TOP OF SCREEN:	<u>14.00</u> feet
TYPE OF SCREEN:	<u>PVC</u>
SLOT SIZE AND LENGTH:	<u>0.0100</u>
I.D. OF SCREEN:	<u>1.00</u> inches
DEPTH TO BOTTOM OF SCREEN:	<u>24.00</u> feet
BOREHOLE DIAMETER:	<u>3.00</u> inches
BOTTOM OF HOLE:	<u>24.00</u> feet
WELL DATA COLLECTED ON 12/12/13	
DEPTH TO WATER (TOC PVC):	<u>15.46</u> feet
DEPTH TO WELL BOTTOM (TOC PVC):	<u>24.00</u> feet
WATER COLUMN	<u>8.54</u> feet

PROJECT: PC 2013-3154, UVOST Survey	HOLE NO.: TW-02
--	---------------------------

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-03	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/12/13	INSPECTOR:	DEPTH TO GROUNDWATER: 8.29



TOP OF RISER PIPE TO GROUND SURFACE: 2.00 inches

TYPE OF SURFACE SEAL: Portland cement
 DEPTH OF SEAL: 1.00 feet

I.D. OF SURFACE CASING: 5.00 inches
 TYPE OF SURFACE CASING: Steel

I.D. OF RISER PIPE: 1.00 inches
 TYPE OF RISER PIPE: PVC

TYPE OF GROUT: None

DEPTH TO TOP OF SEAL: 2.00 feet
 TYPE OF SEAL: Bentonite Pellet

DEPTH TO TOP OF FILTER PACK: 12.00 feet
 TYPE OF FILTER PACK: #2 Filter Sand

DEPTH TO TOP OF SCREEN: 5.00 feet
 TYPE OF SCREEN: PVC
 SLOT SIZE AND LENGTH: 0.0100
 I.D. OF SCREEN: 1.00 inches

DEPTH TO BOTTOM OF SCREEN: 15.00 feet
 BOREHOLE DIAMETER: 3.00 inches

BOTTOM OF HOLE: 15.00 feet

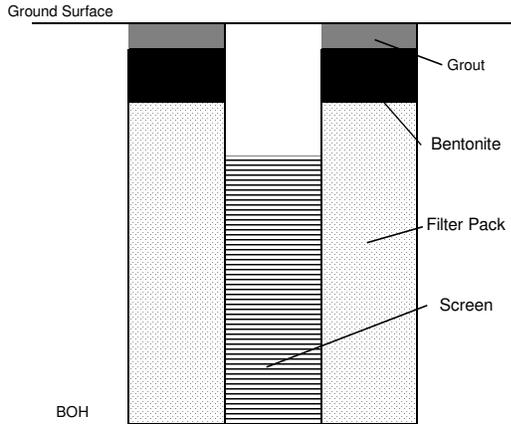
WELL DATA COLLECTED ON 12/12/13
 DEPTH TO WATER (TOC PVC): 8.29 feet
 DEPTH TO WELL BOTTOM (TOC PVC): 15.00 feet
 WATER COLUMN: 6.71 feet

PROJECT:
 PC 2013-3154, UVOST Survey

HOLE NO.:
 TW-03

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-04	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/13/13	INSPECTOR:	DEPTH TO GROUNDWATER: 5.79



TOP OF RISER PIPE TO GROUND SURFACE: 2.00 inches

TYPE OF SURFACE SEAL: Portland cement
 DEPTH OF SEAL: 1.00 feet

I.D. OF SURFACE CASING: 5.00 inches
 TYPE OF SURFACE CASING: Steel

I.D. OF RISER PIPE: 1.00 inches
 TYPE OF RISER PIPE: PVC

TYPE OF GROUT: None

DEPTH TO TOP OF SEAL: 2.00 feet
 TYPE OF SEAL: Bentonite Pellet

DEPTH TO TOP OF FILTER PACK: 12.00 feet
 TYPE OF FILTER PACK: #2 Filter Sand

DEPTH TO TOP OF SCREEN: 5.00 feet
 TYPE OF SCREEN: PVC
 SLOT SIZE AND LENGTH: 0.0100
 I.D. OF SCREEN: 1.00 inches

DEPTH TO BOTTOM OF SCREEN: 15.00 feet
 BOREHOLE DIAMETER: 3.00 inches

BOTTOM OF HOLE: 15.00 feet

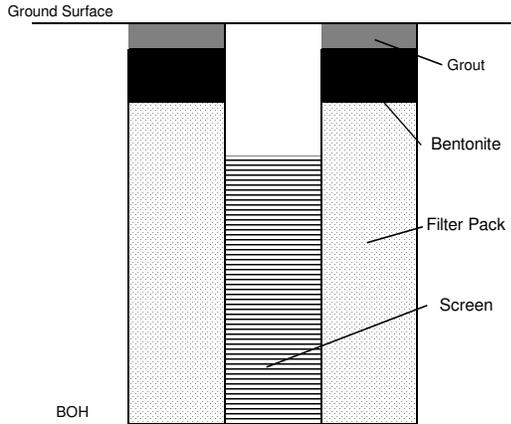
WELL DATA COLLECTED ON 12/13/13
 DEPTH TO WATER (TOC PVC): 5.79 feet
 DEPTH TO WELL BOTTOM (TOC PVC): 15.00 feet
 WATER COLUMN: 9.21 feet

PROJECT:
 PC 2013-3154, UVOST Survey

HOLE NO.:
 TW-04

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-05	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/13/13	INSPECTOR:	DEPTH TO GROUNDWATER: 5.88



TOP OF RISER PIPE TO GROUND SURFACE: 2.00 inches

TYPE OF SURFACE SEAL: Portland cement
 DEPTH OF SEAL: 1.00 feet

I.D. OF SURFACE CASING: 5.00 inches
 TYPE OF SURFACE CASING: Steel

I.D. OF RISER PIPE: 1.00 inches
 TYPE OF RISER PIPE: PVC

TYPE OF GROUT: None

DEPTH TO TOP OF SEAL: 2.00 feet
 TYPE OF SEAL: Bentonite Pellet

DEPTH TO TOP OF FILTER PACK: 12.00 feet
 TYPE OF FILTER PACK: #2 Filter Sand

DEPTH TO TOP OF SCREEN: 5.00 feet
 TYPE OF SCREEN: PVC
 SLOT SIZE AND LENGTH: 0.0100
 I.D. OF SCREEN: 1.00 inches

DEPTH TO BOTTOM OF SCREEN: 15.00 feet
 BOREHOLE DIAMETER: 3.00 inches

BOTTOM OF HOLE: 15.00 feet

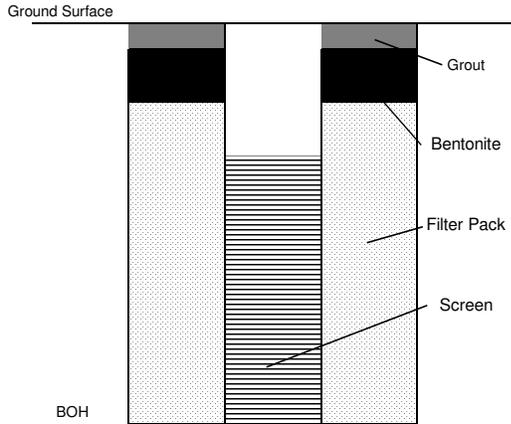
WELL DATA COLLECTED ON 12/13/13
 DEPTH TO WATER (TOC PVC): 5.88 feet
 DEPTH TO WELL BOTTOM (TOC PVC): 15.00 feet
 WATER COLUMN: 9.12 feet

PROJECT:
 PC 2013-3154, UVOST Survey

HOLE NO.:
TW-05

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-06	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/13/13	INSPECTOR:	DEPTH TO GROUNDWATER: 5.58



TOP OF RISER PIPE TO GROUND SURFACE: 2.00 inches

TYPE OF SURFACE SEAL: Portland cement
 DEPTH OF SEAL: 1.00 feet

I.D. OF SURFACE CASING: 5.00 inches
 TYPE OF SURFACE CASING: Steel

I.D. OF RISER PIPE: 1.00 inches
 TYPE OF RISER PIPE: PVC

TYPE OF GROUT: None

DEPTH TO TOP OF SEAL: 2.00 feet
 TYPE OF SEAL: Bentonite Pellet

DEPTH TO TOP OF FILTER PACK: 12.00 feet
 TYPE OF FILTER PACK: #2 Filter Sand

DEPTH TO TOP OF SCREEN: 5.00 feet
 TYPE OF SCREEN: PVC
 SLOT SIZE AND LENGTH: 0.0100
 I.D. OF SCREEN: 1.00 inches

DEPTH TO BOTTOM OF SCREEN: 15.00 feet
 BOREHOLE DIAMETER: 3.00 inches

BOTTOM OF HOLE: 15.00 feet

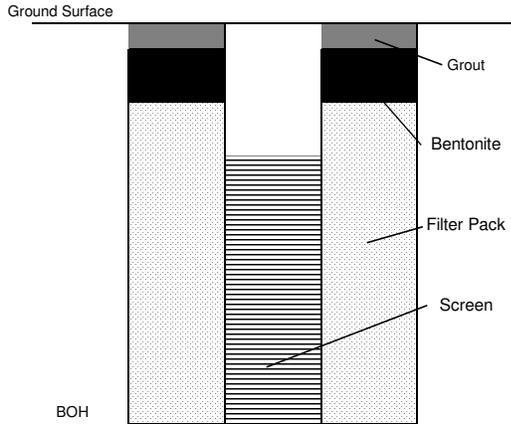
WELL DATA COLLECTED ON 12/13/13
 DEPTH TO WATER (TOC PVC): 5.58 feet
 DEPTH TO WELL BOTTOM (TOC PVC): 15.00 feet
 WATER COLUMN 9.42 feet

PROJECT:
 PC 2013-3154, UVOST Survey

HOLE NO.:
 TW-06

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-07	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/13/13	INSPECTOR:	DEPTH TO GROUNDWATER: 7.08



TOP OF RISER PIPE TO GROUND SURFACE: 2.00 inches

TYPE OF SURFACE SEAL: Portland cement
 DEPTH OF SEAL: 1.00 feet

I.D. OF SURFACE CASING: 5.00 inches
 TYPE OF SURFACE CASING: Steel

I.D. OF RISER PIPE: 1.00 inches
 TYPE OF RISER PIPE: PVC

TYPE OF GROUT: None

DEPTH TO TOP OF SEAL: 2.00 feet
 TYPE OF SEAL: Bentonite Pellet

DEPTH TO TOP OF FILTER PACK: 12.00 feet
 TYPE OF FILTER PACK: #2 Filter Sand

DEPTH TO TOP OF SCREEN: 5.00 feet
 TYPE OF SCREEN: PVC
 SLOT SIZE AND LENGTH: 0.0100
 I.D. OF SCREEN: 1.00 inches

DEPTH TO BOTTOM OF SCREEN: 15.00 feet
 BOREHOLE DIAMETER: 3.00 inches

BOTTOM OF HOLE: 15.00 feet

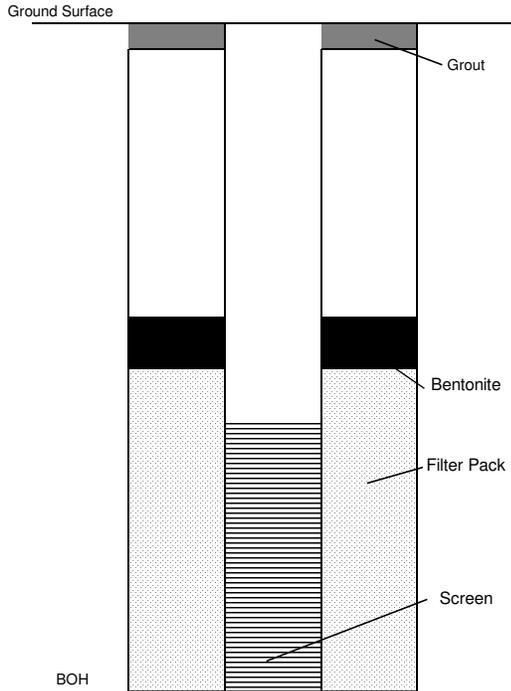
WELL DATA COLLECTED ON 12/13/13
 DEPTH TO WATER (TOC PVC): 7.08 feet
 DEPTH TO WELL BOTTOM (TOC PVC): 15.00 feet
 WATER COLUMN: 7.92 feet

PROJECT:
 PC 2013-3154, UVOST Survey

HOLE NO.:
 TW-07

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-08S	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/17/13	INSPECTOR:	DEPTH TO GROUNDWATER: ND



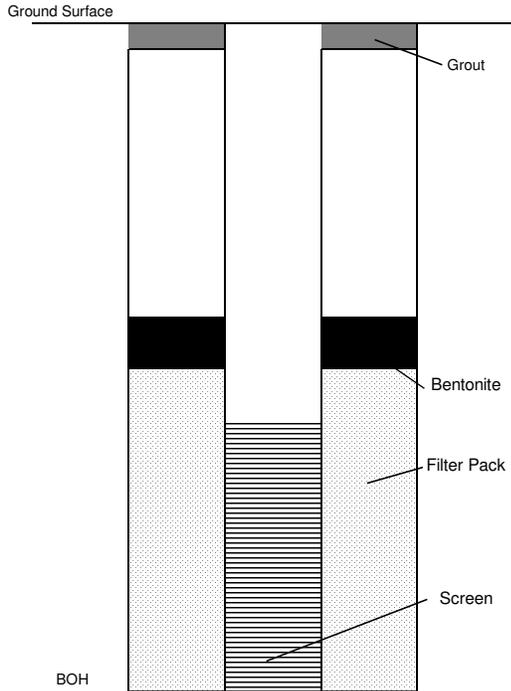
TOP OF RISER PIPE TO GROUND SURFACE:	0.00 inches
TYPE OF SURFACE SEAL:	Portland cement
DEPTH OF SEAL:	1.00 feet
I.D. OF SURFACE CASING:	NA
TYPE OF SURFACE CASING:	None
I.D. OF RISER PIPE:	1.00 inches
TYPE OF RISER PIPE:	PVC
TYPE OF GROUT:	None
DEPTH TO TOP OF SEAL:	11.00 feet
TYPE OF SEAL:	Bentonite Pellet
DEPTH TO TOP OF FILTER PACK:	13.00 feet
TYPE OF FILTER PACK:	#2 Filter Sand
DEPTH TO TOP OF SCREEN:	15.00 feet
TYPE OF SCREEN:	PVC
SLOT SIZE AND LENGTH:	0.0100
I.D. OF SCREEN:	1.00 inches
DEPTH TO BOTTOM OF SCREEN:	25.00 feet
BOREHOLE DIAMETER:	3.00 inches
BOTTOM OF HOLE:	25.00 feet
WELL DATA COLLECTED ON 12/17/13	
DEPTH TO WATER (TOC PVC):	ND feet
DEPTH TO WELL BOTTOM (TOC PVC):	25.90 feet
WATER COLUMN	0.00 feet

PROJECT:
PC 2013-3154, UVOST Survey

HOLE NO.:
TW-08S

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-09S	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/17/13	INSPECTOR:	DEPTH TO GROUNDWATER: ND



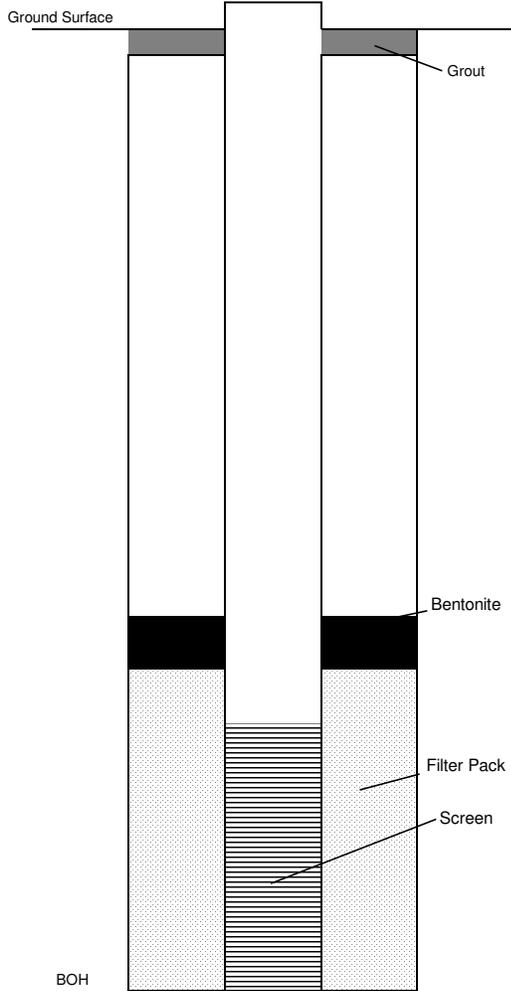
TOP OF RISER PIPE TO GROUND SURFACE:	0.00 inches
TYPE OF SURFACE SEAL:	Portland cement
DEPTH OF SEAL:	1.00 feet
I.D. OF SURFACE CASING:	NA
TYPE OF SURFACE CASING:	None
I.D. OF RISER PIPE:	1.00 inches
TYPE OF RISER PIPE:	PVC
TYPE OF GROUT:	None
DEPTH TO TOP OF SEAL:	11.00 feet
TYPE OF SEAL:	Bentonite Pellet
DEPTH TO TOP OF FILTER PACK:	13.00 feet
TYPE OF FILTER PACK:	#2 Filter Sand
DEPTH TO TOP OF SCREEN:	15.00 feet
TYPE OF SCREEN:	PVC
SLOT SIZE AND LENGTH:	0.0100
I.D. OF SCREEN:	1.00 inches
DEPTH TO BOTTOM OF SCREEN:	25.00 feet
BOREHOLE DIAMETER:	3.00 inches
BOTTOM OF HOLE:	25.00 feet
WELL DATA COLLECTED ON 12/17/13	
DEPTH TO WATER (TOC PVC):	ND feet
DEPTH TO WELL BOTTOM (TOC PVC):	26.05 feet
WATER COLUMN	0.00 feet

PROJECT:
PC 2013-3154, UVOST Survey

HOLE NO.:
TW-09S

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-10	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/17/13	INSPECTOR:	DEPTH TO GROUNDWATER: 28.73

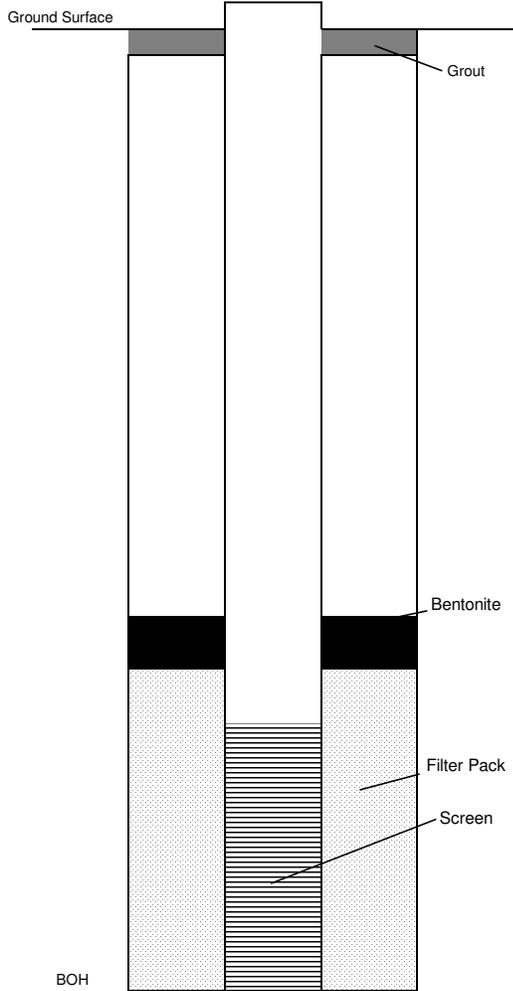


TOP OF RISER PIPE TO GROUND SURFACE:	16.80 inches
TYPE OF SURFACE SEAL:	Portland cement
DEPTH OF SEAL:	1.00 feet
I.D. OF SURFACE CASING:	NA
TYPE OF SURFACE CASING:	None
I.D. OF RISER PIPE:	1.00 inches
TYPE OF RISER PIPE:	PVC
TYPE OF GROUT:	None
DEPTH TO TOP OF SEAL:	22.00 feet
TYPE OF SEAL:	Bentonite Pellet
DEPTH TO TOP OF FILTER PACK:	24.00 feet
TYPE OF FILTER PACK:	#2 Filter Sand
DEPTH TO TOP OF SCREEN:	26.00 feet
TYPE OF SCREEN:	PVC
SLOT SIZE AND LENGTH:	0.0100
I.D. OF SCREEN:	1.00 inches
DEPTH TO BOTTOM OF SCREEN:	36.00 feet
BOREHOLE DIAMETER:	3.00 inches
BOTTOM OF HOLE:	36.00 feet
WELL DATA COLLECTED ON 12/17/13	
DEPTH TO WATER (TOC PVC):	30.13 feet
DEPTH TO WELL BOTTOM (TOC PVC):	37.40 feet
WATER COLUMN	7.27 feet

PROJECT: PC 2013-3154, UVOST Survey	HOLE NO.: TW-10
--	---------------------------

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-11	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/17/13	INSPECTOR:	DEPTH TO GROUNDWATER: 25.22



TOP OF RISER PIPE TO GROUND SURFACE: 18.12 inches

TYPE OF SURFACE SEAL: Portland cement
 DEPTH OF SEAL: 1.00 feet

I.D. OF SURFACE CASING: NA
 TYPE OF SURFACE CASING: None

I.D. OF RISER PIPE: 1.00 inches
 TYPE OF RISER PIPE: PVC

TYPE OF GROUT: None

DEPTH TO TOP OF SEAL: 22.00 feet
 TYPE OF SEAL: Bentonite Pellet

DEPTH TO TOP OF FILTER PACK: 24.00 feet
 TYPE OF FILTER PACK: #2 Filter Sand

DEPTH TO TOP OF SCREEN: 26.00 feet
 TYPE OF SCREEN: PVC
 SLOT SIZE AND LENGTH: 0.0100
 I.D. OF SCREEN: 1.00 inches

DEPTH TO BOTTOM OF SCREEN: 36.00 feet
 BOREHOLE DIAMETER: 3.00 inches

BOTTOM OF HOLE: 36.00 feet

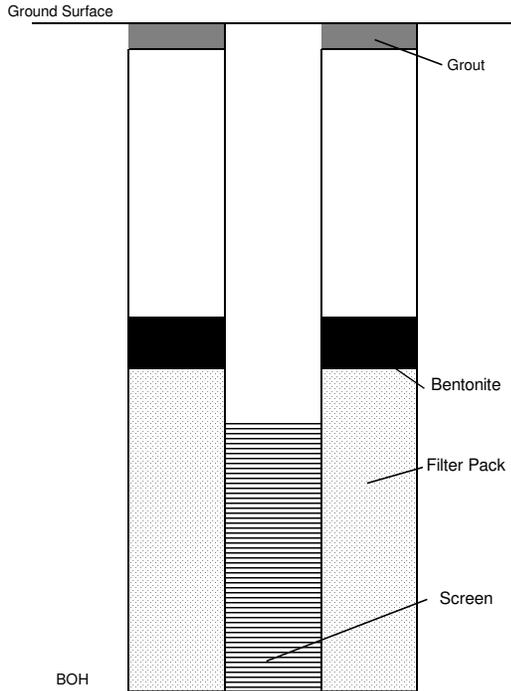
WELL DATA COLLECTED ON 12/17/13

DEPTH TO WATER (TOC PVC): 26.73 feet
 DEPTH TO WELL BOTTOM (TOC PVC): 37.51 feet
 WATER COLUMN: 10.78 feet

PROJECT: PC 2013-3154, UVOST Survey	HOLE NO.: TW-11
--	---------------------------

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-12S	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/18/13	INSPECTOR:	DEPTH TO GROUNDWATER: ND



TOP OF RISER PIPE TO GROUND SURFACE: 19.44 inches

TYPE OF SURFACE SEAL: Portland cement
 DEPTH OF SEAL: 1.00 feet

I.D. OF SURFACE CASING: NA
 TYPE OF SURFACE CASING: None

I.D. OF RISER PIPE: 1.00 inches
 TYPE OF RISER PIPE: PVC

TYPE OF GROUT: None

DEPTH TO TOP OF SEAL: 11.00 feet
 TYPE OF SEAL: Bentonite Pellet

DEPTH TO TOP OF FILTER PACK: 13.00 feet
 TYPE OF FILTER PACK: #2 Filter Sand

DEPTH TO TOP OF SCREEN: 15.00 feet
 TYPE OF SCREEN: PVC
 SLOT SIZE AND LENGTH: 0.0100
 I.D. OF SCREEN: 1.00 inches

DEPTH TO BOTTOM OF SCREEN: 25.00 feet
 BOREHOLE DIAMETER: 3.00 inches

BOTTOM OF HOLE: 25.00 feet

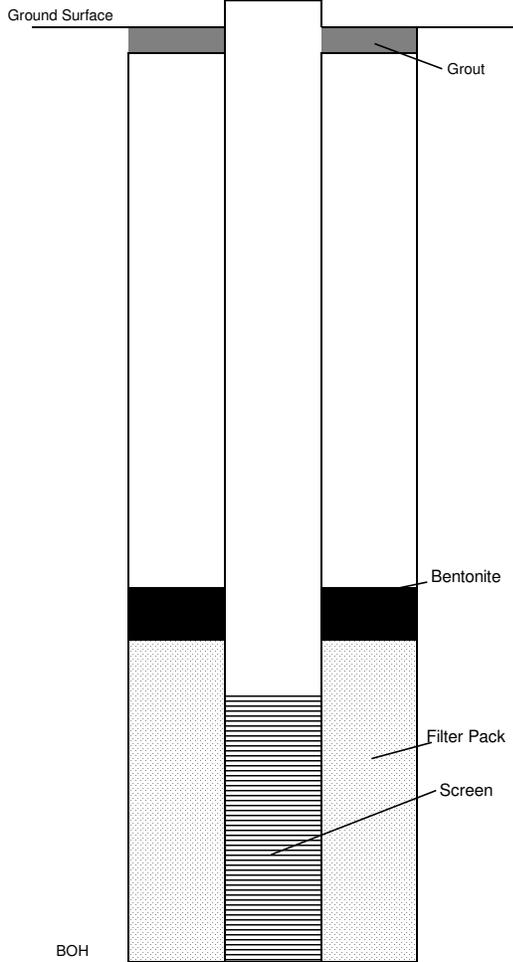
WELL DATA COLLECTED ON 12/17/13
 DEPTH TO WATER (TOC PVC): ND feet
 DEPTH TO WELL BOTTOM (TOC PVC): 26.62 feet
 WATER COLUMN: 0.00 feet

PROJECT:
 PC 2013-3154, UVOST Survey

HOLE NO.:
 TW-12S

WELL CONSTRUCTION DIAGRAM

HOLE NUMBER: TW-13	LOCATION: Potomac River Generation Station	DRILLER: Hammer Environmental Services
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Geoprobe
DATE WELL COMPLETED: 12/18/13	INSPECTOR:	DEPTH TO GROUNDWATER: 28.69



TOP OF RISER PIPE TO GROUND SURFACE: 16.80 inches

TYPE OF SURFACE SEAL: Portland cement
 DEPTH OF SEAL: 1.00 feet

I.D. OF SURFACE CASING: NA
 TYPE OF SURFACE CASING: None

I.D. OF RISER PIPE: 1.00 inches
 TYPE OF RISER PIPE: PVC

TYPE OF GROUT: None

DEPTH TO TOP OF SEAL: 21.00 feet
 TYPE OF SEAL: Bentonite Pellet

DEPTH TO TOP OF FILTER PACK: 23.00 feet
 TYPE OF FILTER PACK: #2 Filter Sand

DEPTH TO TOP OF SCREEN: 25.00 feet
 TYPE OF SCREEN: PVC
 SLOT SIZE AND LENGTH: 0.0100
 I.D. OF SCREEN: 1.00 inches

DEPTH TO BOTTOM OF SCREEN: 35.00 feet
 BOREHOLE DIAMETER: 3.00 inches

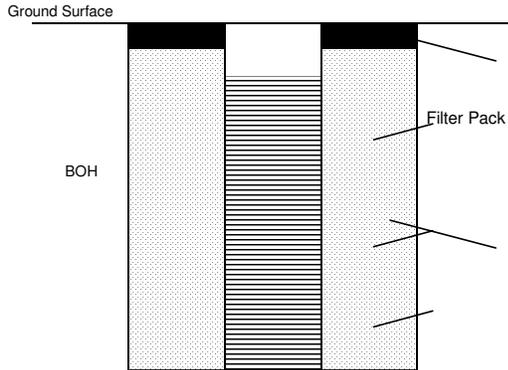
BOTTOM OF HOLE: 35.00 feet

WELL DATA COLLECTED ON 12/12/13
 DEPTH TO WATER (TOC PVC): 30.09 feet
 DEPTH TO WELL BOTTOM (TOC PVC): 36.40 feet
 WATER COLUMN: 6.31 feet

PROJECT: PC 2013-3154, UVOST Survey	HOLE NO.: TW-13
--	---------------------------

WELL CONSTRUCTION DIAGRAM

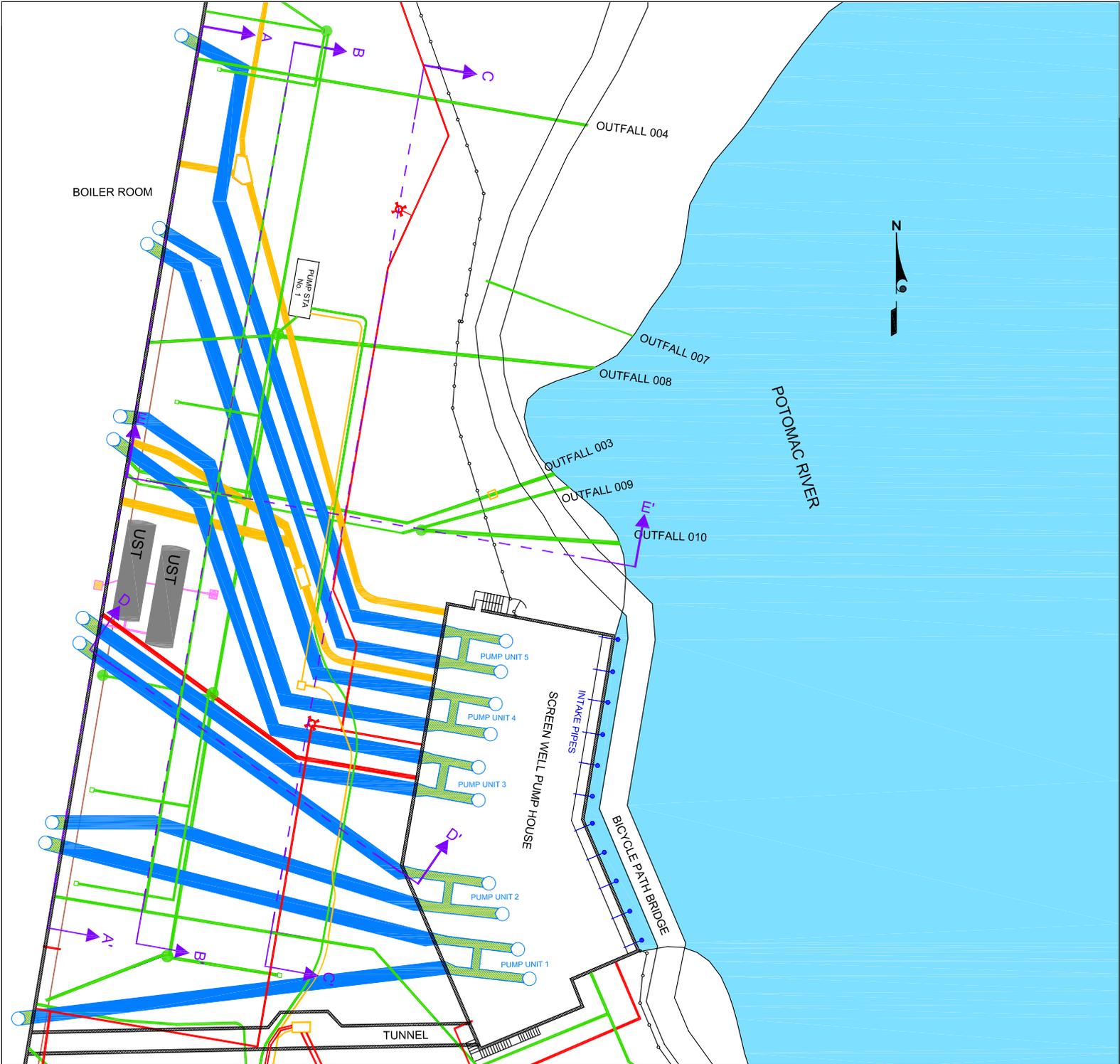
HOLE NUMBER: TW-14	LOCATION: Potomac River Generation Station	DRILLER: URS
PROJECT: PC 2013-3154, UVOST Survey	1400 North Royal Street, Alexandria, VA	DRILLING METHOD: Hand Auger
DATE WELL COMPLETED: 1/16/2014	INSPECTOR:	DEPTH TO GROUNDWATER: 2.48



TOP OF RISER PIPE TO GROUND SURFACE:	2.00 inches
TYPE OF SURFACE SEAL:	Portland cement
DEPTH OF SEAL:	0.25 foot
I.D. OF SURFACE CASING:	5.00 inches
TYPE OF SURFACE CASING:	Steel
I.D. OF RISER PIPE:	1.00 inches
TYPE OF RISER PIPE:	PVC
TYPE OF GROUT:	None
DEPTH TO TOP OF SEAL:	0.25 foot
TYPE OF SEAL:	Bentonite Pellet
DEPTH TO TOP OF FILTER PACK:	0.50 foot
TYPE OF FILTER PACK:	#2 Filter Sand
DEPTH TO TOP OF SCREEN:	1.00 foot
TYPE OF SCREEN:	PVC
SLOT SIZE AND LENGTH:	0.0100
I.D. OF SCREEN:	1.00 inches
DEPTH TO BOTTOM OF SCREEN:	5.43 feet
BOREHOLE DIAMETER:	3.00 inches
BOTTOM OF HOLE:	5.43 feet
WELL DATA COLLECTED ON 1/17/2014	
DEPTH TO WATER (TOC PVC):	2.48 feet
DEPTH TO WELL BOTTOM (TOC PVC):	5.43 feet
WATER COLUMN	2.95 feet

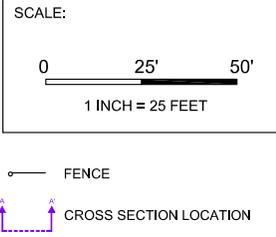
PROJECT: PC 2013-3154, UVOST Survey	HOLE NO.: TW-14
--	---------------------------

Appendix B
Geologic Cross Sections



LEGEND:

	CIRCULATING WATER LINE (UNDER GROUND)		CIRCULATING WATER LINE (ABOVE GROUND)
	CONCRETE DUCT		DRAIN
	WATER LINE		AIR LINE
	OIL LINE		UST
	POTOMAC RIVER		BUILDING WALL
	CONCRETE VAULT		MANHOLE
	FIRE HYDRANT		SUMP
	OIL FILL PORT (UNDER GROUND)		OIL FILL PORT (ABOVE GROUND)



URS

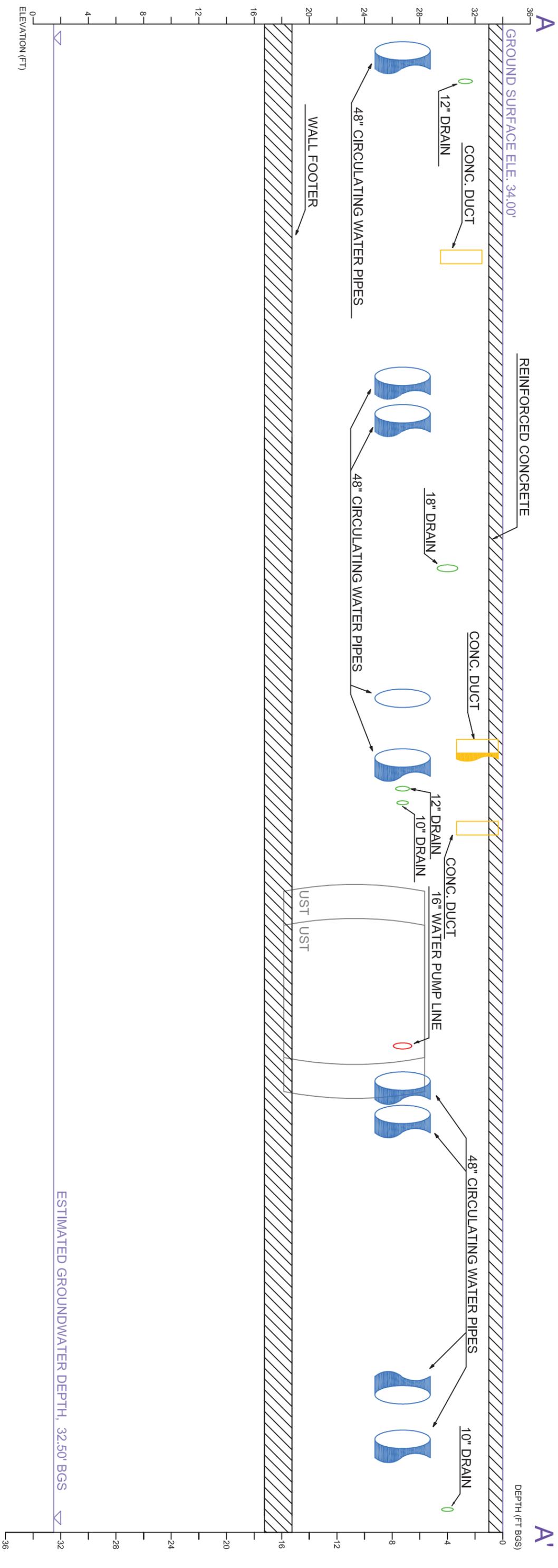
12420 MILESTONE CENTER DR.
SUITE 150
GERMANTOWN, MD 20876

DATE:	02/05/2013
CREATED:	QH
CHECKED:	ES

Appendix B

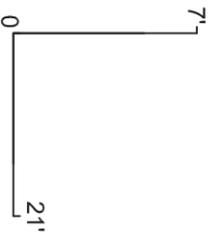
25,000-GALLON UNDERGROUND STORAGE TANK UTILITY CROSS SECTION LOCATING MAP

POTOMAC RIVER GENERATING STATION
1400 NORTH ROYAL STEET
ALEXANDRIA, VA



NOTES:

SCALE:



DATE:
05/17/2013

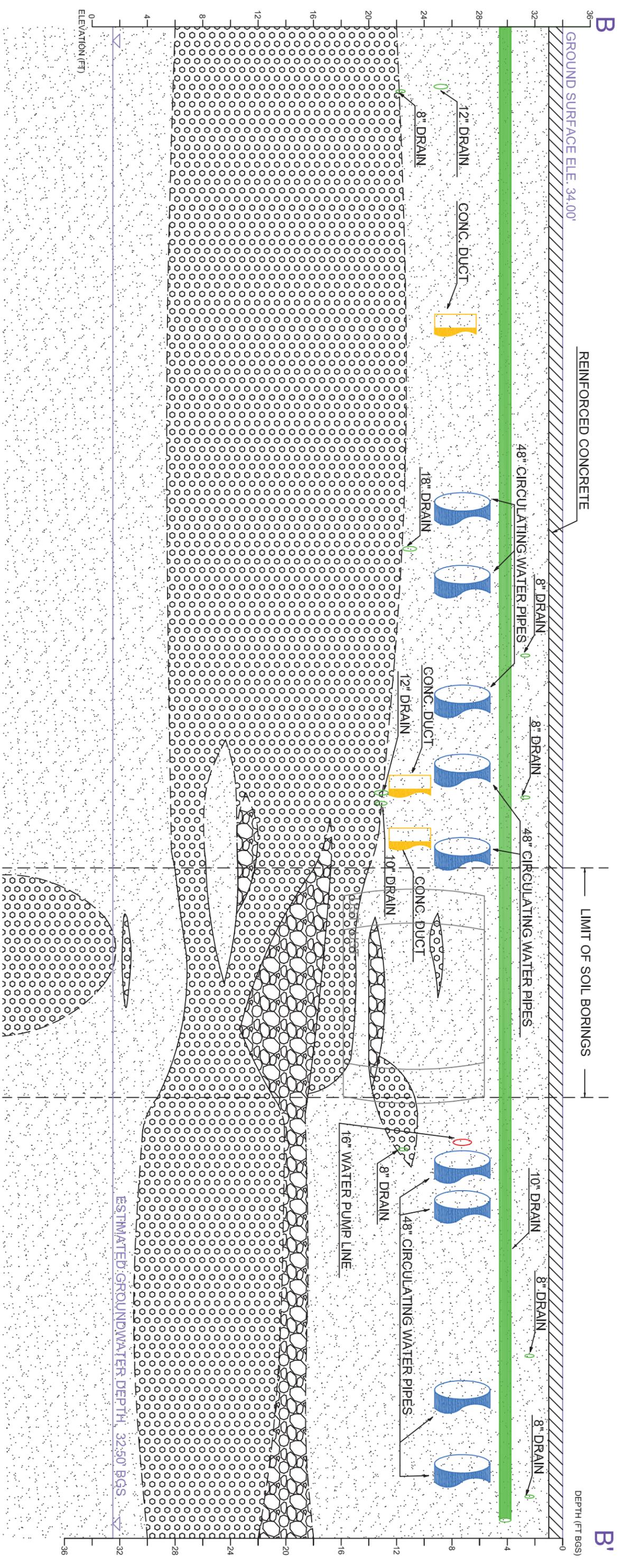
CREATED:
QH

CHECKED:
ES



12420 MILESTONE CENTER DR.
SUITE 150
GERMANTOWN, MD 20876

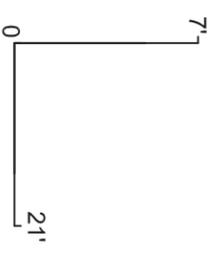
PIPING CROSS SECTION A-A'



LEGEND:

-  CLAY (INFERRED)
-  SAND (INFERRED)
-  GRAVEL (INFERRED)

SCALE:



DATE:
05/17/2013

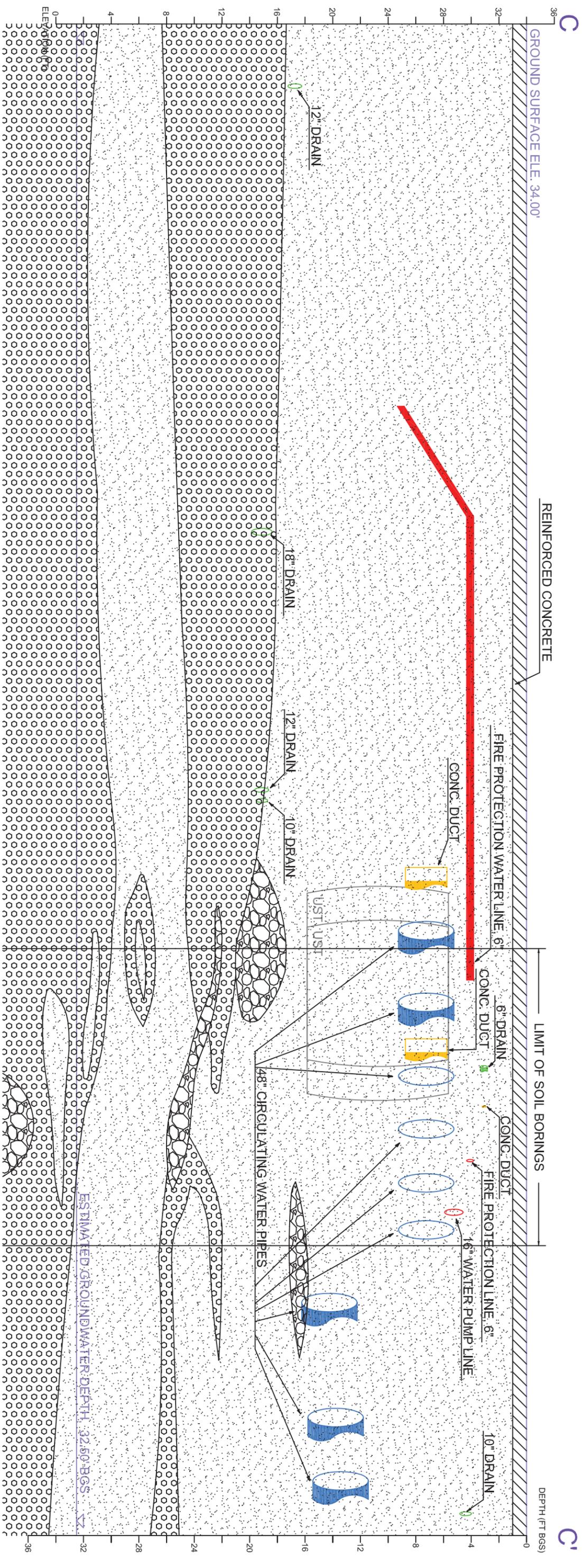
CREATED:
QH

CHECKED:
AR



12420 MILESTONE CENTER DR.
SUITE 150
GERMANTOWN, MD 20876

PIPING CROSS SECTION B-B'



REINFORCED CONCRETE

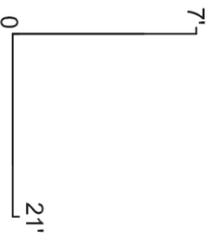
LIMIT OF SOIL BORINGS

DEPTH (FT BGS)

LEGEND:

-  CLAY (INFERRED)
-  SAND (INFERRED)
-  GRAVEL (INFERRED)

SCALE:



DATE:
02/04/2014

CREATED:
QH

CHECKED:
ES



12420 MILESTONE CENTER DR.
SUITE 150
GERMANTOWN, MD 20876

PIPING CROSS SECTION C-C'

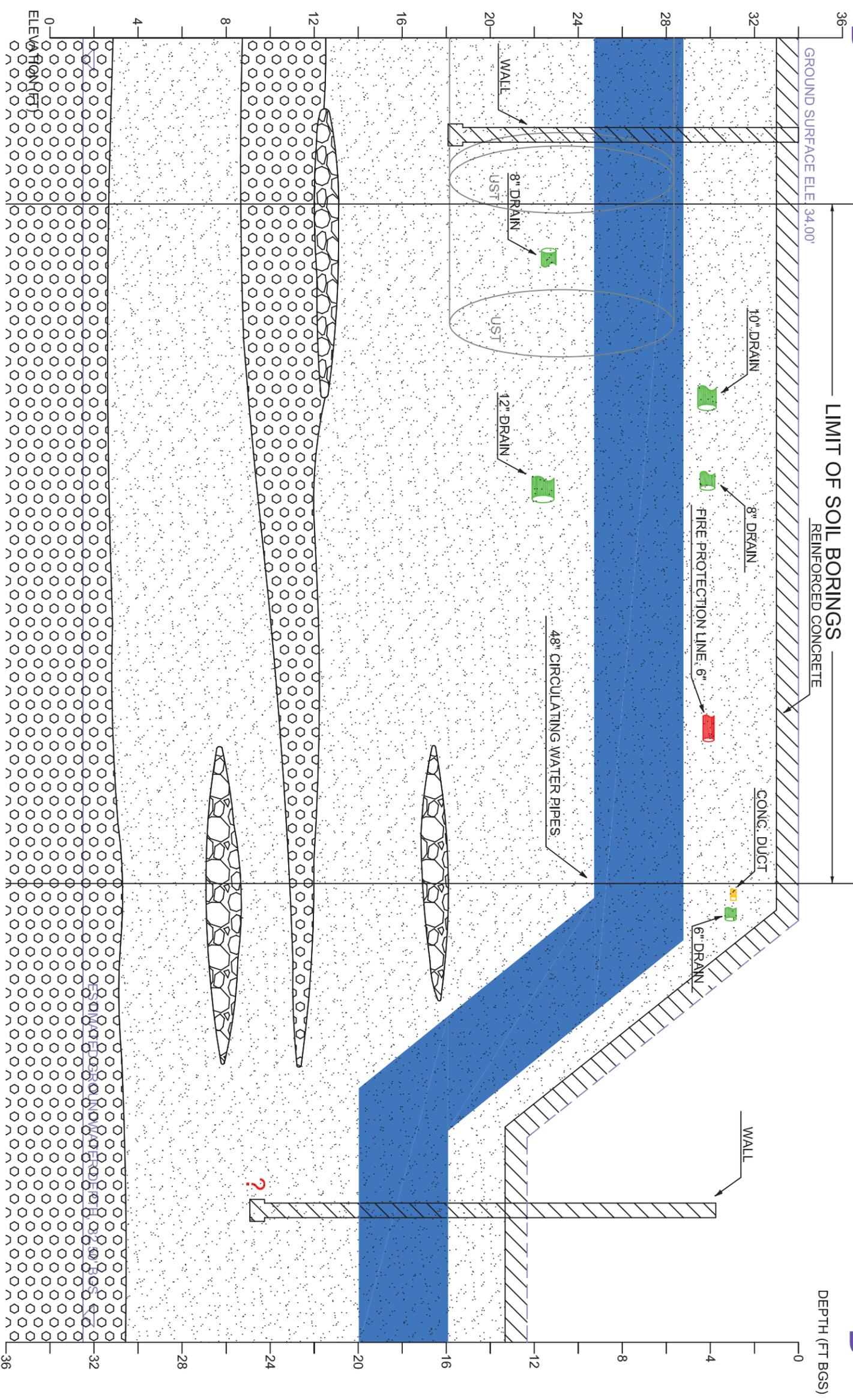
ESTIMATED GROUNDWATER DEPTH, 32.50 BGS

ELEVATION (FT)

DEPTH (FT BGS)

D

D'



NOTES:
 LINES IN DASH ARE INFERRED BASED
 ON AVAILABLE INFORMATION

SCALE:
 5'
 15'

DATE:
 02/04/2014

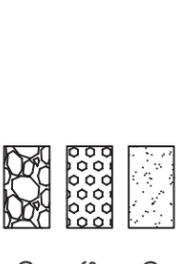
CREATED:
 QH

CHECKED:
 ES



12420 MILESTONE CENTER DR.
 SUITE 150
 GERMANTOWN, MD 20876

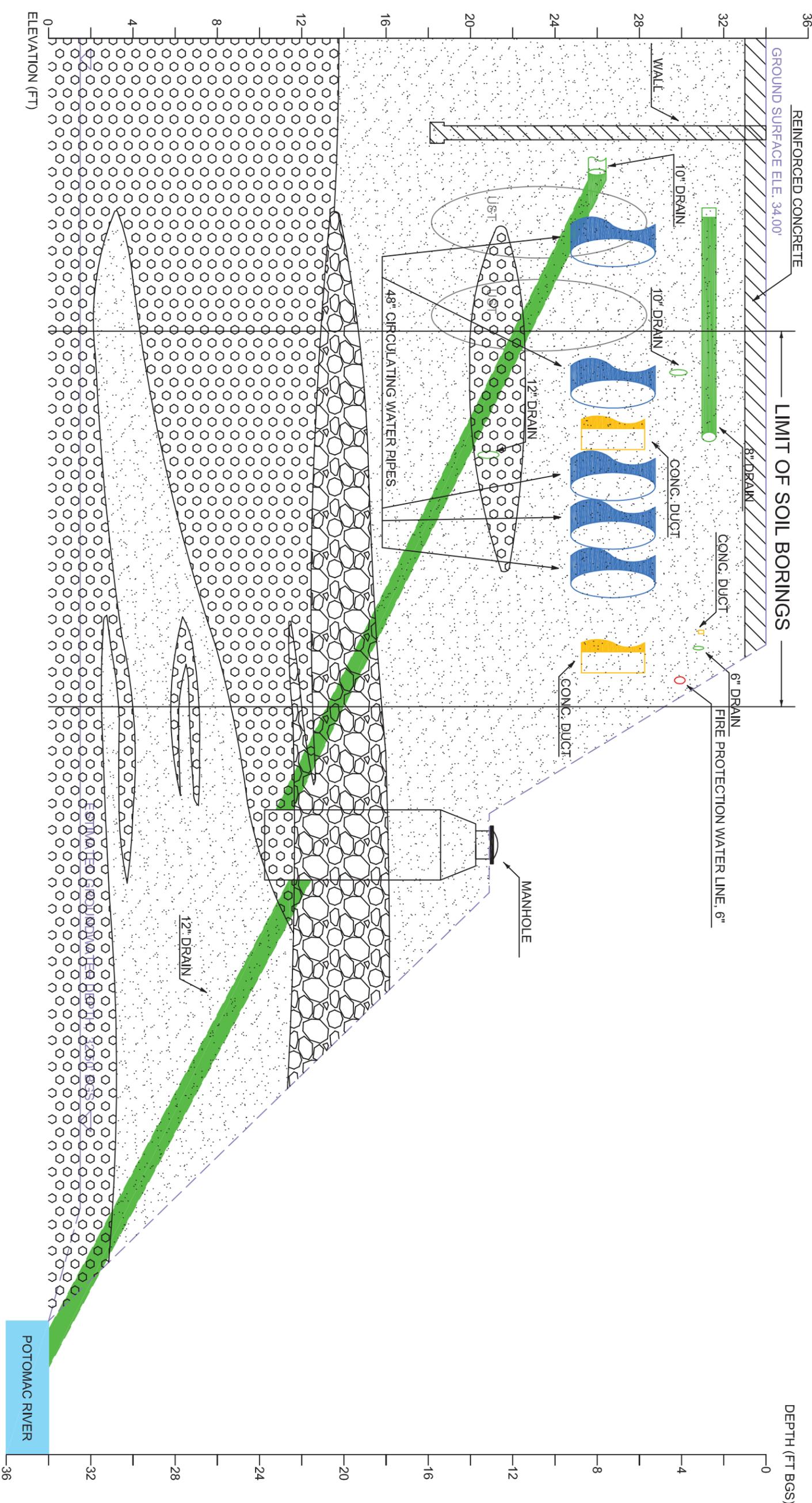
PIPING CROSS SECTION D-D'



CLAY (INFERRED)
 SAND (INFERRED)
 GRAVEL (INFERRED)

E

E'



NOTES:
 LINES IN DASH ARE INFERRED BASED
 ON AVAILABLE INFORMATION

SCALE:
 5'
 0 15'

DATE:
 02/04/2014

CREATED:
 QH

CHECKED:
 ES



12420 MILESTONE CENTER DR.
 SUITE 150
 GERMANTOWN, MD 20876

PIPING CROSS SECTION E-E'

LEGEND:

-  CLAY (INFERRED)
-  SAND (INFERRED)
-  GRAVEL (INFERRED)

Appendix C
Basement Soil Boring Laboratory Analytical Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-31407-1
Client Project/Site: Potomac River Generating Station

For:
URS Corporation
12420 Milestone Center Drive
Ste 150
Germantown, Maryland 20876

Attn: Ms. Adriane Rogers

Cathy Gartner

Authorized for release by:
7/31/2013 4:56:05 PM

Cathy Gartner, Project Manager I
cathy.gartner@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Definitions	5
Client Sample Results	6
QC Sample Results	17
QC Association	26
Chronicle	30
Method Summary	34
Certification Summary	35
Chain of Custody	36
Receipt Checklists	38

Sample Summary

Client: URS Corporation
Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-31407-1	SB-2 (5-7)	Soil	07/19/13 14:05	07/20/13 08:15
490-31407-2	SB-2 (9-11)	Soil	07/19/13 14:10	07/20/13 08:15
490-31407-3	SB-2 (14-16)	Soil	07/19/13 14:15	07/20/13 08:15
490-31407-4	SB-2 (19-21)	Soil	07/19/13 14:20	07/20/13 08:15
490-31407-5	SB-2 (23-25)	Soil	07/19/13 14:25	07/20/13 08:15
490-31407-6	SB-1 (14-16)	Soil	07/19/13 12:25	07/20/13 08:15
490-31407-7	SB-1 (24-26)	Soil	07/19/13 12:35	07/20/13 08:15
490-31407-8	SB-1 (19-21)	Soil	07/19/13 12:30	07/20/13 08:15
490-31407-9	SB-1 (9-11)	Soil	07/19/13 12:20	07/20/13 08:15
490-31407-10	SB-1 (28-30)	Soil	07/19/13 12:40	07/20/13 08:15
490-31407-11	SB-1 (5-7)	Soil	07/19/13 12:15	07/20/13 08:15



Case Narrative

Client: URS Corporation
Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Job ID: 490-31407-1

Laboratory: TestAmerica Nashville

Narrative

**Job Narrative
490-31407-1**

Comments

No additional comments.

Receipt

The samples were received on 7/20/2013 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5° C.

GC VOA

Method(s) 8015B: Surrogate recovery for the following sample(s) was outside the upper control limit: SB-2 (23-25) (490-31407-5), SSB-2 (14-16) (490-31407-3)(, B-2 (5-7) (490-31407-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8021B: Surrogate recovery was outside acceptance limits for the following matrix spike/matrix spike duplicate (MS/MSD) sample(s): (490-31407-2 MS). The parent sample's surrogate recovery was within limits. The MS/MSD sample has been qualified and reported. Spike recoveries were within acceptable limits.

Method(s) 8015B: Matrix spike (MS) / matrix spike duplicate (MSD) associated with Batch 95650 invalidated due to instrument surrogate delivery failure for parent sample associated with the MS/MSD.

Method(s) 8021B: Surrogate recovery was above the acceptance limits for LCSD for batch 95943. The individual analyte QA/QC recoveries, however, were within acceptance limits. Date not impacted.

Method(s) 8021B: Matrix spike (MS) / matrix spike duplicate (MSD) associated with Batch 95649 was invalidated due to instrument failure.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8015B: Surrogate recovery for the following sample(s) was outside control limits: SB-2 (14-16) (490-31407-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

Definitions/Glossary

Client: URS Corporation
Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-2 (5-7)

Lab Sample ID: 490-31407-1

Date Collected: 07/19/13 14:05

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 89.7

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.09		mg/Kg	☼	07/24/13 12:06	07/27/13 00:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	256	X	50 - 150				07/24/13 12:06	07/27/13 00:13	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00102		mg/Kg	☼	07/24/13 12:06	07/27/13 00:13	1
Toluene	ND		0.00102		mg/Kg	☼	07/24/13 12:06	07/27/13 00:13	1
Methyl tert-butyl ether	ND		0.0102		mg/Kg	☼	07/24/13 12:06	07/27/13 00:13	1
Benzene	ND		0.00102		mg/Kg	☼	07/24/13 12:06	07/27/13 00:13	1
Naphthalene	ND		0.00509		mg/Kg	☼	07/24/13 12:06	07/27/13 00:13	1
Xylenes, Total	ND		0.00305		mg/Kg	☼	07/24/13 12:06	07/27/13 00:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	266	X	50 - 150				07/24/13 12:06	07/27/13 00:13	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.42		mg/Kg	☼	07/22/13 09:28	07/24/13 00:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl (Surr)</i>	63		50 - 150				07/22/13 09:28	07/24/13 00:38	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-2 (9-11)

Lab Sample ID: 490-31407-2

Date Collected: 07/19/13 14:10

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 93.0

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.12		mg/Kg	☼	07/24/13 12:06	07/26/13 22:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	102		50 - 150				07/24/13 12:06	07/26/13 22:30	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00102		mg/Kg	☼	07/24/13 12:06	07/26/13 22:30	1
Toluene	ND		0.00102		mg/Kg	☼	07/24/13 12:06	07/26/13 22:30	1
Methyl tert-butyl ether	ND		0.0102		mg/Kg	☼	07/24/13 12:06	07/26/13 22:30	1
Benzene	ND		0.00102		mg/Kg	☼	07/24/13 12:06	07/26/13 22:30	1
Naphthalene	0.0205		0.00524		mg/Kg	☼	07/29/13 13:39	07/29/13 14:23	1
Xylenes, Total	ND		0.00307		mg/Kg	☼	07/24/13 12:06	07/26/13 22:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	103		50 - 150				07/24/13 12:06	07/26/13 22:30	1
a,a,a-Trifluorotoluene	99		50 - 150				07/29/13 13:39	07/29/13 14:23	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	80.7		5.31		mg/Kg	☼	07/22/13 09:28	07/24/13 00:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	98		50 - 150				07/22/13 09:28	07/24/13 00:57	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-2 (14-16)

Lab Sample ID: 490-31407-3

Date Collected: 07/19/13 14:15

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 86.2

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.74		mg/Kg	☼	07/24/13 12:06	07/26/13 23:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	149		50 - 150				07/24/13 12:06	07/26/13 23:11	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00115		mg/Kg	☼	07/24/13 12:06	07/26/13 23:11	1
Toluene	ND		0.00115		mg/Kg	☼	07/24/13 12:06	07/26/13 23:11	1
Methyl tert-butyl ether	ND		0.0115		mg/Kg	☼	07/24/13 12:06	07/26/13 23:11	1
Benzene	ND		0.00115		mg/Kg	☼	07/24/13 12:06	07/26/13 23:11	1
Naphthalene	0.240		0.00574		mg/Kg	☼	07/24/13 12:06	07/26/13 23:11	1
Xylenes, Total	ND		0.00344		mg/Kg	☼	07/24/13 12:06	07/26/13 23:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	153	X	50 - 150				07/24/13 12:06	07/26/13 23:11	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	193		5.67		mg/Kg	☼	07/22/13 09:28	07/24/13 01:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	31	X	50 - 150				07/22/13 09:28	07/24/13 01:15	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-2 (19-21)

Lab Sample ID: 490-31407-4

Date Collected: 07/19/13 14:20

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 84.3

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.78		mg/Kg	☼	07/24/13 12:06	07/26/13 23:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	60		50 - 150				07/24/13 12:06	07/26/13 23:53	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00113		mg/Kg	☼	07/24/13 12:06	07/27/13 02:18	1
Toluene	ND		0.00113		mg/Kg	☼	07/24/13 12:06	07/27/13 02:18	1
Methyl tert-butyl ether	ND		0.0113		mg/Kg	☼	07/24/13 12:06	07/27/13 02:18	1
Benzene	ND		0.00113		mg/Kg	☼	07/24/13 12:06	07/27/13 02:18	1
Naphthalene	0.0885		0.00566		mg/Kg	☼	07/24/13 12:06	07/27/13 02:18	1
Xylenes, Total	ND		0.00340		mg/Kg	☼	07/24/13 12:06	07/27/13 02:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	108		50 - 150				07/24/13 12:06	07/27/13 02:18	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	12.1		5.90		mg/Kg	☼	07/22/13 09:28	07/24/13 01:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	59		50 - 150				07/22/13 09:28	07/24/13 01:34	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-2 (23-25)

Lab Sample ID: 490-31407-5

Date Collected: 07/19/13 14:25

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 85.1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.70		mg/Kg	☼	07/24/13 12:06	07/27/13 00:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	165	X	50 - 150				07/24/13 12:06	07/27/13 00:34	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00114		mg/Kg	☼	07/24/13 12:06	07/27/13 00:34	1
Toluene	ND		0.00114		mg/Kg	☼	07/24/13 12:06	07/27/13 00:34	1
Methyl tert-butyl ether	ND		0.0114		mg/Kg	☼	07/24/13 12:06	07/27/13 00:34	1
Benzene	ND		0.00114		mg/Kg	☼	07/24/13 12:06	07/27/13 00:34	1
Naphthalene	ND		0.00570		mg/Kg	☼	07/24/13 12:06	07/27/13 00:34	1
Xylenes, Total	ND		0.00342		mg/Kg	☼	07/24/13 12:06	07/27/13 00:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	169	X	50 - 150				07/24/13 12:06	07/27/13 00:34	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.80		mg/Kg	☼	07/22/13 09:28	07/24/13 01:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	56		50 - 150				07/22/13 09:28	07/24/13 01:53	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-1 (14-16)

Lab Sample ID: 490-31407-6

Date Collected: 07/19/13 12:25

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 80.1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	8.13		6.84		mg/Kg	☼	07/24/13 12:05	07/29/13 19:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	93		50 - 150				07/24/13 12:05	07/29/13 19:54	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00121		mg/Kg	☼	07/24/13 12:06	07/27/13 11:15	1
Toluene	ND		0.00121		mg/Kg	☼	07/24/13 12:06	07/27/13 11:15	1
Methyl tert-butyl ether	ND		0.0121		mg/Kg	☼	07/24/13 12:06	07/27/13 11:15	1
Benzene	ND		0.00121		mg/Kg	☼	07/24/13 12:06	07/27/13 11:15	1
Naphthalene	0.0901		0.00604		mg/Kg	☼	07/24/13 12:06	07/27/13 11:15	1
Xylenes, Total	ND		0.00362		mg/Kg	☼	07/24/13 12:06	07/27/13 11:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	98		50 - 150				07/24/13 12:06	07/27/13 11:15	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	41.4		6.10		mg/Kg	☼	07/22/13 09:28	07/24/13 02:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl (Surr)</i>	85		50 - 150				07/22/13 09:28	07/24/13 02:13	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-1 (24-26)

Lab Sample ID: 490-31407-7

Date Collected: 07/19/13 12:35

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 83.6

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.72		mg/Kg	☼	07/24/13 12:06	07/27/13 01:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	119		50 - 150				07/24/13 12:06	07/27/13 01:57	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00116		mg/Kg	☼	07/24/13 12:06	07/27/13 11:56	1
Toluene	ND		0.00116		mg/Kg	☼	07/24/13 12:06	07/27/13 11:56	1
Methyl tert-butyl ether	ND		0.0116		mg/Kg	☼	07/24/13 12:06	07/27/13 11:56	1
Benzene	ND		0.00116		mg/Kg	☼	07/24/13 12:06	07/27/13 11:56	1
Naphthalene	ND		0.00580		mg/Kg	☼	07/24/13 12:06	07/27/13 11:56	1
Xylenes, Total	ND		0.00348		mg/Kg	☼	07/24/13 12:06	07/27/13 11:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	93		50 - 150				07/24/13 12:06	07/27/13 11:56	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.89		mg/Kg	☼	07/22/13 09:28	07/24/13 02:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl (Surr)</i>	53		50 - 150				07/22/13 09:28	07/24/13 02:32	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-1 (19-21)

Lab Sample ID: 490-31407-8

Date Collected: 07/19/13 12:30

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 79.9

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		6.00		mg/Kg	☼	07/24/13 12:06	07/27/13 02:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	113		50 - 150				07/24/13 12:06	07/27/13 02:39	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00121		mg/Kg	☼	07/24/13 12:06	07/27/13 12:38	1
Toluene	ND		0.00121		mg/Kg	☼	07/24/13 12:06	07/27/13 12:38	1
Methyl tert-butyl ether	ND		0.0121		mg/Kg	☼	07/24/13 12:06	07/27/13 12:38	1
Benzene	ND		0.00121		mg/Kg	☼	07/24/13 12:06	07/27/13 12:38	1
Naphthalene	0.0234		0.00603		mg/Kg	☼	07/24/13 12:06	07/27/13 12:38	1
Xylenes, Total	ND		0.00362		mg/Kg	☼	07/24/13 12:06	07/27/13 12:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	128		50 - 150				07/24/13 12:06	07/27/13 12:38	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	9.56		4.96		mg/Kg	☼	07/25/13 08:17	07/25/13 21:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	54		50 - 150				07/25/13 08:17	07/25/13 21:19	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-1 (9-11)

Lab Sample ID: 490-31407-9

Date Collected: 07/19/13 12:20

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 92.0

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.30		mg/Kg	☼	07/24/13 12:06	07/27/13 07:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	103		50 - 150				07/24/13 12:06	07/27/13 07:28	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00105		mg/Kg	☼	07/24/13 12:06	07/27/13 13:19	1
Toluene	ND		0.00105		mg/Kg	☼	07/24/13 12:06	07/27/13 13:19	1
Methyl tert-butyl ether	ND		0.0105		mg/Kg	☼	07/24/13 12:06	07/27/13 13:19	1
Benzene	ND		0.00105		mg/Kg	☼	07/24/13 12:06	07/27/13 13:19	1
Naphthalene	ND		0.00523		mg/Kg	☼	07/24/13 12:06	07/27/13 13:19	1
Xylenes, Total	ND		0.00314		mg/Kg	☼	07/24/13 12:06	07/27/13 13:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>a,a,a-Trifluorotoluene</i>	104		50 - 150				07/24/13 12:06	07/27/13 13:19	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.32		mg/Kg	☼	07/22/13 09:28	07/24/13 03:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl (Surr)</i>	50		50 - 150				07/22/13 09:28	07/24/13 03:11	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-1 (28-30)

Lab Sample ID: 490-31407-10

Date Collected: 07/19/13 12:40

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 90.4

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		4.97		mg/Kg	☼	07/24/13 12:06	07/27/13 08:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	96		50 - 150				07/24/13 12:06	07/27/13 08:09	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00100		mg/Kg	☼	07/24/13 12:06	07/27/13 14:01	1
Toluene	ND		0.00100		mg/Kg	☼	07/24/13 12:06	07/27/13 14:01	1
Methyl tert-butyl ether	ND		0.0100		mg/Kg	☼	07/24/13 12:06	07/27/13 14:01	1
Benzene	ND		0.00100		mg/Kg	☼	07/24/13 12:06	07/27/13 14:01	1
Naphthalene	ND		0.00501		mg/Kg	☼	07/24/13 12:06	07/27/13 14:01	1
Xylenes, Total	ND		0.00301		mg/Kg	☼	07/24/13 12:06	07/27/13 14:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	99		50 - 150				07/24/13 12:06	07/27/13 14:01	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		4.97		mg/Kg	☼	07/25/13 08:17	07/25/13 20:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	52		50 - 150				07/25/13 08:17	07/25/13 20:32	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10		%			07/22/13 09:05	1

Client Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-1 (5-7)

Lab Sample ID: 490-31407-11

Date Collected: 07/19/13 12:15

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 95.1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		4.57		mg/Kg	☼	07/29/13 13:39	07/29/13 15:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	103		50 - 150				07/29/13 13:39	07/29/13 15:04	1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.000914		mg/Kg	☼	07/29/13 13:39	07/29/13 15:04	1
Toluene	ND		0.000914		mg/Kg	☼	07/29/13 13:39	07/29/13 15:04	1
Methyl tert-butyl ether	ND		0.00914		mg/Kg	☼	07/29/13 13:39	07/29/13 15:04	1
Benzene	ND		0.000914		mg/Kg	☼	07/29/13 13:39	07/29/13 15:04	1
Naphthalene	ND		0.00457		mg/Kg	☼	07/29/13 13:39	07/29/13 15:04	1
Xylenes, Total	ND		0.00274		mg/Kg	☼	07/29/13 13:39	07/29/13 15:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	112		50 - 150				07/29/13 13:39	07/29/13 15:04	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	29.1		5.10		mg/Kg	☼	07/22/13 09:28	07/24/13 03:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	65		50 - 150				07/22/13 09:28	07/24/13 03:49	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95		0.10		%			07/22/13 09:05	1

QC Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 490-95650/13
Matrix: Solid
Analysis Batch: 95650

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.00		mg/Kg			07/26/13 15:42	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	103		50 - 150					07/26/13 15:42	1

Lab Sample ID: MB 490-95650/14
Matrix: Solid
Analysis Batch: 95650

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.00		mg/Kg			07/26/13 16:03	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	101		50 - 150					07/26/13 16:03	1

Lab Sample ID: MB 490-95650/45
Matrix: Solid
Analysis Batch: 95650

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.00		mg/Kg			07/27/13 06:05	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	99		50 - 150					07/27/13 06:05	1

Lab Sample ID: LCS 490-95650/37
Matrix: Solid
Analysis Batch: 95650

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	10.0	8.034		mg/Kg		80	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene	94		50 - 150				

Lab Sample ID: MB 490-95944/17
Matrix: Solid
Analysis Batch: 95944

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		0.100		mg/Kg			07/29/13 12:22	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	105		50 - 150					07/29/13 12:22	1

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: MB 490-95944/18
Matrix: Solid
Analysis Batch: 95944

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		0.100		mg/Kg			07/29/13 12:42	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	100		50 - 150					07/29/13 12:42	1

Lab Sample ID: MB 490-95944/19
Matrix: Solid
Analysis Batch: 95944

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.00		mg/Kg			07/29/13 13:03	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	97		50 - 150					07/29/13 13:03	1

Lab Sample ID: MB 490-95944/20
Matrix: Solid
Analysis Batch: 95944

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	ND		5.00		mg/Kg			07/29/13 13:24	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	94		50 - 150					07/29/13 13:24	1

Lab Sample ID: LCS 490-95944/11
Matrix: Solid
Analysis Batch: 95944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	10.0	10.33		mg/Kg		103	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene	104		50 - 150				

Lab Sample ID: LCS 490-95944/12
Matrix: Solid
Analysis Batch: 95944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	10.0	11.65		mg/Kg		117	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
a,a,a-Trifluorotoluene	117		50 - 150				

QC Sample Results

Client: URS Corporation
Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCSD 490-95944/66

Matrix: Solid

Analysis Batch: 95944

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10	10.0	10.00		mg/Kg		100	70 - 130	3	21
Surrogate		%Recovery	Qualifier						
a,a,a-Trifluorotoluene		109							50 - 150

Lab Sample ID: LCSD 490-95944/67

Matrix: Solid

Analysis Batch: 95944

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10	10.0	11.77		mg/Kg		118	70 - 130	1	21
Surrogate		%Recovery	Qualifier						
a,a,a-Trifluorotoluene		110							50 - 150

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 490-95649/13

Matrix: Solid

Analysis Batch: 95649

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00100		mg/Kg			07/26/13 15:42	1
Toluene	ND		0.00100		mg/Kg			07/26/13 15:42	1
Methyl tert-butyl ether	ND		0.0100		mg/Kg			07/26/13 15:42	1
Benzene	ND		0.00100		mg/Kg			07/26/13 15:42	1
Naphthalene	ND		0.00500		mg/Kg			07/26/13 15:42	1
Xylenes, Total	ND		0.00300		mg/Kg			07/26/13 15:42	1
Surrogate		%Recovery	Qualifier				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene		102						07/26/13 15:42	1

Lab Sample ID: MB 490-95649/14

Matrix: Solid

Analysis Batch: 95649

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00100		mg/Kg			07/26/13 16:03	1
Toluene	ND		0.00100		mg/Kg			07/26/13 16:03	1
Methyl tert-butyl ether	ND		0.0100		mg/Kg			07/26/13 16:03	1
Benzene	ND		0.00100		mg/Kg			07/26/13 16:03	1
Naphthalene	ND		0.00500		mg/Kg			07/26/13 16:03	1
Xylenes, Total	ND		0.00300		mg/Kg			07/26/13 16:03	1
Surrogate		%Recovery	Qualifier				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene		98						07/26/13 16:03	1

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 490-95649/46

Matrix: Solid

Analysis Batch: 95649

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00100		mg/Kg			07/27/13 06:26	1
Toluene	ND		0.00100		mg/Kg			07/27/13 06:26	1
Methyl tert-butyl ether	ND		0.0100		mg/Kg			07/27/13 06:26	1
Benzene	ND		0.00100		mg/Kg			07/27/13 06:26	1
Naphthalene	ND		0.00500		mg/Kg			07/27/13 06:26	1
Xylenes, Total	ND		0.00300		mg/Kg			07/27/13 06:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	113		50 - 150		07/27/13 06:26	1

Lab Sample ID: LCS 490-95649/10

Matrix: Solid

Analysis Batch: 95649

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.09792		mg/Kg		98	77 - 120
Toluene	0.100	0.09744		mg/Kg		97	79 - 120
Methyl tert-butyl ether	0.100	0.1088		mg/Kg		109	73 - 120
Benzene	0.100	0.09531		mg/Kg		95	76 - 120
Naphthalene	0.100	0.1251		mg/Kg		125	74 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	111		50 - 150

Lab Sample ID: LCS 490-95649/9

Matrix: Solid

Analysis Batch: 95649

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.09485		mg/Kg		95	77 - 120
Toluene	0.100	0.09434		mg/Kg		94	79 - 120
Methyl tert-butyl ether	0.100	0.1059		mg/Kg		106	73 - 120
Benzene	0.100	0.09138		mg/Kg		91	76 - 120
Naphthalene	0.100	0.1193		mg/Kg		119	74 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	113		50 - 150

Lab Sample ID: MB 490-95943/17

Matrix: Solid

Analysis Batch: 95943

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00100		mg/Kg			07/29/13 12:22	1
Toluene	ND		0.00100		mg/Kg			07/29/13 12:22	1
Methyl tert-butyl ether	ND		0.0100		mg/Kg			07/29/13 12:22	1
Benzene	ND		0.00100		mg/Kg			07/29/13 12:22	1

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 490-95943/17
Matrix: Solid
Analysis Batch: 95943

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.00500		mg/Kg			07/29/13 12:22	1
Xylenes, Total	ND		0.00300		mg/Kg			07/29/13 12:22	1
Surrogate	%Recovery	MB Qualifier	MB Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	101		50 - 150					07/29/13 12:22	1

Lab Sample ID: MB 490-95943/18
Matrix: Solid
Analysis Batch: 95943

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.00100		mg/Kg			07/29/13 12:42	1
Toluene	ND		0.00100		mg/Kg			07/29/13 12:42	1
Methyl tert-butyl ether	ND		0.0100		mg/Kg			07/29/13 12:42	1
Benzene	ND		0.00100		mg/Kg			07/29/13 12:42	1
Naphthalene	ND		0.00500		mg/Kg			07/29/13 12:42	1
Xylenes, Total	ND		0.00300		mg/Kg			07/29/13 12:42	1
Surrogate	%Recovery	MB Qualifier	MB Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	100		50 - 150					07/29/13 12:42	1

Lab Sample ID: LCS 490-95943/13
Matrix: Solid
Analysis Batch: 95943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.09453		mg/Kg		95	77 - 120
Toluene	0.100	0.09555		mg/Kg		96	79 - 120
Methyl tert-butyl ether	0.100	0.1081		mg/Kg		108	73 - 120
Benzene	0.100	0.09288		mg/Kg		93	76 - 120
Naphthalene	0.100	0.1095		mg/Kg		110	74 - 127
Surrogate	%Recovery	LCS Qualifier	LCS Limits				
a,a,a-Trifluorotoluene	99		50 - 150				

Lab Sample ID: LCS 490-95943/14
Matrix: Solid
Analysis Batch: 95943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	0.100	0.09729		mg/Kg		97	77 - 120
Toluene	0.100	0.09750		mg/Kg		98	79 - 120
Methyl tert-butyl ether	0.100	0.1045		mg/Kg		105	73 - 120
Benzene	0.100	0.09587		mg/Kg		96	76 - 120
Naphthalene	0.100	0.1102		mg/Kg		110	74 - 127

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 490-95943/14
Matrix: Solid
Analysis Batch: 95943

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCS Qualifier</i>	<i>Limits</i>
<i>a,a,a-Trifluorotoluene</i>	114		50 - 150

Lab Sample ID: LCSD 490-95943/28
Matrix: Solid
Analysis Batch: 95943

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
Ethylbenzene	0.100	0.09643		mg/Kg		96	77 - 120	2	49
Toluene	0.100	0.09595		mg/Kg		96	79 - 120	0	37
Methyl tert-butyl ether	0.100	0.1055		mg/Kg		105	73 - 120	2	31
Benzene	0.100	0.09433		mg/Kg		94	76 - 120	2	27
Naphthalene	0.100	0.1136		mg/Kg		114	74 - 127	4	50

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCSD Qualifier</i>	<i>Limits</i>
<i>a,a,a-Trifluorotoluene</i>	254	X	50 - 150

Lab Sample ID: LCSD 490-95943/29
Matrix: Solid
Analysis Batch: 95943

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
Ethylbenzene	0.100	0.09757		mg/Kg		98	77 - 120	0	49
Toluene	0.100	0.09660		mg/Kg		97	79 - 120	1	37
Methyl tert-butyl ether	0.100	0.1137		mg/Kg		114	73 - 120	8	31
Benzene	0.100	0.09437		mg/Kg		94	76 - 120	2	27
Naphthalene	0.100	0.1275		mg/Kg		127	74 - 127	15	50

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCSD Qualifier</i>	<i>Limits</i>
<i>a,a,a-Trifluorotoluene</i>	118		50 - 150

Lab Sample ID: 490-31407-A-2-F MS
Matrix: Soil
Analysis Batch: 95943

Client Sample ID: 490-31407-A-2-F MS
Prep Type: Total/NA
Prep Batch: 96113

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MS Result</i>	<i>MS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
Ethylbenzene	ND		0.0505	0.04211		mg/Kg	☼	83	10 - 141
Toluene	ND		0.0505	0.04533		mg/Kg	☼	90	20 - 143
Methyl tert-butyl ether	ND		0.0505	0.05653		mg/Kg	☼	112	26 - 145
Benzene	ND		0.0505	0.04478		mg/Kg	☼	87	36 - 131
Naphthalene	0.0247		0.0505	0.08068		mg/Kg	☼	111	10 - 151

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
<i>a,a,a-Trifluorotoluene</i>	287	X	50 - 150

QC Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 490-31407-A-2-G MSD

Matrix: Soil

Analysis Batch: 95943

Client Sample ID: 490-31407-A-2-G MSD

Prep Type: Total/NA

Prep Batch: 96113

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Ethylbenzene	ND		0.0500	0.03455		mg/Kg	☼	69	10 - 141	20	49
Toluene	ND		0.0500	0.03774		mg/Kg	☼	75	20 - 143	18	37
Methyl tert-butyl ether	ND		0.0500	0.05179		mg/Kg	☼	104	26 - 145	9	31
Benzene	ND		0.0500	0.03888		mg/Kg	☼	76	36 - 131	14	27
Naphthalene	0.0247		0.0500	0.05266		mg/Kg	☼	56	10 - 151	42	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
a,a,a-Trifluorotoluene	149		50 - 150

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 490-94438/1-A

Matrix: Solid

Analysis Batch: 94712

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 94438

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.00		mg/Kg		07/22/13 09:28	07/23/13 23:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	71		50 - 150	07/22/13 09:28	07/23/13 23:04	1

Lab Sample ID: LCS 490-94438/2-A

Matrix: Solid

Analysis Batch: 94712

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 94438

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	40.0	32.17		mg/Kg		80	54 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl (Surr)	80		50 - 150

Lab Sample ID: 240-27007-B-1-B MS

Matrix: Solid

Analysis Batch: 94712

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 94438

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	ND		39.3	27.35		mg/Kg		70	10 - 142

Surrogate	MS %Recovery	MS Qualifier	Limits
o-Terphenyl (Surr)	70		50 - 150

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 240-27007-B-1-C MSD

Matrix: Solid
Analysis Batch: 94712

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA
Prep Batch: 94438

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		39.2	26.49		mg/Kg		68	10 - 142	3	47
Surrogate	%Recovery	MSD Qualifier	Limits								
<i>o-Terphenyl (Surr)</i>	72		50 - 150								

Lab Sample ID: MB 490-95209/1-A

Matrix: Solid
Analysis Batch: 95401

Client Sample ID: Method Blank

Prep Type: Total/NA
Prep Batch: 95209

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.00		mg/Kg		07/25/13 08:17	07/25/13 19:45	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o-Terphenyl (Surr)</i>	95		50 - 150				07/25/13 08:17	07/25/13 19:45	1

Lab Sample ID: LCS 490-95209/2-A

Matrix: Solid
Analysis Batch: 95401

Client Sample ID: Lab Control Sample

Prep Type: Total/NA
Prep Batch: 95209

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	40.0	36.37		mg/Kg		91	54 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>o-Terphenyl (Surr)</i>	98		50 - 150				

Lab Sample ID: LCSD 490-95209/7-A

Matrix: Solid
Analysis Batch: 95401

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA
Prep Batch: 95209

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	40.0	40.54		mg/Kg		101	54 - 130	11	47
Surrogate	%Recovery	LCSD Qualifier	Limits						
<i>o-Terphenyl (Surr)</i>	106		50 - 150						

Lab Sample ID: 490-31407-10 MS

Matrix: Soil
Analysis Batch: 95401

Client Sample ID: SB-1 (28-30)

Prep Type: Total/NA
Prep Batch: 95209

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	ND		39.2	38.33		mg/Kg	✪	88	10 - 142

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 490-31407-10 MS
Matrix: Soil
Analysis Batch: 95401

Client Sample ID: SB-1 (28-30)
Prep Type: Total/NA
Prep Batch: 95209

	<i>MS</i>	<i>MS</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>o-Terphenyl (Surr)</i>	86		50 - 150

Lab Sample ID: 490-31407-10 MSD
Matrix: Soil
Analysis Batch: 95401

Client Sample ID: SB-1 (28-30)
Prep Type: Total/NA
Prep Batch: 95209

<i>Analyte</i>	<i>Sample</i>	<i>Sample</i>	<i>Spike</i>	<i>MSD</i>	<i>MSD</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i>	<i>RPD</i>	
	<i>Result</i>	<i>Qualifier</i>	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>				<i>Limits</i>	<i>RPD</i>	<i>Limit</i>
Diesel Range Organics [C10-C28]	ND		39.5	41.98		mg/Kg	*	96	10 - 142	9	47

	<i>MSD</i>	<i>MSD</i>	
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>o-Terphenyl (Surr)</i>	89		50 - 150

Method: Moisture - Percent Moisture

Lab Sample ID: 490-31396-A-1 DU
Matrix: Solid
Analysis Batch: 94410

Client Sample ID: Duplicate
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample</i>	<i>Sample</i>	<i>DU</i>	<i>DU</i>	<i>Unit</i>	<i>D</i>	<i>RPD</i>	<i>RPD</i>	<i>Limit</i>
	<i>Result</i>	<i>Qualifier</i>	<i>Result</i>	<i>Qualifier</i>				<i>Limit</i>	
Percent Solids	83		84		%		0.5	20	

QC Association Summary

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

GC VOA

Prep Batch: 94999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-6	SB-1 (14-16)	Total/NA	Soil	5030B	

Prep Batch: 95001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-1	SB-2 (5-7)	Total/NA	Soil	5030B	
490-31407-2	SB-2 (9-11)	Total/NA	Soil	5030B	
490-31407-3	SB-2 (14-16)	Total/NA	Soil	5030B	
490-31407-4	SB-2 (19-21)	Total/NA	Soil	5030B	
490-31407-4	SB-2 (19-21)	Total/NA	Soil	5030B	
490-31407-5	SB-2 (23-25)	Total/NA	Soil	5030B	
490-31407-6	SB-1 (14-16)	Total/NA	Soil	5030B	
490-31407-7	SB-1 (24-26)	Total/NA	Soil	5030B	
490-31407-7	SB-1 (24-26)	Total/NA	Soil	5030B	
490-31407-8	SB-1 (19-21)	Total/NA	Soil	5030B	
490-31407-8	SB-1 (19-21)	Total/NA	Soil	5030B	
490-31407-9	SB-1 (9-11)	Total/NA	Soil	5030B	
490-31407-9	SB-1 (9-11)	Total/NA	Soil	5030B	
490-31407-10	SB-1 (28-30)	Total/NA	Soil	5030B	
490-31407-10	SB-1 (28-30)	Total/NA	Soil	5030B	

Analysis Batch: 95649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-1	SB-2 (5-7)	Total/NA	Soil	8021B	95001
490-31407-2	SB-2 (9-11)	Total/NA	Soil	8021B	95001
490-31407-3	SB-2 (14-16)	Total/NA	Soil	8021B	95001
490-31407-4	SB-2 (19-21)	Total/NA	Soil	8021B	95001
490-31407-5	SB-2 (23-25)	Total/NA	Soil	8021B	95001
490-31407-6	SB-1 (14-16)	Total/NA	Soil	8021B	95001
490-31407-7	SB-1 (24-26)	Total/NA	Soil	8021B	95001
490-31407-8	SB-1 (19-21)	Total/NA	Soil	8021B	95001
490-31407-9	SB-1 (9-11)	Total/NA	Soil	8021B	95001
490-31407-10	SB-1 (28-30)	Total/NA	Soil	8021B	95001
LCS 490-95649/10	Lab Control Sample	Total/NA	Solid	8021B	
LCS 490-95649/9	Lab Control Sample	Total/NA	Solid	8021B	
MB 490-95649/13	Method Blank	Total/NA	Solid	8021B	
MB 490-95649/14	Method Blank	Total/NA	Solid	8021B	
MB 490-95649/46	Method Blank	Total/NA	Solid	8021B	

Analysis Batch: 95650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-1	SB-2 (5-7)	Total/NA	Soil	8015B	95001
490-31407-2	SB-2 (9-11)	Total/NA	Soil	8015B	95001
490-31407-3	SB-2 (14-16)	Total/NA	Soil	8015B	95001
490-31407-4	SB-2 (19-21)	Total/NA	Soil	8015B	95001
490-31407-5	SB-2 (23-25)	Total/NA	Soil	8015B	95001
490-31407-7	SB-1 (24-26)	Total/NA	Soil	8015B	95001
490-31407-8	SB-1 (19-21)	Total/NA	Soil	8015B	95001
490-31407-9	SB-1 (9-11)	Total/NA	Soil	8015B	95001
490-31407-10	SB-1 (28-30)	Total/NA	Soil	8015B	95001
LCS 490-95650/37	Lab Control Sample	Total/NA	Solid	8015B	
MB 490-95650/13	Method Blank	Total/NA	Solid	8015B	

TestAmerica Nashville

QC Association Summary

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

GC VOA (Continued)

Analysis Batch: 95650 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 490-95650/14	Method Blank	Total/NA	Solid	8015B	
MB 490-95650/45	Method Blank	Total/NA	Solid	8015B	

Analysis Batch: 95943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-2	SB-2 (9-11)	Total/NA	Soil	8021B	96113
490-31407-11	SB-1 (5-7)	Total/NA	Soil	8021B	96113
490-31407-A-2-F MS	490-31407-A-2-F MS	Total/NA	Soil	8021B	96113
490-31407-A-2-G MSD	490-31407-A-2-G MSD	Total/NA	Soil	8021B	96113
LCS 490-95943/13	Lab Control Sample	Total/NA	Solid	8021B	
LCS 490-95943/14	Lab Control Sample	Total/NA	Solid	8021B	
LCS 490-95943/28	Lab Control Sample Dup	Total/NA	Solid	8021B	
LCS 490-95943/29	Lab Control Sample Dup	Total/NA	Solid	8021B	
MB 490-95943/17	Method Blank	Total/NA	Solid	8021B	
MB 490-95943/18	Method Blank	Total/NA	Solid	8021B	

Analysis Batch: 95944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-6	SB-1 (14-16)	Total/NA	Soil	8015B	94999
490-31407-11	SB-1 (5-7)	Total/NA	Soil	8015B	96113
LCS 490-95944/11	Lab Control Sample	Total/NA	Solid	8015B	
LCS 490-95944/12	Lab Control Sample	Total/NA	Solid	8015B	
LCS 490-95944/66	Lab Control Sample Dup	Total/NA	Solid	8015B	
LCS 490-95944/67	Lab Control Sample Dup	Total/NA	Solid	8015B	
MB 490-95944/17	Method Blank	Total/NA	Solid	8015B	
MB 490-95944/18	Method Blank	Total/NA	Solid	8015B	
MB 490-95944/19	Method Blank	Total/NA	Solid	8015B	
MB 490-95944/20	Method Blank	Total/NA	Solid	8015B	

Prep Batch: 96113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-2	SB-2 (9-11)	Total/NA	Soil	5030B	
490-31407-11	SB-1 (5-7)	Total/NA	Soil	5030B	
490-31407-A-2-F MS	490-31407-A-2-F MS	Total/NA	Soil	5030B	
490-31407-A-2-G MSD	490-31407-A-2-G MSD	Total/NA	Soil	5030B	

GC Semi VOA

Prep Batch: 94438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27007-B-1-B MS	Matrix Spike	Total/NA	Solid	3550B	
240-27007-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3550B	
490-31407-1	SB-2 (5-7)	Total/NA	Soil	3550B	
490-31407-2	SB-2 (9-11)	Total/NA	Soil	3550B	
490-31407-3	SB-2 (14-16)	Total/NA	Soil	3550B	
490-31407-4	SB-2 (19-21)	Total/NA	Soil	3550B	
490-31407-5	SB-2 (23-25)	Total/NA	Soil	3550B	
490-31407-6	SB-1 (14-16)	Total/NA	Soil	3550B	
490-31407-7	SB-1 (24-26)	Total/NA	Soil	3550B	
490-31407-9	SB-1 (9-11)	Total/NA	Soil	3550B	

TestAmerica Nashville

QC Association Summary

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

GC Semi VOA (Continued)

Prep Batch: 94438 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-11	SB-1 (5-7)	Total/NA	Soil	3550B	
LCS 490-94438/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-94438/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 94712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-27007-B-1-B MS	Matrix Spike	Total/NA	Solid	8015B	94438
240-27007-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	94438
490-31407-1	SB-2 (5-7)	Total/NA	Soil	8015B	94438
490-31407-2	SB-2 (9-11)	Total/NA	Soil	8015B	94438
490-31407-3	SB-2 (14-16)	Total/NA	Soil	8015B	94438
490-31407-4	SB-2 (19-21)	Total/NA	Soil	8015B	94438
490-31407-5	SB-2 (23-25)	Total/NA	Soil	8015B	94438
490-31407-6	SB-1 (14-16)	Total/NA	Soil	8015B	94438
490-31407-7	SB-1 (24-26)	Total/NA	Soil	8015B	94438
490-31407-9	SB-1 (9-11)	Total/NA	Soil	8015B	94438
490-31407-11	SB-1 (5-7)	Total/NA	Soil	8015B	94438
LCS 490-94438/2-A	Lab Control Sample	Total/NA	Solid	8015B	94438
MB 490-94438/1-A	Method Blank	Total/NA	Solid	8015B	94438

Prep Batch: 95209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-8	SB-1 (19-21)	Total/NA	Soil	3550B	
490-31407-10	SB-1 (28-30)	Total/NA	Soil	3550B	
490-31407-10 MS	SB-1 (28-30)	Total/NA	Soil	3550B	
490-31407-10 MSD	SB-1 (28-30)	Total/NA	Soil	3550B	
LCS 490-95209/2-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 490-95209/7-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 490-95209/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 95401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-8	SB-1 (19-21)	Total/NA	Soil	8015B	95209
490-31407-10	SB-1 (28-30)	Total/NA	Soil	8015B	95209
490-31407-10 MS	SB-1 (28-30)	Total/NA	Soil	8015B	95209
490-31407-10 MSD	SB-1 (28-30)	Total/NA	Soil	8015B	95209
LCS 490-95209/2-A	Lab Control Sample	Total/NA	Solid	8015B	95209
LCSD 490-95209/7-A	Lab Control Sample Dup	Total/NA	Solid	8015B	95209
MB 490-95209/1-A	Method Blank	Total/NA	Solid	8015B	95209

General Chemistry

Analysis Batch: 94410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31396-A-1 DU	Duplicate	Total/NA	Solid	Moisture	
490-31407-1	SB-2 (5-7)	Total/NA	Soil	Moisture	
490-31407-2	SB-2 (9-11)	Total/NA	Soil	Moisture	
490-31407-3	SB-2 (14-16)	Total/NA	Soil	Moisture	
490-31407-4	SB-2 (19-21)	Total/NA	Soil	Moisture	
490-31407-5	SB-2 (23-25)	Total/NA	Soil	Moisture	

TestAmerica Nashville

QC Association Summary

Client: URS Corporation
Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

General Chemistry (Continued)

Analysis Batch: 94410 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-31407-6	SB-1 (14-16)	Total/NA	Soil	Moisture	
490-31407-7	SB-1 (24-26)	Total/NA	Soil	Moisture	
490-31407-8	SB-1 (19-21)	Total/NA	Soil	Moisture	
490-31407-9	SB-1 (9-11)	Total/NA	Soil	Moisture	
490-31407-10	SB-1 (28-30)	Total/NA	Soil	Moisture	
490-31407-11	SB-1 (5-7)	Total/NA	Soil	Moisture	



Lab Chronicle

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-2 (5-7)

Date Collected: 07/19/13 14:05

Date Received: 07/20/13 08:15

Lab Sample ID: 490-31407-1

Matrix: Soil
 Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	95649	07/27/13 00:13	BDH	TAL NSH
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95650	07/27/13 00:13	BDH	TAL NSH
Total/NA	Prep	3550B			94438	07/22/13 09:28	AJK	TAL NSH
Total/NA	Analysis	8015B		1	94712	07/24/13 00:38	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Client Sample ID: SB-2 (9-11)

Date Collected: 07/19/13 14:10

Date Received: 07/20/13 08:15

Lab Sample ID: 490-31407-2

Matrix: Soil
 Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	95649	07/26/13 22:30	BDH	TAL NSH
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95650	07/26/13 22:30	BDH	TAL NSH
Total/NA	Prep	5030B			96113	07/29/13 13:39	BDH	TAL NSH
Total/NA	Analysis	8021B		1	95943	07/29/13 14:23	BDH	TAL NSH
Total/NA	Prep	3550B			94438	07/22/13 09:28	AJK	TAL NSH
Total/NA	Analysis	8015B		1	94712	07/24/13 00:57	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Client Sample ID: SB-2 (14-16)

Date Collected: 07/19/13 14:15

Date Received: 07/20/13 08:15

Lab Sample ID: 490-31407-3

Matrix: Soil
 Percent Solids: 86.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	95649	07/26/13 23:11	BDH	TAL NSH
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95650	07/26/13 23:11	BDH	TAL NSH
Total/NA	Prep	3550B			94438	07/22/13 09:28	AJK	TAL NSH
Total/NA	Analysis	8015B		1	94712	07/24/13 01:15	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Client Sample ID: SB-2 (19-21)

Date Collected: 07/19/13 14:20

Date Received: 07/20/13 08:15

Lab Sample ID: 490-31407-4

Matrix: Soil
 Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8021B		1	95649	07/27/13 02:18	BDH	TAL NSH
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95650	07/26/13 23:53	BDH	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-2 (19-21)

Lab Sample ID: 490-31407-4

Date Collected: 07/19/13 14:20

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			94438	07/22/13 09:28	AJK	TAL NSH
Total/NA	Analysis	8015B		1	94712	07/24/13 01:34	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Client Sample ID: SB-2 (23-25)

Lab Sample ID: 490-31407-5

Date Collected: 07/19/13 14:25

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	95649	07/27/13 00:34	BDH	TAL NSH
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95650	07/27/13 00:34	BDH	TAL NSH
Total/NA	Prep	3550B			94438	07/22/13 09:28	AJK	TAL NSH
Total/NA	Analysis	8015B		1	94712	07/24/13 01:53	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Client Sample ID: SB-1 (14-16)

Lab Sample ID: 490-31407-6

Date Collected: 07/19/13 12:25

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 80.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8021B		1	95649	07/27/13 11:15	BDH	TAL NSH
Total/NA	Prep	5030B			94999	07/24/13 12:05	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95944	07/29/13 19:54	BDH	TAL NSH
Total/NA	Prep	3550B			94438	07/22/13 09:28	AJK	TAL NSH
Total/NA	Analysis	8015B		1	94712	07/24/13 02:13	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Client Sample ID: SB-1 (24-26)

Lab Sample ID: 490-31407-7

Date Collected: 07/19/13 12:35

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 83.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8021B		1	95649	07/27/13 11:56	BDH	TAL NSH
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95650	07/27/13 01:57	BDH	TAL NSH
Total/NA	Prep	3550B			94438	07/22/13 09:28	AJK	TAL NSH
Total/NA	Analysis	8015B		1	94712	07/24/13 02:32	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-1 (19-21)

Lab Sample ID: 490-31407-8

Date Collected: 07/19/13 12:30

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8021B		1	95649	07/27/13 12:38	BDH	TAL NSH
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95650	07/27/13 02:39	BDH	TAL NSH
Total/NA	Prep	3550B			95209	07/25/13 08:17	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95401	07/25/13 21:19	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Client Sample ID: SB-1 (9-11)

Lab Sample ID: 490-31407-9

Date Collected: 07/19/13 12:20

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8021B		1	95649	07/27/13 13:19	BDH	TAL NSH
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95650	07/27/13 07:28	BDH	TAL NSH
Total/NA	Prep	3550B			94438	07/22/13 09:28	AJK	TAL NSH
Total/NA	Analysis	8015B		1	94712	07/24/13 03:11	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Client Sample ID: SB-1 (28-30)

Lab Sample ID: 490-31407-10

Date Collected: 07/19/13 12:40

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8021B		1	95649	07/27/13 14:01	BDH	TAL NSH
Total/NA	Prep	5030B			95001	07/24/13 12:06	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95650	07/27/13 08:09	BDH	TAL NSH
Total/NA	Prep	3550B			95209	07/25/13 08:17	JLP	TAL NSH
Total/NA	Analysis	8015B		1	95401	07/25/13 20:32	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Client Sample ID: SB-1 (5-7)

Lab Sample ID: 490-31407-11

Date Collected: 07/19/13 12:15

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	95943	07/29/13 15:04	BDH	TAL NSH
Total/NA	Prep	5030B			96113	07/29/13 13:39	BDH	TAL NSH
Total/NA	Analysis	8015B		1	95944	07/29/13 15:04	BDH	TAL NSH
Total/NA	Prep	3550B			94438	07/22/13 09:28	AJK	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: URS Corporation
Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Client Sample ID: SB-1 (5-7)

Lab Sample ID: 490-31407-11

Date Collected: 07/19/13 12:15

Matrix: Soil

Date Received: 07/20/13 08:15

Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015B		1	94712	07/24/13 03:49	JML	TAL NSH
Total/NA	Analysis	Moisture		1	94410	07/22/13 09:05	RRS	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Method Summary

Client: URS Corporation
Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Method	Method Description	Protocol	Laboratory
8015B	Gasoline Range Organics - (GC)	SW846	TAL NSH
8021B	Volatile Organic Compounds (GC)	SW846	TAL NSH
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



Certification Summary

Client: URS Corporation
 Project/Site: Potomac River Generating Station

TestAmerica Job ID: 490-31407-1

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	ACIL		393	10-30-13
A2LA	ISO/IEC 17025		0453.07	12-31-13
Alaska (UST)	State Program	10	UST-087	07-24-14
Arizona	State Program	9	AZ0473	05-05-14
Arkansas DEQ	State Program	6	88-0737	04-25-14
California	NELAP	9	1168CA	10-31-13
Connecticut	State Program	1	PH-0220	12-31-13
Florida	NELAP	4	E87358	06-30-14
Illinois	NELAP	5	200010	12-09-13
Iowa	State Program	7	131	05-01-14
Kansas	NELAP	7	E-10229	10-31-13
Kentucky (UST)	State Program	4	19	06-30-14
Louisiana	NELAP	6	30613	06-30-14
Maryland	State Program	3	316	03-31-14
Massachusetts	State Program	1	M-TN032	06-30-14
Minnesota	NELAP	5	047-999-345	12-31-13
Mississippi	State Program	4	N/A	06-30-14
Montana (UST)	State Program	8	NA	01-01-15
Nevada	State Program	9	TN00032	07-31-13 *
New Hampshire	NELAP	1	2963	10-10-13
New Jersey	NELAP	2	TN965	06-30-14
New York	NELAP	2	11342	04-01-14
North Carolina DENR	State Program	4	387	12-31-13
North Dakota	State Program	8	R-146	06-30-14
Ohio VAP	State Program	5	CL0033	01-19-14
Oklahoma	State Program	6	9412	08-31-13
Oregon	NELAP	10	TN200001	04-29-14
Pennsylvania	NELAP	3	68-00585	06-30-14
Rhode Island	State Program	1	LAO00268	12-30-13
South Carolina	State Program	4	84009 (001)	02-28-14
South Carolina	State Program	4	84009 (002)	02-23-14
Tennessee	State Program	4	2008	02-23-14
Texas	NELAP	6	T104704077-09-TX	08-31-13
USDA	Federal		S-48469	11-02-13
Virginia	NELAP	3	460152	06-14-14
Washington	State Program	10	C789	07-19-14
West Virginia DEP	State Program	3	219	02-28-14
Wisconsin	State Program	5	998020430	08-31-13
Wyoming (UST)	A2LA	8	453.07	12-31-13

* Expired certification is currently pending renewal and is considered valid.



COOLER RECEIPT FORM

Cooler Received/Opened On : 07/20/13 @ 0815

Tracking # 0730 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun : 17960357

1. Temperature of rep. sample or temp blank when opened: 2.5 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES...NO NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) MBM

7. Were custody seals on containers: YES NO and Intact YES NO NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None *MBM 7.20.13*

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) MBM

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) MBM

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) MBM

I certify that I attached a label with the unique LIMS number to each container (initial) MBM

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO..# _____

TestAmerica Nashville
 2960 Foster Creighton Drive
 Nashville, TN 37204
 Phone (615) 726-0177 Fax (615) 726-3404

Chain of Custody Record

Loc: 490
 31407



Client Information

Client Contact:
 Ms. Adriane Rogers

Sampler:
 Eric Schwager (ANS)

Lab PM:
 Gartner, Cathy

Cal

COCLN:
 490-13391-5886.2

Company:
 URS Corporation

Address:
 12420 Milestone Center Drive Ste 150

City:
 Germantown

State Zip:
 MD, 20876

Phone:
 301.820.3241

Email:
 adriane.rogers@urs.com

Project Name:
 NRG Energy

Site:
 Potomac River Generating Station

Due Date Requested:

TAT Requested (days):

Standard

PO #:

W/O #:

Project #:

SSOW#:

Analysis Requested

Job #:

Page: 1 of 1

Sample Identification

Sample Date

Sample Time

Sample Type (C=comp, G=grab) Preservation Code

Matrix (W=water, S=solid, O=other)

Field Filtered Sample (Yes or No)

Perform MMS/MSR (Yes or No)

8015B_DRO

8015B_GRO

8021B - BTEX + MTBE + Naphthalene

Total Number of containers

Special Instructions/Note:

Sample ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Preservation Code	Matrix (W=water, S=solid, O=other)	Field Filtered Sample (Yes or No)	Perform MMS/MSR (Yes or No)	8015B_DRO	8015B_GRO	8021B - BTEX + MTBE + Naphthalene	Total Number of containers	Special Instructions/Note:
SB-2 4 (5-7)	7/19/13	1325	G		S	X	X	X	X		2	
SB-2 (9-11)	7/19/13	1410	G		S	X	X	X	X		2	
SB-2 (14-16)	7/19/13	1415	G		S	X	X	X	X		2	
SB-2 (19-21)	7/19/13	1420	G		S	X	X	X	X		2	
SB-2 (23-25)	7/19/13	1425	G		S	X	X	X	X		2	
SB-1 (14-16)	7/19/13	1225	G		S	X	X	X	X		2	
SB-1 (24-26)	7/19/13	1235	G		S	X	X	X	X		2	
SB-1 (19-21)	7/19/13	1230	G		S	X	X	X	X		2	
SB-1 (9-11)	7/19/13	1220	G		S	X	X	X	X		2	
SB-1 (28-30)	7/19/13	1240	G		S	X	X	X	X		2	
SB-1 (5-7)	7/19/13	1215	G		S	X	X	X	X		2	

Possible Hazard Identification

Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

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

Empty Kit Relinquished by:

Date: _____

Time: _____

Method of Shipment:

Relinquished by: *[Signature]*

Date/Time: 7/19/13

Company: DS

Received by: FEDEX

Date/Time: 7-20-13 @ 0815

Company: Taw

Relinquished by:

Date/Time:

Company:

Received by:

Date/Time:

Company:

Custody Seals Intact: _____

Δ Yes Δ No

Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

25c

Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 490-31407-1

Login Number: 31407

List Source: TestAmerica Nashville

List Number: 1

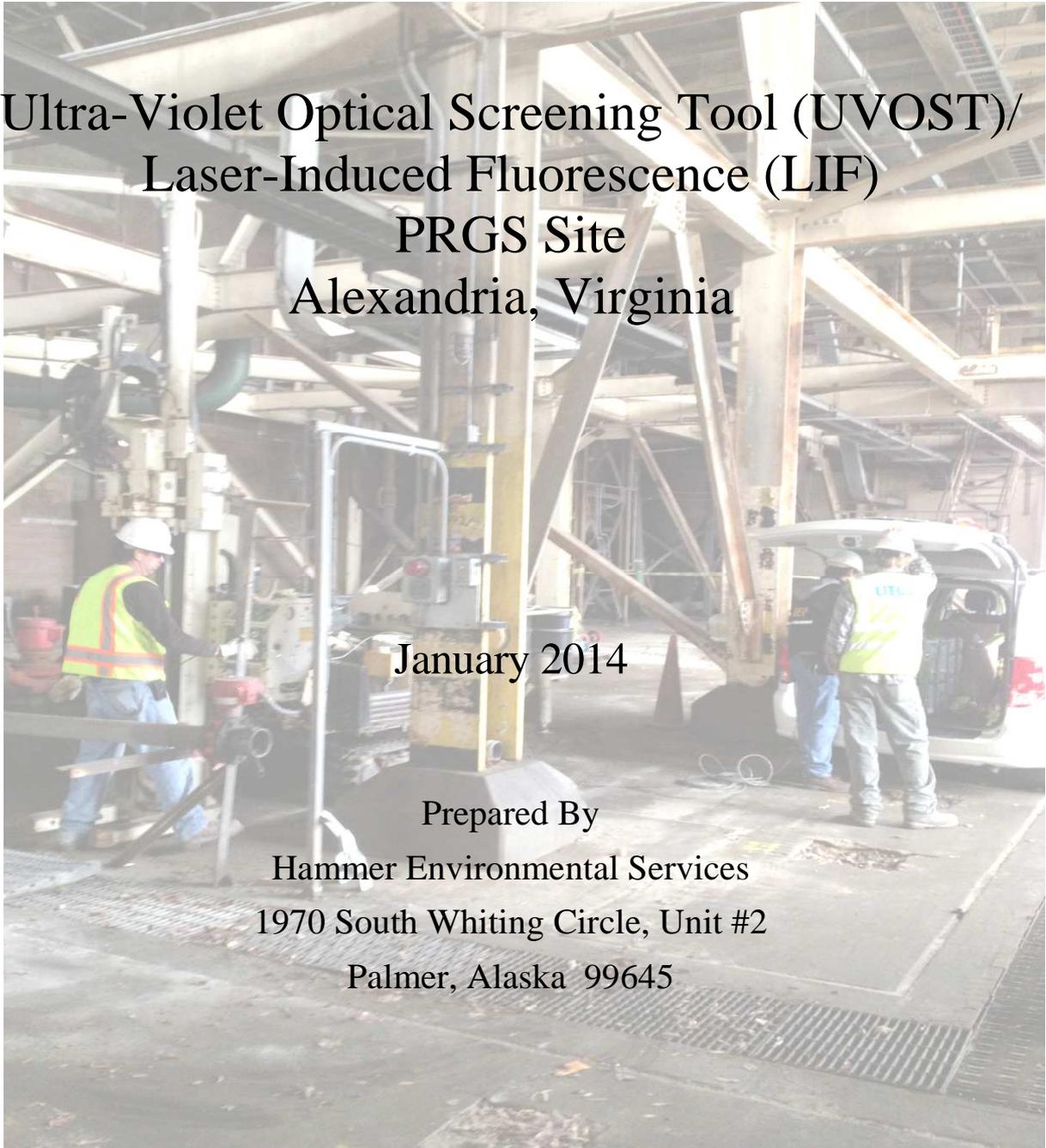
Creator: McBride, Mike

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Appendix D
Hammer Environmental Services LIF Report

URS Corporation
12420 Milestone Center Drive
Suite 150
Germantown, Maryland 20876



Ultra-Violet Optical Screening Tool (UVOST)/
Laser-Induced Fluorescence (LIF)
PRGS Site
Alexandria, Virginia

January 2014

Prepared By
Hammer Environmental Services
1970 South Whiting Circle, Unit #2
Palmer, Alaska 99645

TABLE OF CONTENTS

EXECUTIVE SUMMARY.....	I
1.0 INTRODUCTION.....	1
1.1 Generalized Scope of Work.....	1
2.0 LIF/ UVOST TECHNOLOGY.....	2
3.0 FIELD ACTIVITIES.....	4
3.1 Project Approach.....	4
3.2 UVOST Field Work.....	4
4.0 RESULTS.....	5
4.1 General Results.....	5
4.2 Light-Medium Fuel Signature.....	5
4.3 Upper Site.....	6
4.4 Lower Site.....	6
5.0 CONCLUSIONS.....	7
5.1 Discussion of Conclusions.....	7
5.2 Overall Conclusions.....	7

ATTACHMENT

Attachment A – UVOST / LIF Probe Logs

Attachment B – Site Figures

EXECUTIVE SUMMARY

Hammer Environmental Services (Hammer Env) conducted an investigation to identify the existence of petroleum, oil, and lubricant (POL) contamination at the PRGS facility in King Alexandria, Virginia.

The principal data acquisition method utilized was the Ultra-Violet Optical Screening Tool (UVOST) and its laser-induced fluorescence (LIF) probe. The scope of work called for Hammer Env to utilize the UVOST to investigate the horizontal and vertical extent of POL contamination at pre-selected locations at the site. The large concrete slab foundation and extensive underground utilities made pre-selecting and preparing probe locations a necessity. A total of forty-six (46) UVOST probe locations were completed within the area, of which nine met refusal before reaching the target depth. Overall, the UVOST/ LIF system effectively identified POL contamination in the soils. The main wave signature at the site was similar to a light-medium POL contaminant, probably diesel fuel.

Approximately twenty-one (21) of the thirty-seven (37) completed UVOST probe locations yielded LIF fuel-type responses. The maximum LIF response at any site was 396% RE at probe location PRGS UV-05. The horizontal extent of the contaminated plume was bound on two of the sides of the upper site and possibly two of the sides on the lower site. The building and an extremely steep limited the investigation at the Upper Site and the bike path and the Potomac River limited the investigation at the Lower Site.

1.0 INTRODUCTION

1.1 Generalized Scope of Work

Work was conducted within the former PRGS facility in Alexandria, Virginia. The scope of work included provisions of laser-induced fluorescence (LIF) tooling and associated appurtenances for a light non-aqueous phase liquid (LNAPL) investigation at the site. LIF was accomplished using the UltraViolet Optical Screening Tool (UVOST) by Dakota Technologies, Inc.

The purpose of the work was to characterize the subsurface soil in these areas to determine the general area of the contaminant plume and the relative area of elevated soil contamination. There are two distinct areas of the investigation. For the purpose of this report, they will be referred as the Upper Site and the Lower Site.

Using the Geoprobe 6610DT direct-push drill rig, the UVOST tool was advanced to final depths ranging between 20- and 40-ft bgs; with a majority of the probes ending at either 20-ft or 36-ft bgs.

The UVOST investigation was conducted between 5 and 16 December 2013.

2.0 LIF/ UVOST TECHNOLOGY

The UVOST uses LIF technology to identify POL contamination in the subsurface. The primary objective of this technology is to delineate the lateral and horizontal extent of petroleum contamination at a site with known or suspected contaminated soil and/ or groundwater in the non-aqueous phase liquid (NAPL) form. The UVOST is advanced through the subsurface using a percussion-driven, direct push drill unit. Each probe provides continuous, real-time data on petroleum contamination at a maximum rate of one data reading per every two centimeters of downward push.

Fluorescence is a property within some compounds where absorbed ultraviolet (UV) light stimulates the release of photons (light) at a specific wavelength, often in the visible range. Since many aromatic hydrocarbons fluoresce, this property can be used to detect small amounts of a substance within a much larger matrix; such as gasoline in soil. Laboratories have used fluorescence as an analytical method for decades. The availability of high-powered light sources and optical fibers has recently allowed these fluorescence methods to be taken and applied to in-field activities.

The UVOST system (also known as ROST, or Rapid Optical Screening Tool) was developed by Dakota Technologies, Inc. (DTI) of Fargo, ND. The UVOST sends UV light through optical fibers that are strung through hollow direct push steel rods. The light reflects off a tiny mirror within the UVOST probe (known as the SPOC) and exits the SPOC through a small sapphire window. As the probe is advanced, soil sliding past the window becomes exposed to UV light. If contaminants with fluorescent compounds exist within the exposed media, the compounds will fluoresce. The fluorescence response is then transmitted back through a fiber optic line and analyzed by an oscilloscope. The specific analysis of the oscilloscope is interpreted and displayed instantaneously in graphical and numerical form on a fluorescence vs. depth (FVD) log. Since hydrocarbon bonds will fluoresce at different wavelengths, viewing the individual wavelengths provides distinct patterns of the waveform. These unique patterns are the 'fuel signatures' of the petroleum hydrocarbon within the soil matrix and can be used to differentiate differing petroleum contaminants (such as diesel, gasoline, coal tar, etc).

Signal intensities are calibrated to a known standard reference solution (M1) before each probe point is driven. During the probe push, the height and area under the waveform represents the signal intensity of each individual wavelength relative to that standard; represented as %RE (i.e. % fluorescence is a percentage of the Reference Emitter of the M1 standard - %RE). The concentration of a contaminant in the soil matrix is directly related to the signal intensity and % fluorescence. These %-fluorescence readings are delivered instantly to the system field control, typically a laptop computer, at a rate of one per second. By regulating the direct push rate of the drill machine to 2cm per second, the log in turn records a %-fluorescence every 2cm. By field standards, this is considered to be high density continuous logging. Soil samples are typically used in conjunction with the UVOST to confirm the specific contaminant and correlate the signal strength to more familiar analytical concentration values.

A real-time log of each probe is generated in the field using the UVOST software and is displayed on the laptop computer. The depth of probe advancement is reflected on the Y axis (left side), while percent fluorescence is on the X axis (bottom). A smaller box on the screen

displays four separate colored peaks, which represents the individual waveform pattern at each specific reading within the log. These wave patterns can be used to distinguish the differing POL signatures.

A background level of fluorescence is associated with each UVOST probe push. This background fluorescence response varies with each log and is a function of the probe mirror, window, and fiber-wire conditions at the time of the push. For example, dust on the mirror or a crack in the window will generally increase the background fluorescence reading and may affect the waveform. Additionally, the background is a function of the non-contaminated soil type. For example, naturally occurring organics or differing soil lens may emit low levels of fluorescence that can be seen on the log. These can be readily identified by their signature and distinguished from a response caused by fuel related organics.

3.0 FIELD ACTIVITIES

3.1 Project Approach

Specific locations were pre-selected to identify potential contamination. Forty-six (46) UVOST probes were collected throughout the two areas. Of those 46, nine met refusal before reaching the target depth; all refusals occurred in the Upper Site. Of the thirty-seven (37) completed UVOST probe locations, twenty-one (21) contained elevated LIF readings.

3.2 UVOST Field Work

The UVOST investigation was conducted between 5 and 16 December 2013.

As each push was being conducted, the UVOST system was monitored continuously to ensure the data quality objectives were being achieved and maintained. The following actions were used to ensure data quality during operations:

- Verified the M1 signal level and the time delay were in the proper position and within acceptable limits.
- Calibrated the UVOST with the M1 prior to every push.
- Monitored the laser signal energy during each push.
- Monitored the wave pattern on the Oscilloscope.
- Monitored the graphic output on the UVOST computer and verified the information was being recorded and the system was functioning properly.
- After every push – placed M1 on the probe window to visually verify that the signals were within tolerance.
- Visually inspected the probe prior to and after every push to verify it was in good working order, and made repairs/adjustments as necessary.

4.0 RESULTS

4.1 General Results

The “fuel signature” is obtained through a combination of all four wave channels and is a combination of the representative heights of the fluorescence, as well as the total area within each channel. The height of the fluorescence in each channel represents the total amount of photons immediately released by polycyclic aromatic hydrocarbons (PAHs) in the NAPL contaminant when subjected to the UV light provided. The width, or thickness, of the waveform in each channel represents the continual release of photons once the UV source is absent. These photons are released at a slightly slower rate as they are typically shared with the contaminant molecules present. The total area under the curves is the %RE.

Waveforms within the first 350 to 399 nanometers (nm) Blue Channel is in response to PAHs with two or three hydrocarbon “benzene” rings. These PAHs are considerably more volatile and typically are included as constituents of both the gasoline range organics (GRO) and diesel range organics (DRO) analytical range. Waveforms in the second 400 to 449 nm Green Channel include PAHs with some three and four benzene rings. These PAHs are typically included as constituents of the DRO analytical range. Waveforms in the third 450 to 499 nm Orange Channel include PAHs with five to eight benzene rings. Waveforms in the fourth 500 to 549 nm Red Channel include PAHs with nine to twelve benzene rings. These PAHs are typically included as constituents of the diesel range organics (DRO) and residual range organics (RRO) analytical range, as well as other heavier organic hydrocarbons.

All twenty-one (21) elevated LIF readings were of a Light-Medium signature. This is very likely to be a diesel-like POL.

Figures within this report were created by Dakota Technologies, Inc; the developer of the UVOST system. All 2-dimensional and 3-dimensional plume maps are generated by a program called Environmental Visualization Systems (EVS), developed by C TECH Development Corporation. The interpolation method used is called the Inverse Distance Weighted (IDW) Interpolation, which utilizes the Shepard’s Method of statistical interpolation of the scatter points (sometimes referred to as the Franke and Nielson Equation). Inverse distance weighted method is based on the assumption that the interpolation should be influenced most by the nearby points and less by the more distant points. Thus, the interpolation is a weighted average of the scatter points and the weight assigned to each scatter point diminishes as the distance from the interpolation point to the scatter point increases. This is considered to be the most common and most basic statistical method for 2-dimensional and 3-dimensional geostatistical analysis.

4.2 Light-Medium Fuel Signature

Light-Medium fuel signatures tend to be more consistent with diesel fuels. The Light-Medium fuel signature used for speciation is dominated equally in the 350 nm and 400 nm wave channel and has good lifetime in 400 nm, 450 nm, and 500 nm channels. The 350 nm channel is tall, but has a much shorter lifetime. This is typically the result of the contaminant degrading over time in the more volatile range (350 nm channel). This can occur at sites with older fuels, a higher infiltration rate and hydraulic conductivity, or when considerable subsurface disturbance occurs.

4.3 Upper Site

The Upper Site was located within the former PRGS facility. A total of 36 UVOST probes were completed at the Upper Site. Of these 36 locations, 9 met refusal before reaching the target depth of 36-ft bgs. Thus 27 successful UVOST probe locations were completed.

Sixteen (16) of the 27 UVOST probe locations yielded LIF fuel-type responses. All elevated LIF wave signatures were of a diesel-like type POL. The maximum LIF response at this site was 396% RE at probe location PRGS UV-05. Contaminated soil in this area ranged from 20-ft to 36-ft bgs.

The heavily contaminated areas are in close proximity to the former diesel fuel tanks. The LIF responses become significantly less as the distance increases between the probe location and the former tanks. This follows a rather typical fate and transport model. Probe locations PRGS UV-23 indicates a clean location to the North and probes PRGS UV-33 and PRGS UV-70 identify clean locations to the South. The West edge was impossible to identify due to the existence of a large structure. The East edge was limited by an extremely steep slope. The Lower Site is dead East of the Upper Site.

Eleven (11) of the 16 contaminated probe locations yielded LIF Responses over 100%. This indicates there is substantial NAPL phase, or “free product”, in this area with a soil type that allows the contaminant to saturate the subsurface in the smear zone area of the water table. Very high LIF responses also suggest the existence of anaerobic zones, since LIF responses become exaggerated in subsurface zones where the oxygen has been depleted.

4.4 Lower Site

The Lower Site was located just east of the former PRGS facility on a NPS bike trail. A total of 10 UVOST probes were completed at the Lower Site. No refusals were met at the Lower Site.

Five (5) of the 10 UVOST probe locations yielded LIF fuel-type responses. All elevated LIF wave signatures were of a diesel-like type POL. The maximum LIF response at this site was 88% RE at probe location PRGS UV-64. Contaminated soil in this area ranged from 5-ft to 11-ft bgs.

The contaminated areas of the Lower Site were all in close proximity to each other. The responses at the Lower Site were much less than the Upper Site, with no responses over 100% RE. The only oddity at the Lower Site was that PRGS UV-65 had a considerably lower response than both PRGS UV-64 and PRGS UV-66, which were located on both sides of UV-65. Although this isn't necessarily typical, it offered no real concern as all three locations had elevated responses.

5.0 CONCLUSIONS

5.1 Discussion of Conclusions

Results from the UVOST/ LIF probes indicate the existence light-medium POL contamination at the facility. The UVOST M1 calibration system is designed so that a LIF response of 1% RE is equal to 100 ppm of diesel fuel in a homogeneous sand matrix. Of course, this laboratory controlled environment is not typical of common field conditions at environmental sites. To create a site-specific correlation that is useful, specific analytical data should be use to provide comparability in the LIF responses to the more common soil sample data.

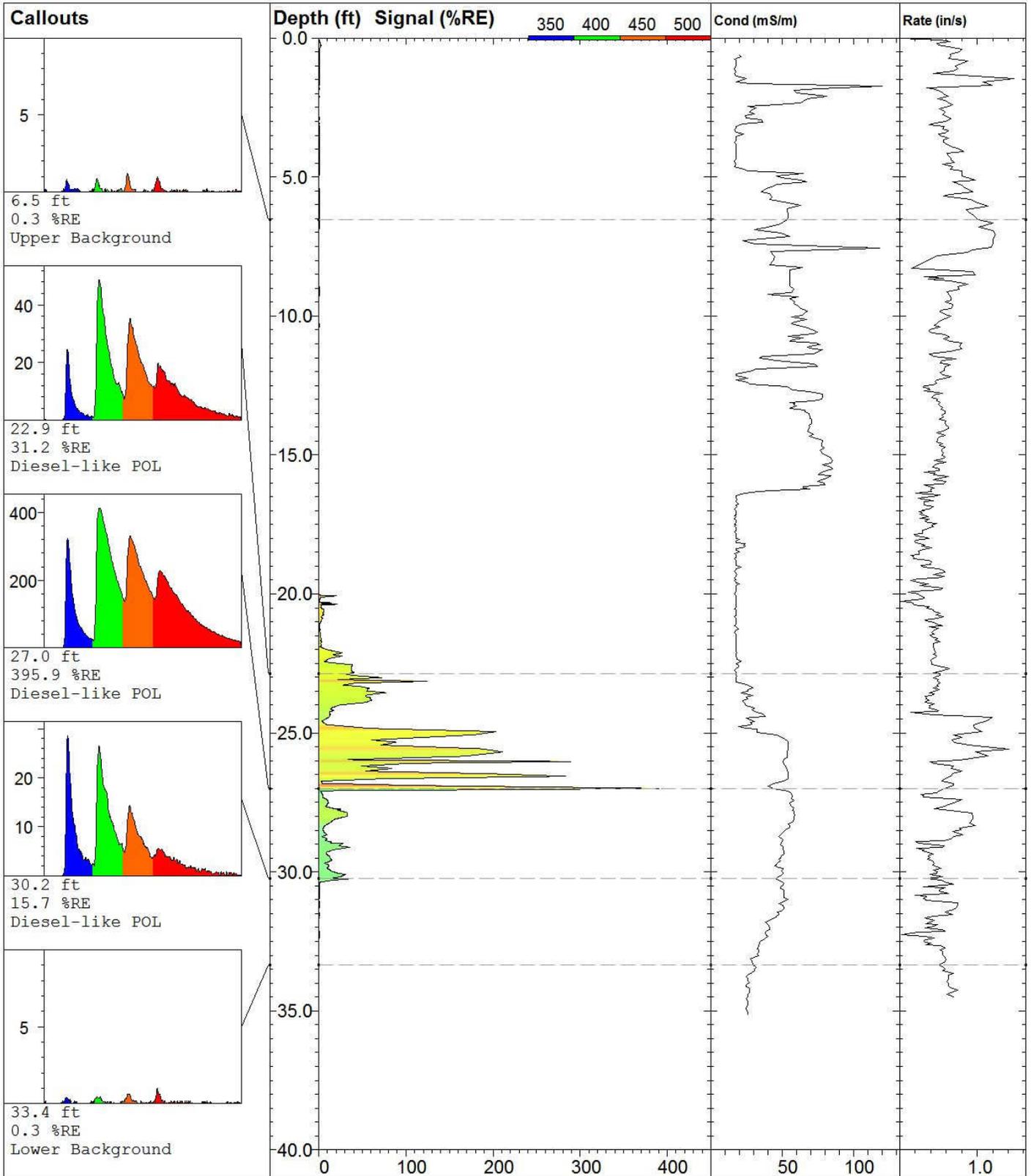
The subsurface presents many challenges to both traditional soil sampling and the UVOST in correlating in situ to ex situ soil data. Once soil is removed from the subsurface, many of its properties change; including density, soil type, and pore-space/ void ratios. Because of this, the following conclusions are made from knowledge of traditional fuel degradation properties and past experience using LIF data at "older" sites.

5.2 Overall Conclusions

All of the fuel signatures at both sites were similar and consistent with a diesel-like POL contaminant. Although this does not guarantee the contaminants are from the same release, the LIF data suggests they are similar at the least. Further investigation at the top and bottom of the extreme slope area could definitively identify the connection between the two sites if needed.

ATTACHMENT A

UVOST / LIF Probe Logs



PRGS B-05

UVOST By Dakota

www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
34.49 ft

Client / Job:
URS/ VDEQ /

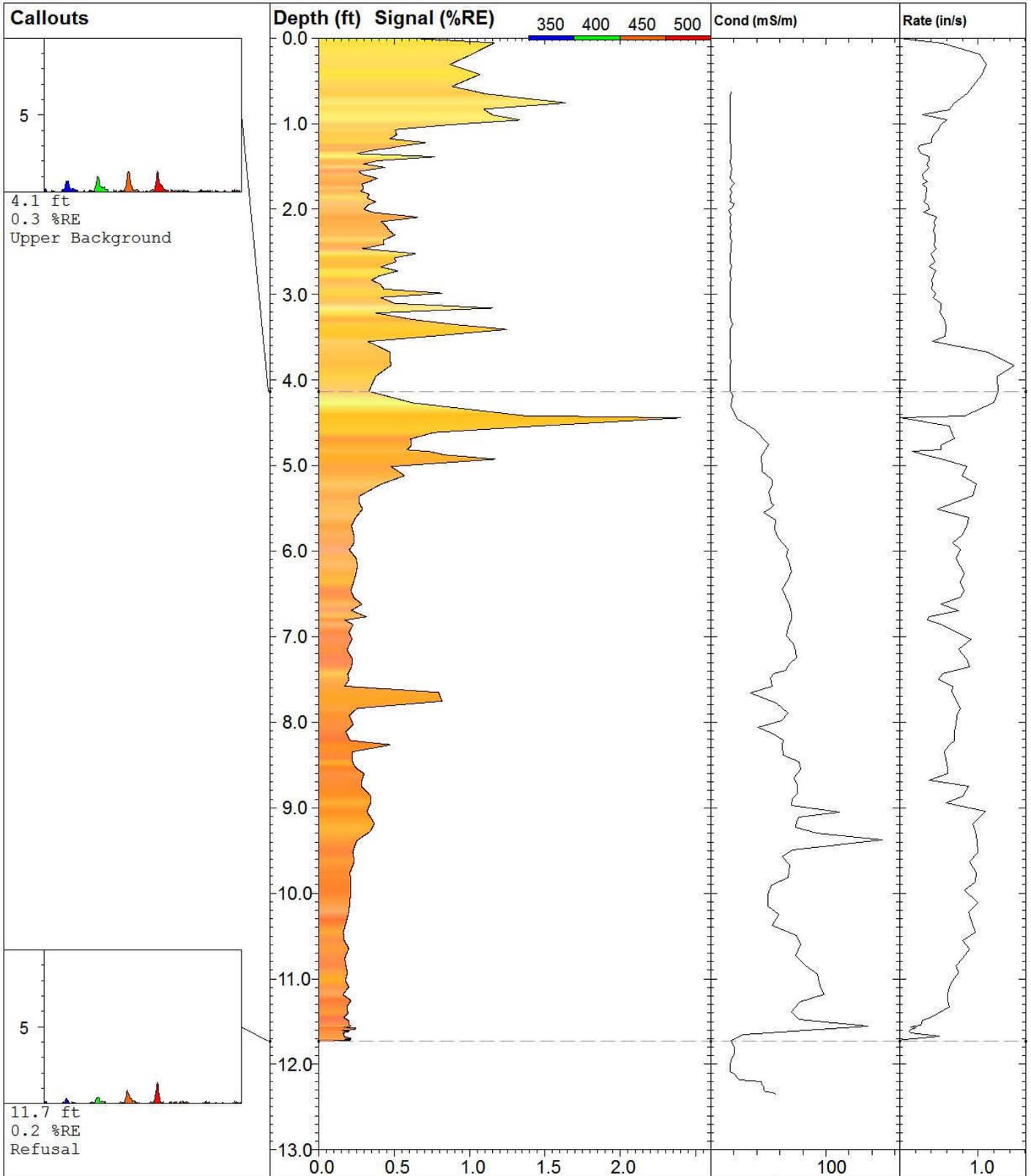
Longitude / Fix:
Unavailable / NA

Max signal:
395.9 %RE @ 27.00 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-05 09:30 AST



PRGS B-06

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
11.73 ft

Client / Job:
URS/ VDEQ /

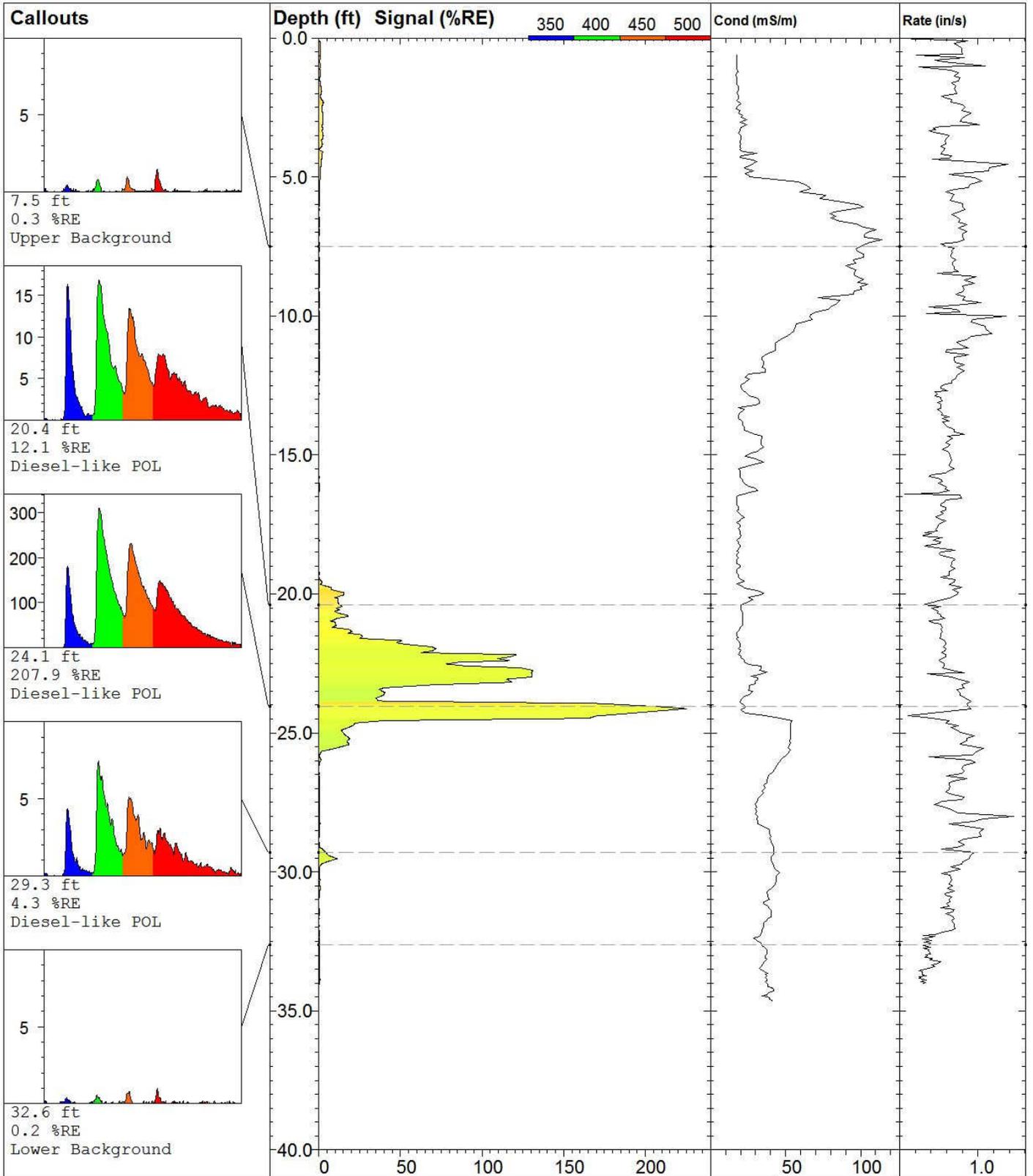
Longitude / Fix:
Unavailable / NA

Max signal:
2.4 %RE @ 4.44 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

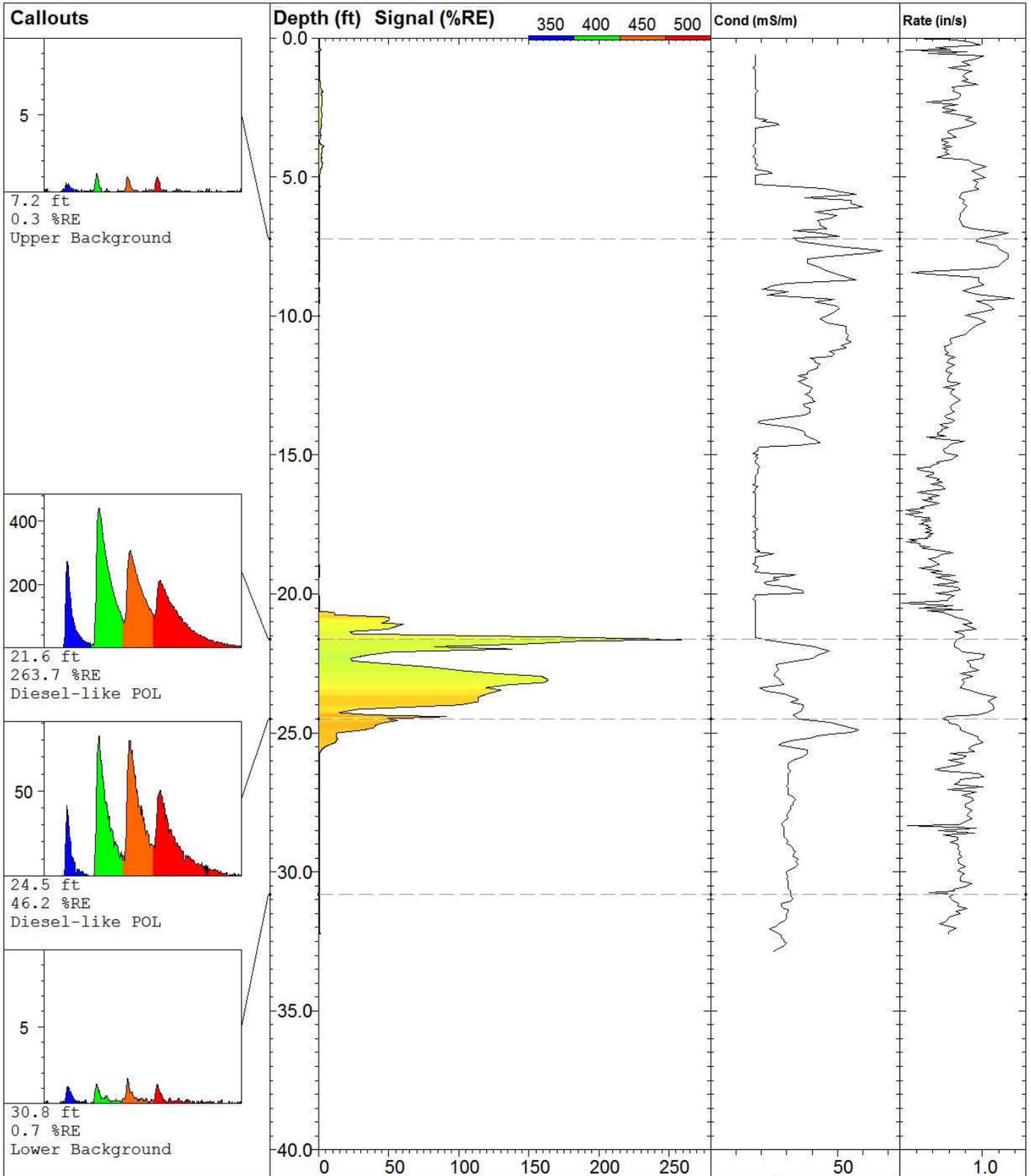
Date & Time:
2013-12-05 08:47 AST



PRGS B-08

UVOST By Dakota
www.DakotaTechnologies.com

Site: URS/ PRGS 2013	Latitude / Datum: Unavailable / NA	Final depth: 34.05 ft
Client / Job: URS/ VDEQ /	Longitude / Fix: Unavailable / NA	Max signal: 225.4 %RE @ 24.13 ft
Operator/Unit: PCaron/UVOST1002	Elevation: Unavailable	Date & Time: 2013-12-05 10:22 AST



PRGS B-10

UVOST By Dakota

www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
32.24 ft

Client / Job:
URS/ VDEQ /

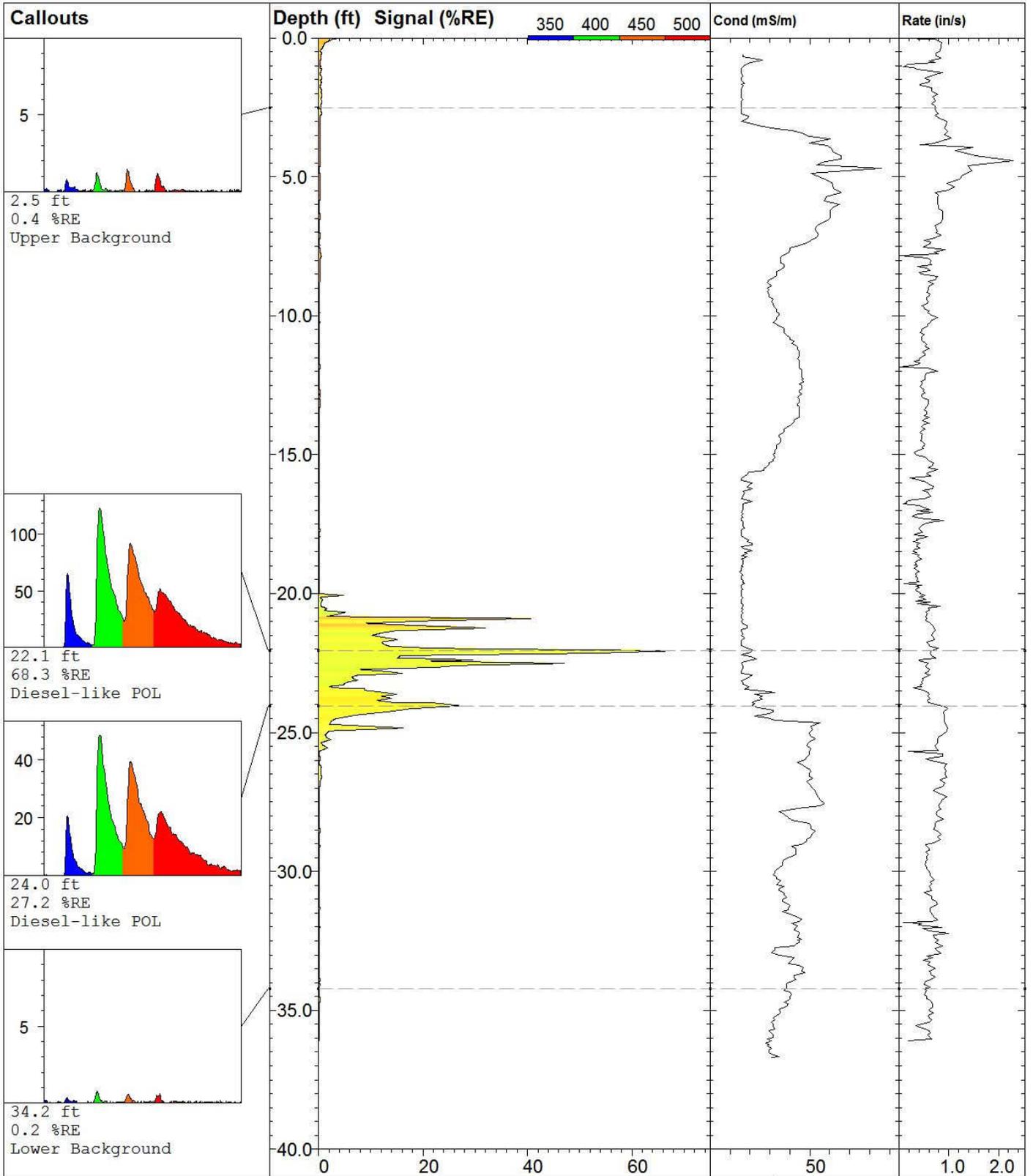
Longitude / Fix:
Unavailable / NA

Max signal:
263.7 %RE @ 21.64 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-05 10:58 AST



PRGS B-01

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
36.08 ft

Client / Job:
URS/ VDEQ /

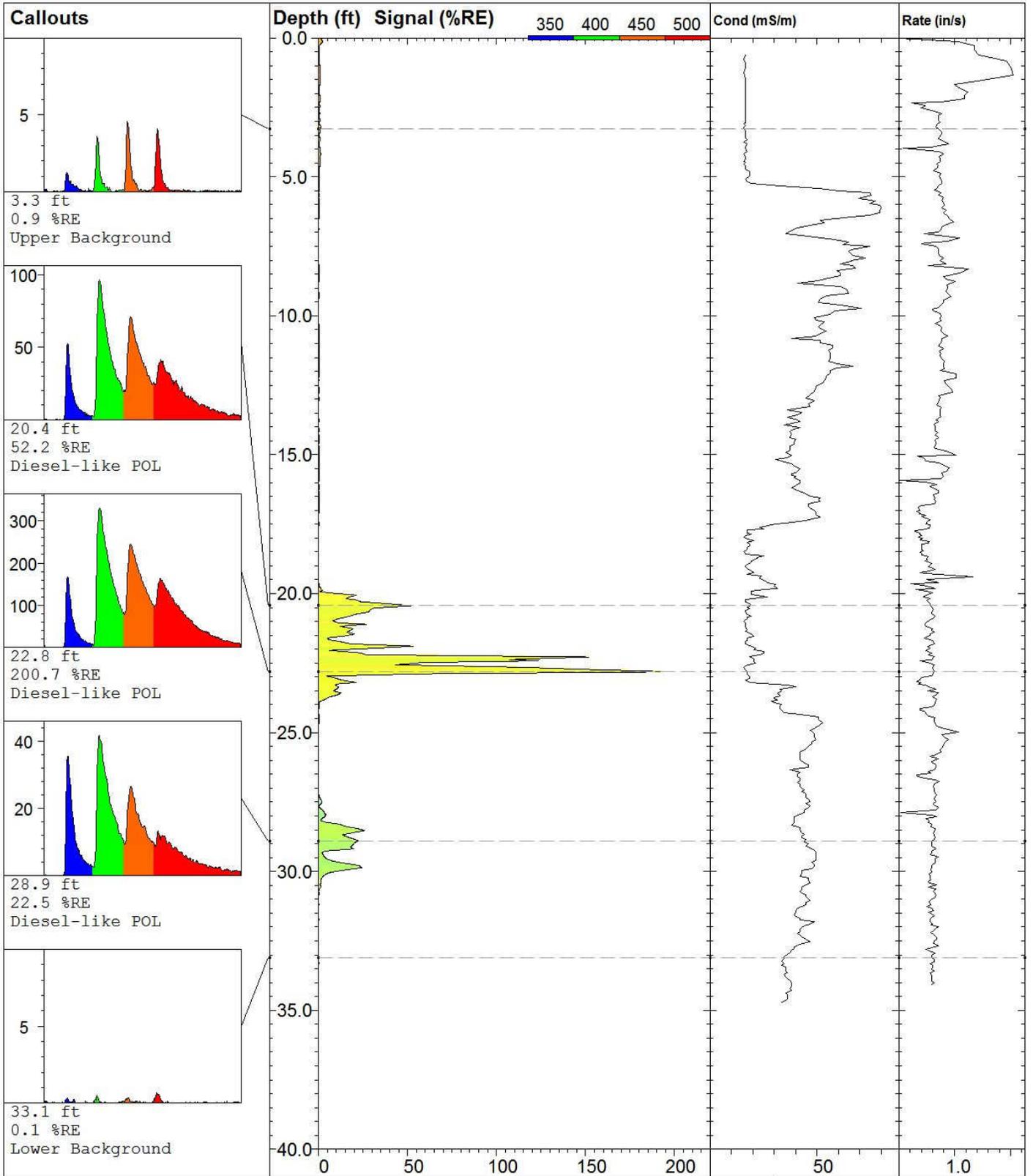
Longitude / Fix:
Unavailable / NA

Max signal:
68.3 %RE @ 22.06 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-06 10:29 AST



PRGS B-03

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
34.09 ft

Client / Job:
URS/ VDEQ /

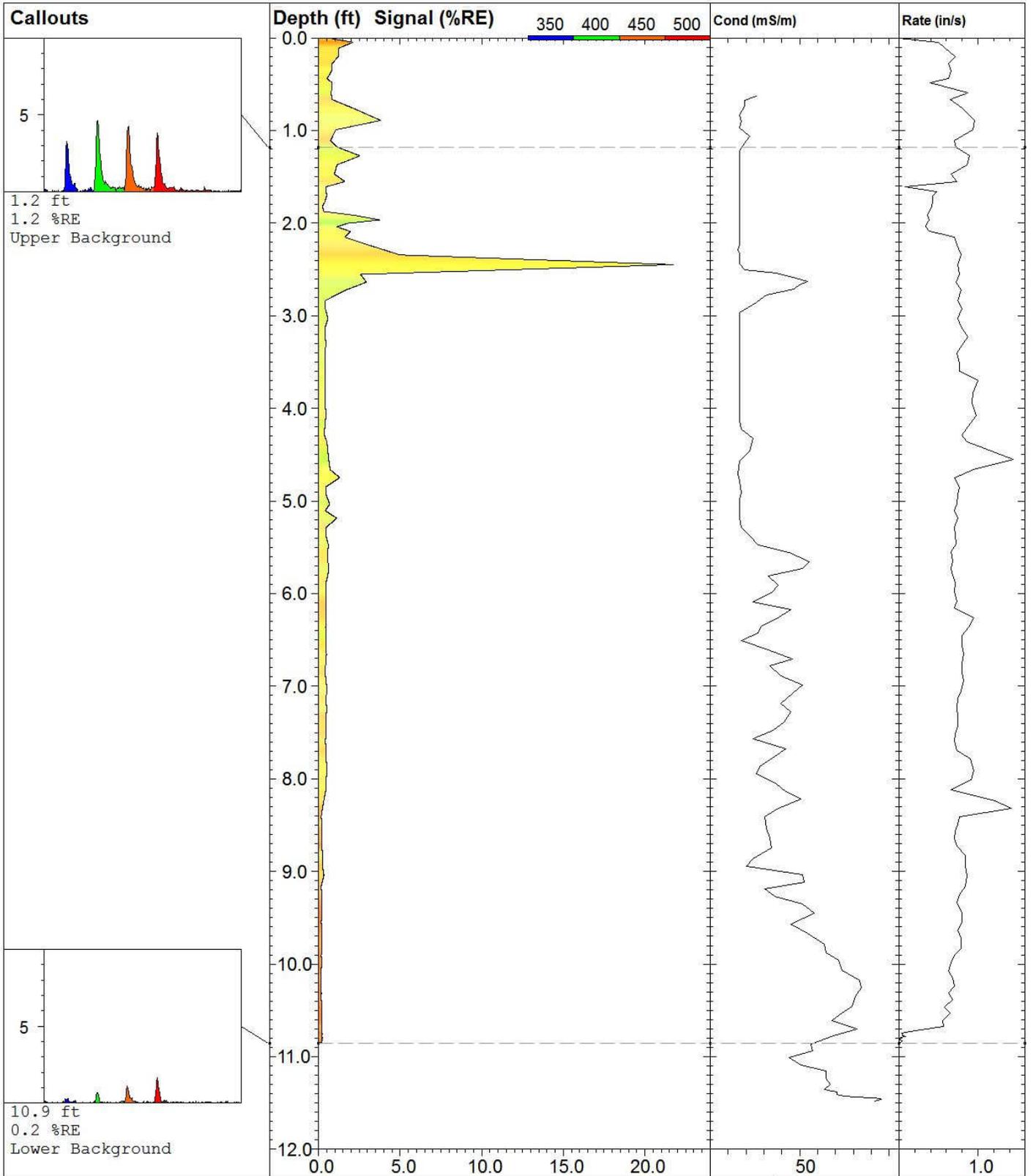
Longitude / Fix:
Unavailable / NA

Max signal:
200.7 %RE @ 22.81 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-06 04:46 AST



PRGS B-07

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
10.85 ft

Client / Job:
URS/ VDEQ /

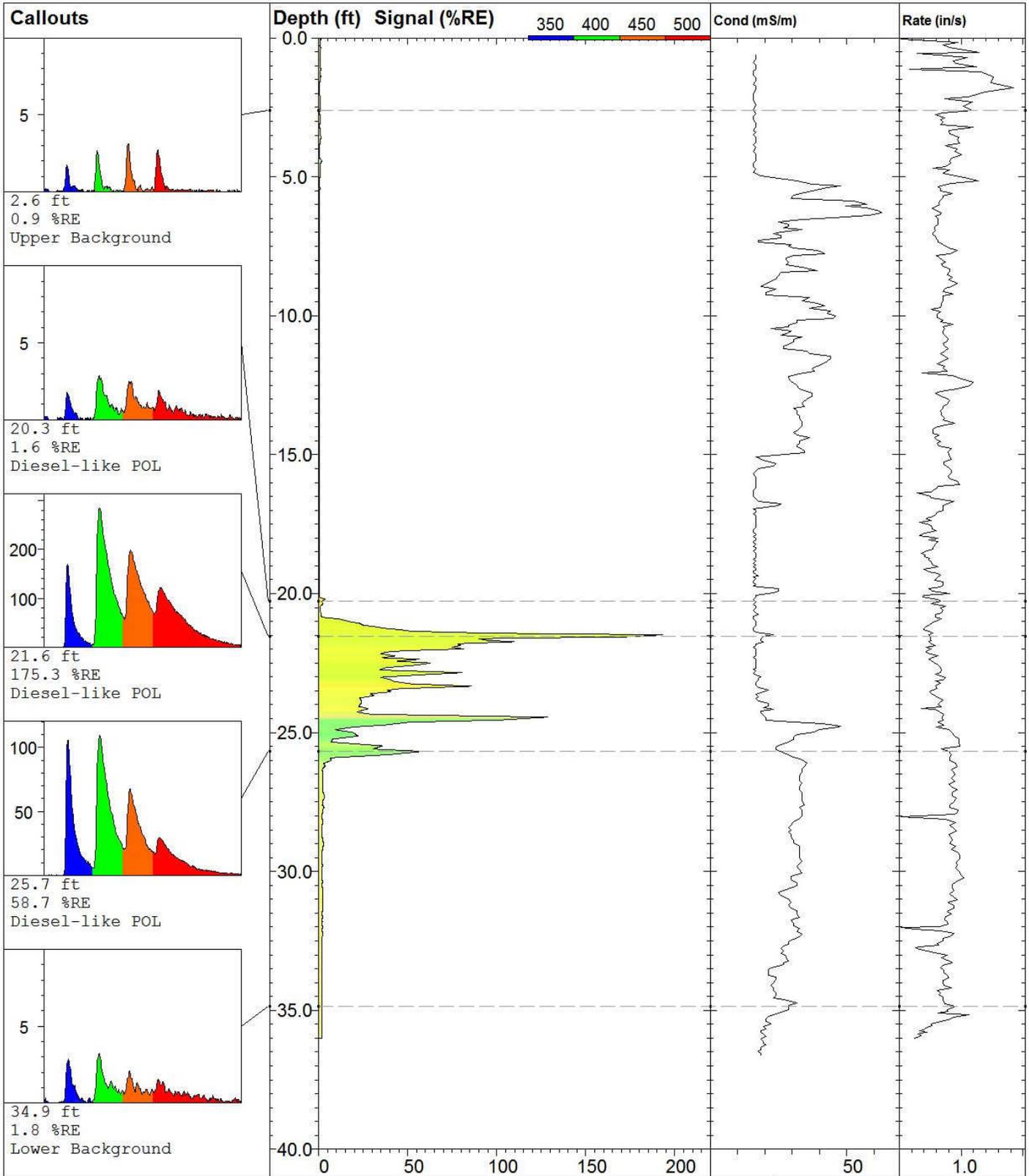
Longitude / Fix:
Unavailable / NA

Max signal:
21.8 %RE @ 2.45 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-06 05:17 AST



PRGS B-11

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
36.00 ft

Client / Job:
URS/ VDEQ /

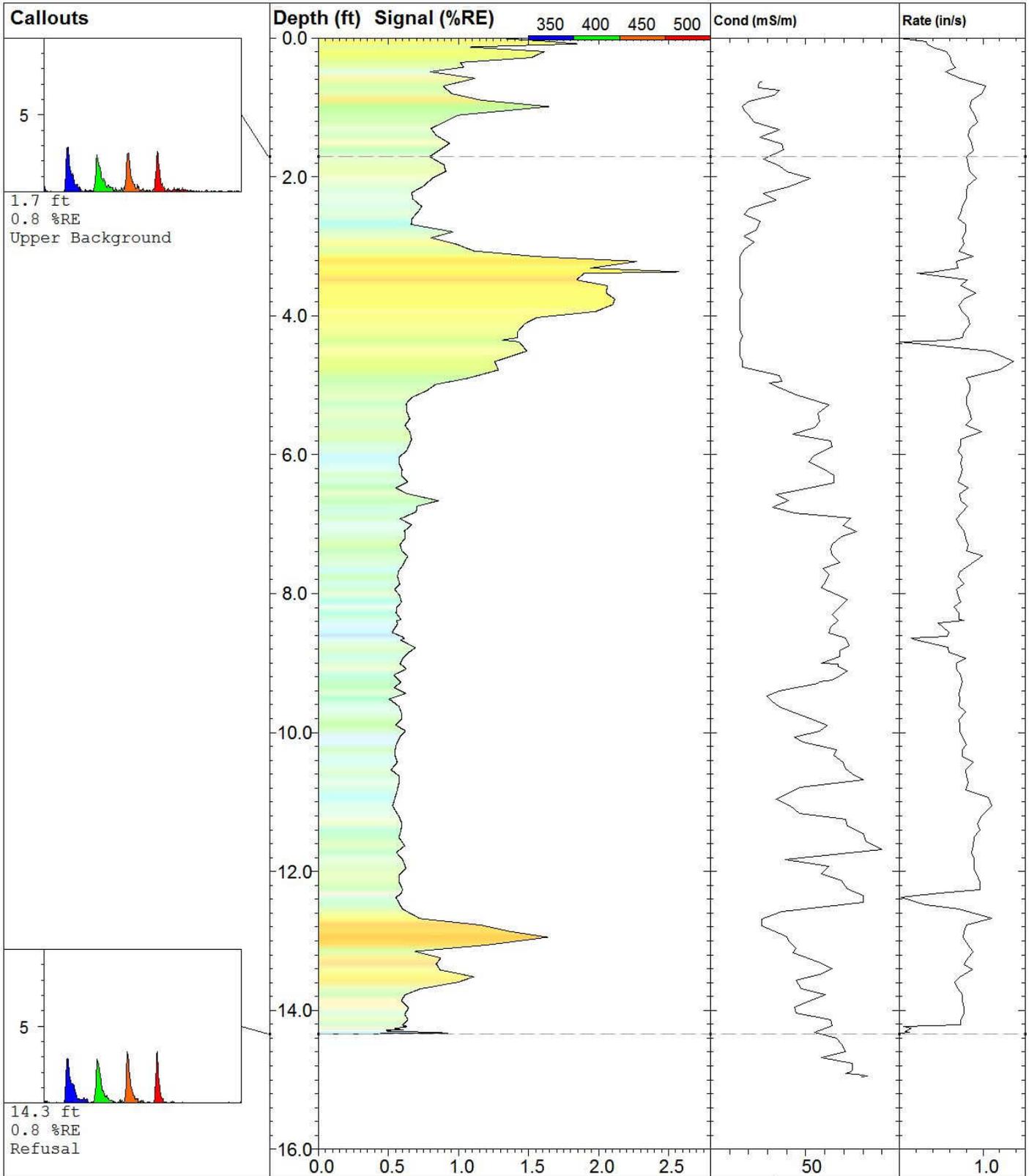
Longitude / Fix:
Unavailable / NA

Max signal:
193.1 %RE @ 21.48 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-06 07:27 AST



PRGS B-12

Site:
URS/ PRGS 2013

Client / Job:
URS/ VDEQ /

Operator/Unit:
PCaron/UVOST1002

Latitude / Datum:
Unavailable / NA

Longitude / Fix:
Unavailable / NA

Elevation:
Unavailable

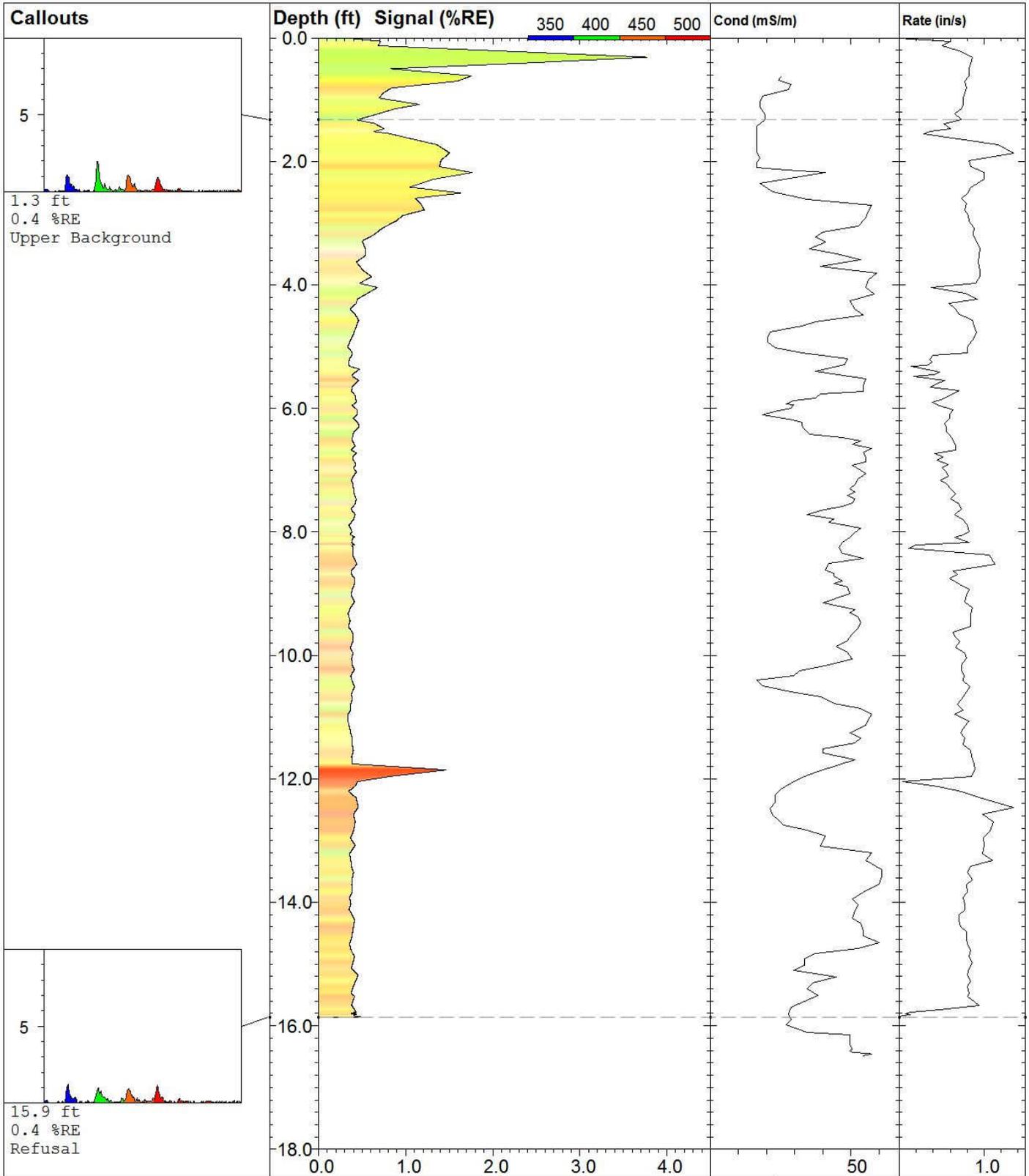
UVOST By Dakota

www.DakotaTechnologies.com

Final depth:
14.34 ft

Max signal:
2.6 %RE @ 3.37 ft

Date & Time:
2013-12-06 04:14 AST



PRGS B-14

Site:
URS/ PRGS 2013

Client / Job:
URS/ VDEQ /

Operator/Unit:
PCaron/UVOST1002

Latitude / Datum:
Unavailable / NA

Longitude / Fix:
Unavailable / NA

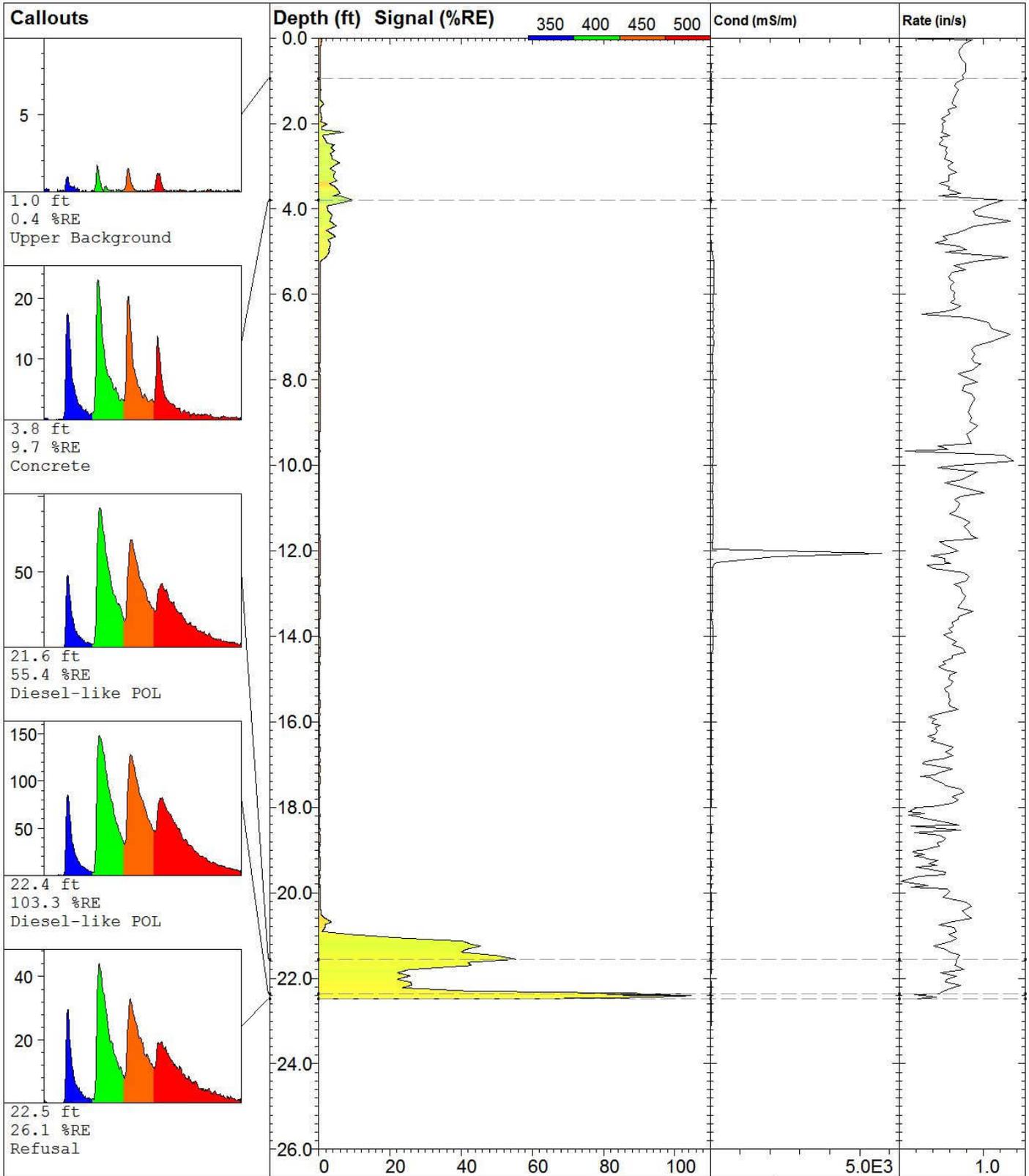
Elevation:
Unavailable

UVOST By Dakota
www.DakotaTechnologies.com

Final depth:
15.87 ft

Max signal:
3.8 %RE @ 0.31 ft

Date & Time:
2013-12-06 06:35 AST



PRGS B-15

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
22.48 ft

Client / Job:
URS/ VDEQ /

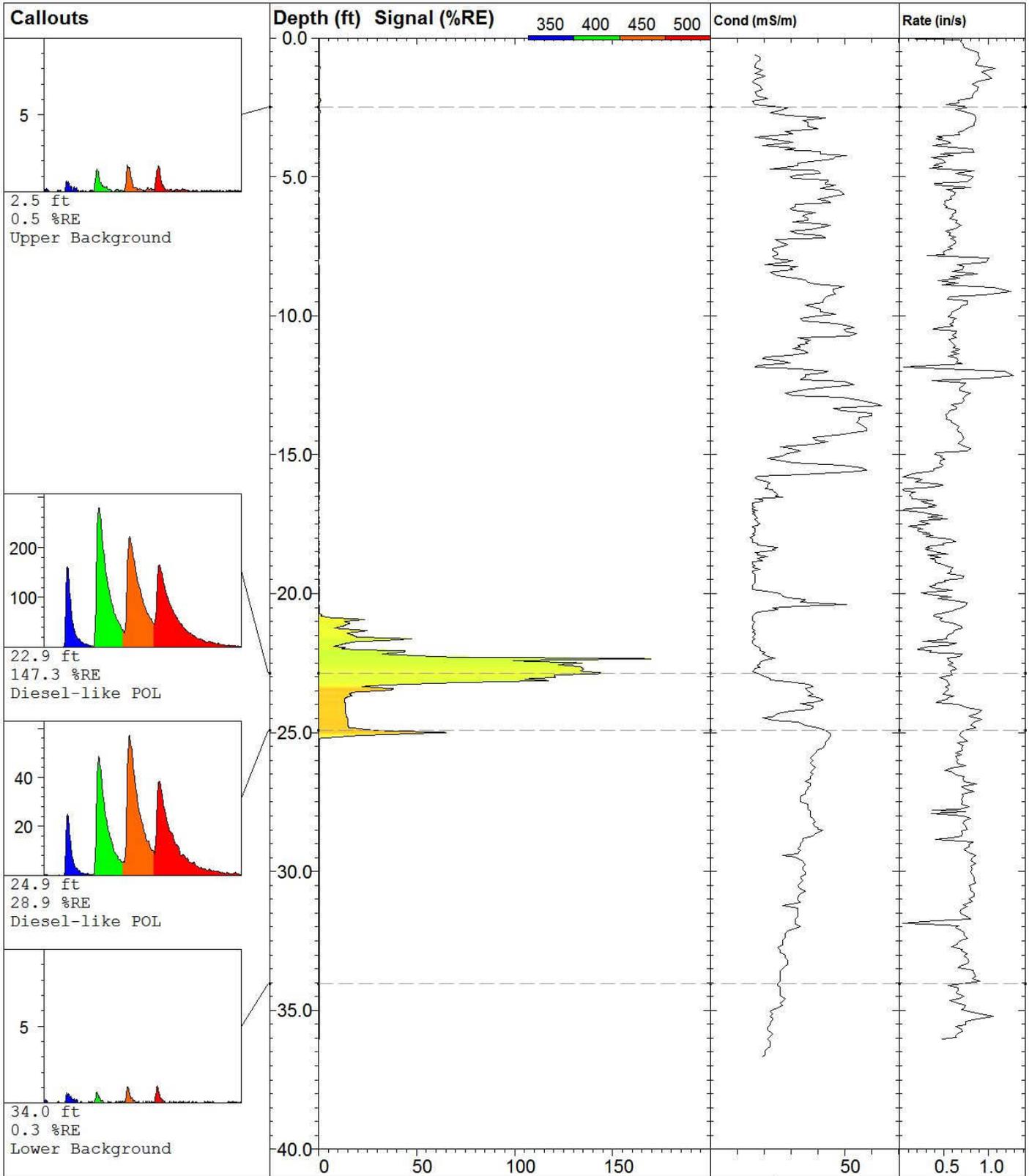
Longitude / Fix:
Unavailable / NA

Max signal:
105.0 %RE @ 22.41 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-06 06:54 AST



PRGS B-25

Site:
URS/ PRGS 2013

Client / Job:
URS/ VDEQ /

Operator/Unit:
PCaron/UVOST1002

Latitude / Datum:
Unavailable / NA

Longitude / Fix:
Unavailable / NA

Elevation:
Unavailable

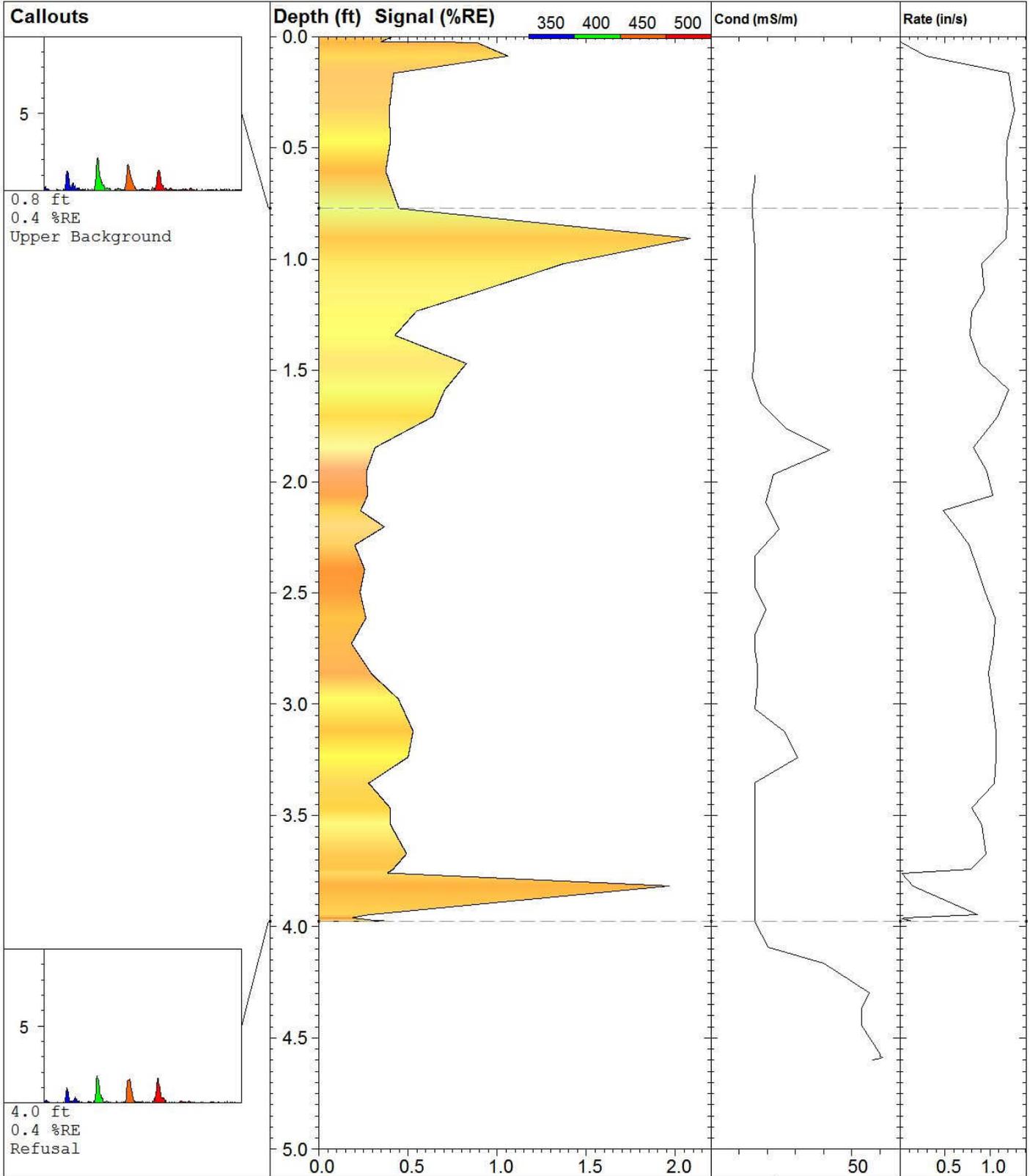
UVOST By Dakota

www.DakotaTechnologies.com

Final depth:
36.03 ft

Max signal:
170.4 %RE @ 22.34 ft

Date & Time:
2013-12-06 09:38 AST



PRGS B-48

Site:
URS/ PRGS 2013

Client / Job:
URS/ VDEQ /

Operator/Unit:
PCaron/UVOST1002

Latitude / Datum:
Unavailable / NA

Longitude / Fix:
Unavailable / NA

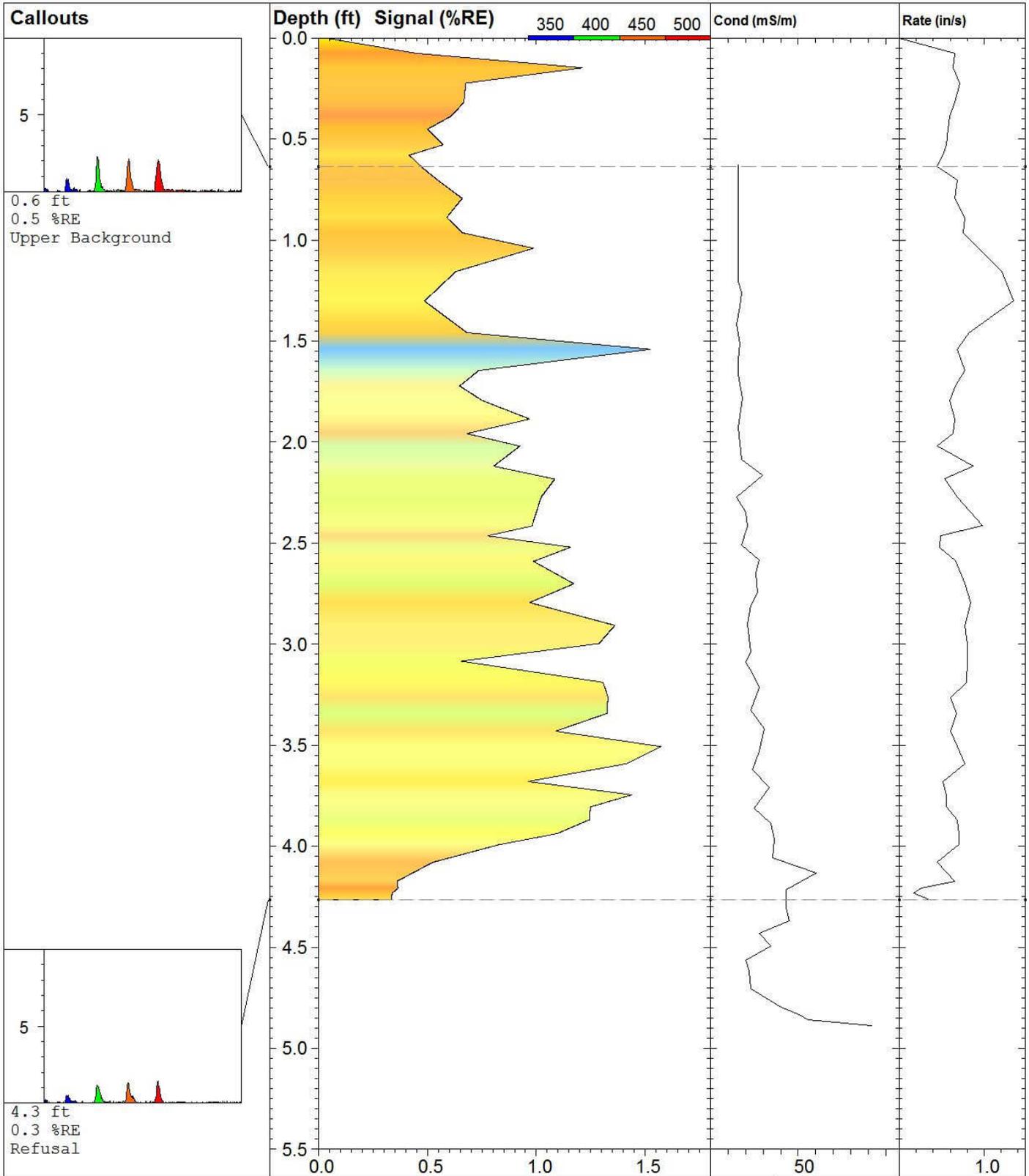
Elevation:
Unavailable

UVOST By Dakota
www.DakotaTechnologies.com

Final depth:
3.98 ft

Max signal:
2.1 %RE @ 0.91 ft

Date & Time:
2013-12-06 09:17 AST



PRGS B-49

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
4.27 ft

Client / Job:
URS/ VDEQ /

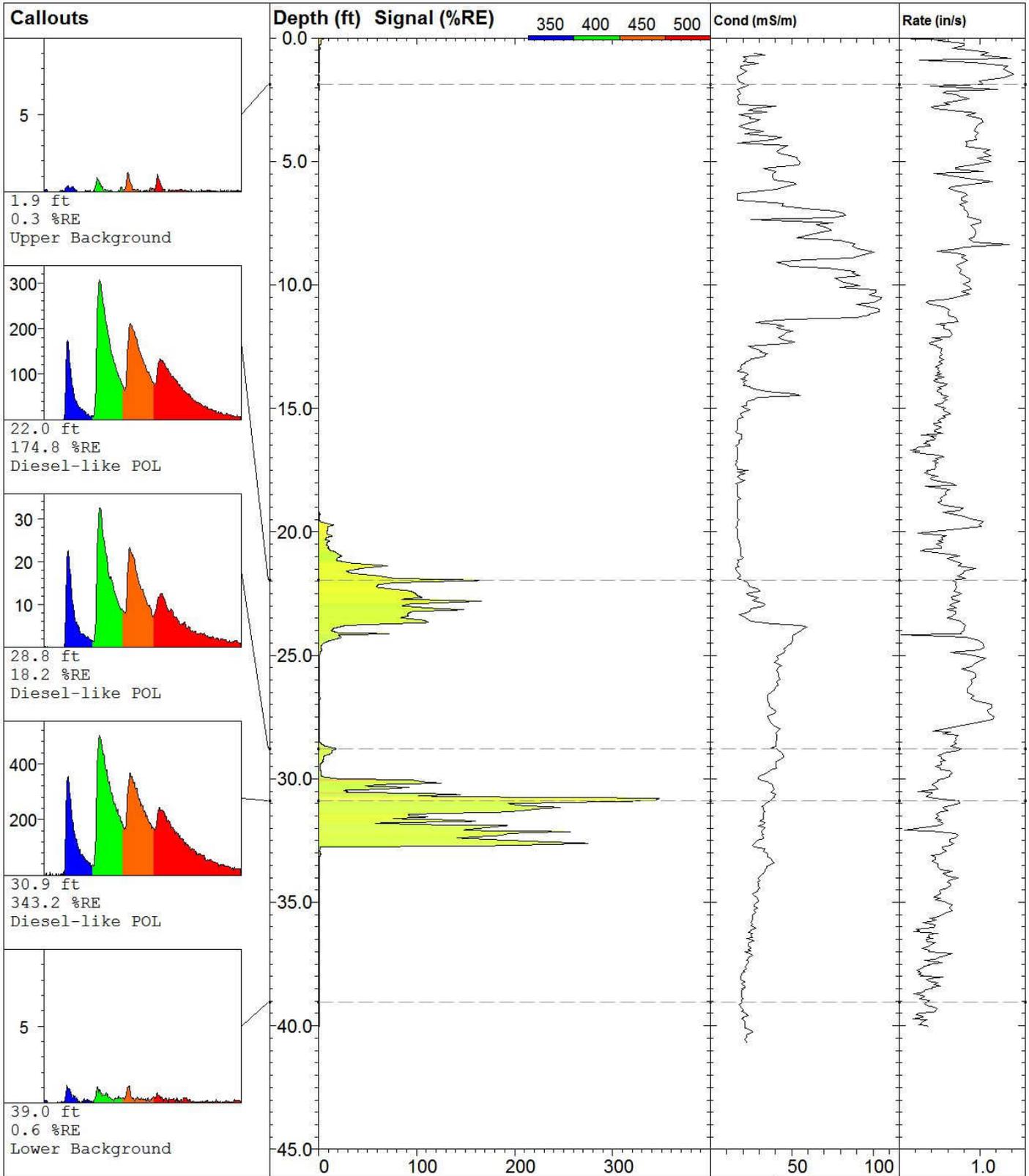
Longitude / Fix:
Unavailable / NA

Max signal:
1.6 %RE @ 3.51 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-06 09:27 AST



PRGS B-51

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
40.04 ft

Client / Job:
URS/ VDEQ /

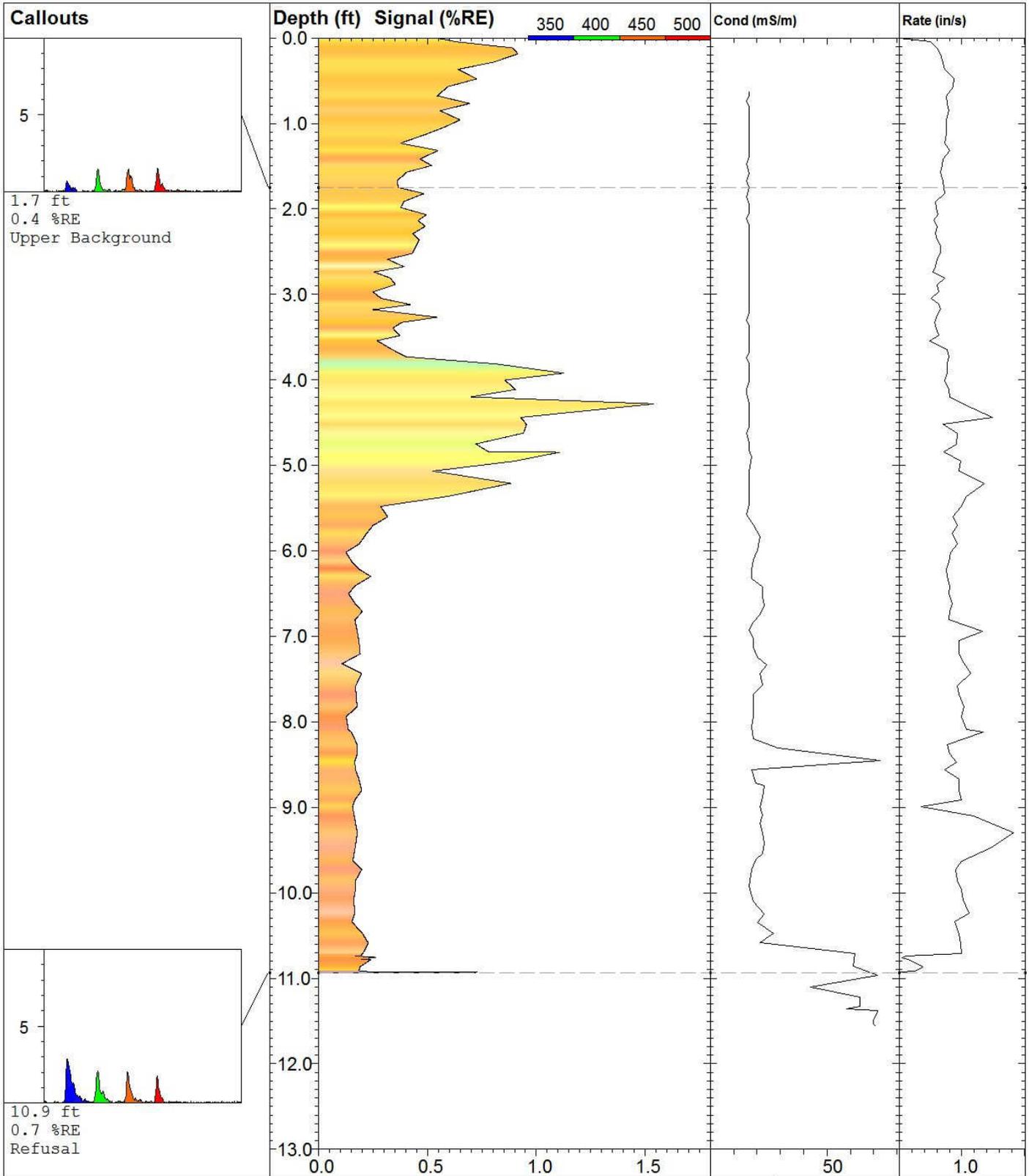
Longitude / Fix:
Unavailable / NA

Max signal:
347.8 %RE @ 30.79 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

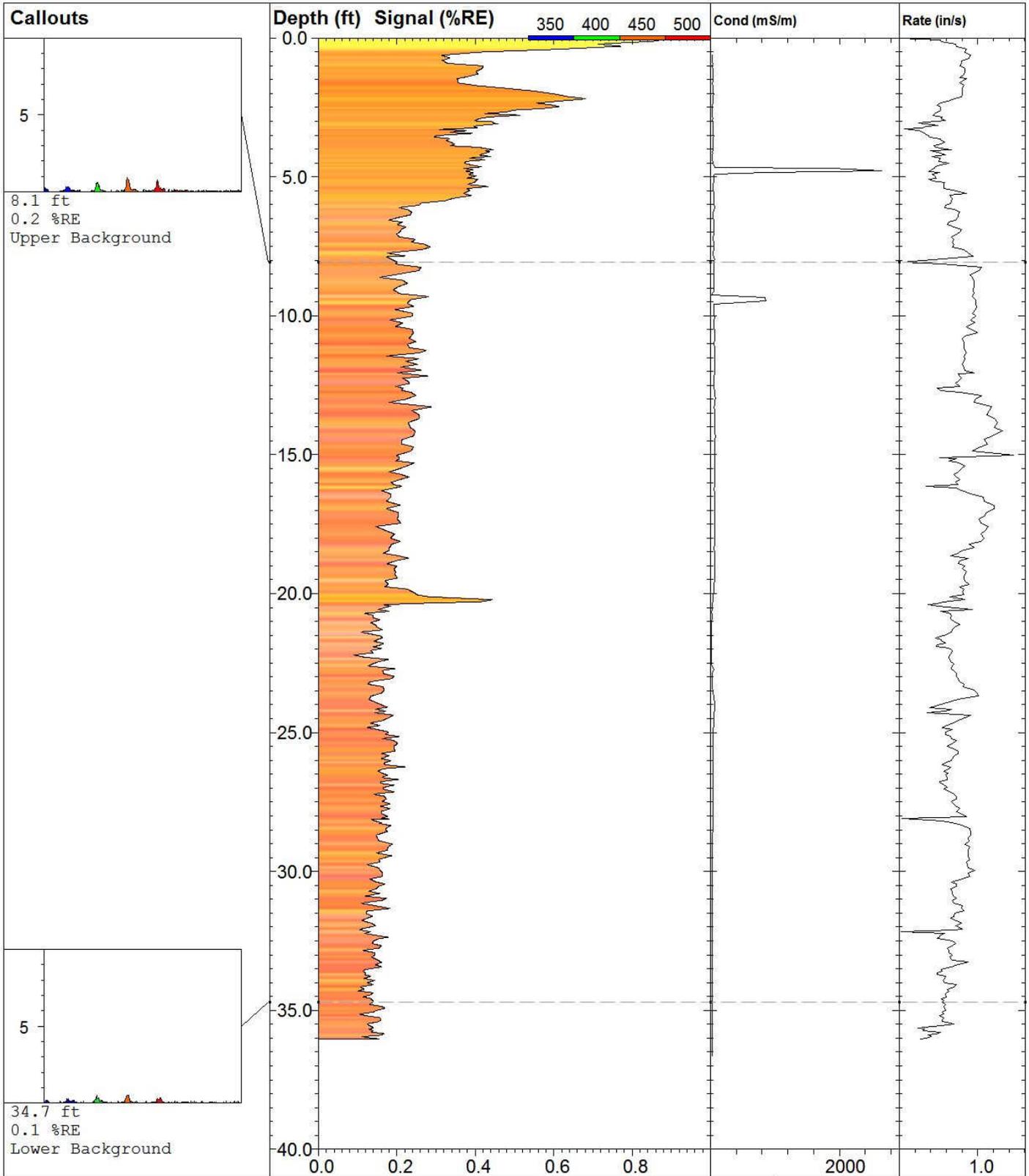
Date & Time:
2013-12-06 05:58 AST



PRGS B-54

UVOST By Dakota
www.DakotaTechnologies.com

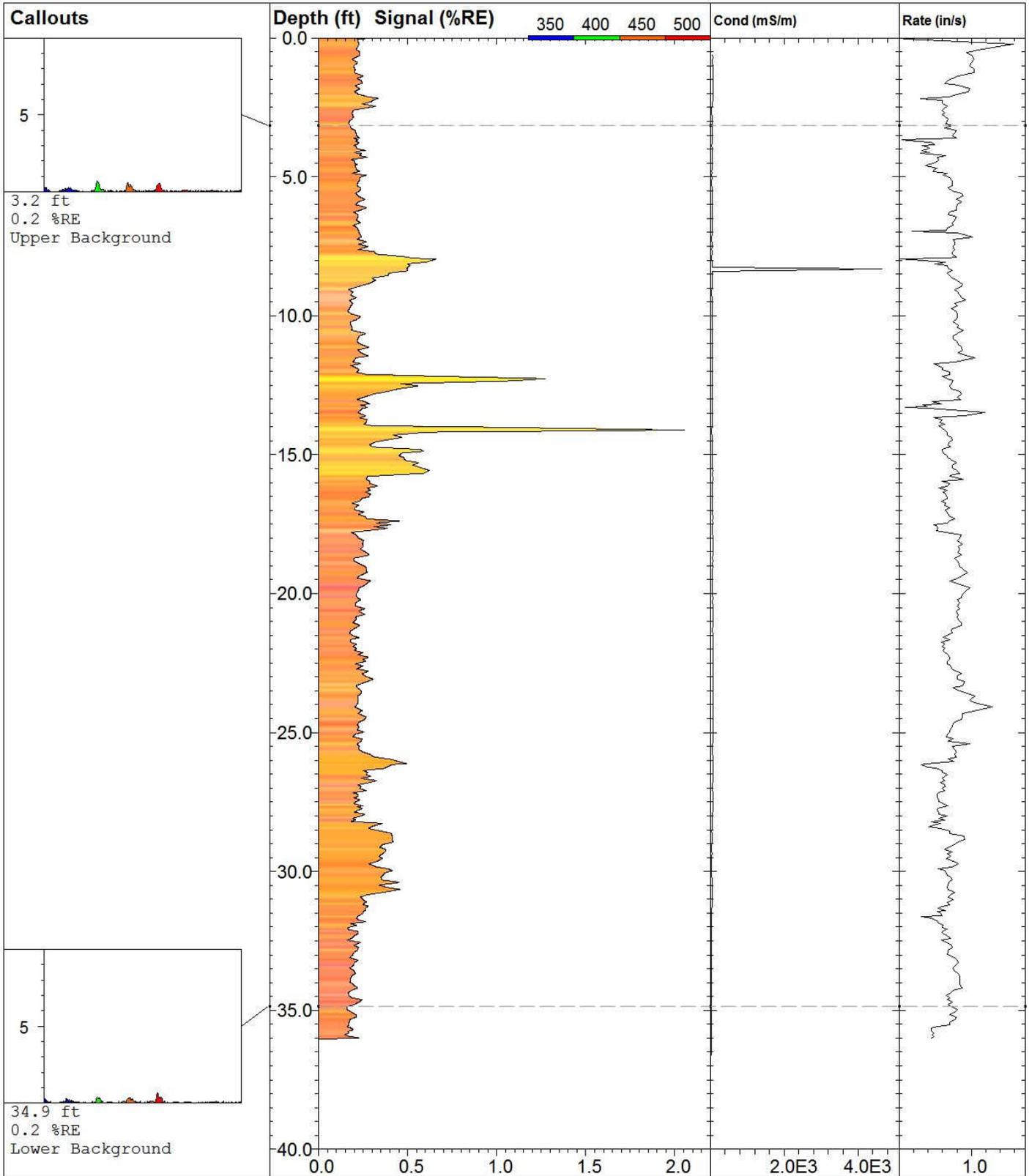
<i>Site:</i>	<i>Latitude / Datum:</i> Unavailable / NA	<i>Final depth:</i> 10.93 ft
<i>Client / Job:</i> I	<i>Longitude / Fix:</i> Unavailable / NA	<i>Max signal:</i> 1.5 %RE @ 4.28 ft
<i>Operator/Unit:</i> IUVOST1002	<i>Elevation:</i> Unavailable	<i>Date & Time:</i> 2013-12-06 05:34 AST



PRGS B-16

UVOST By Dakota
www.DakotaTechnologies.com

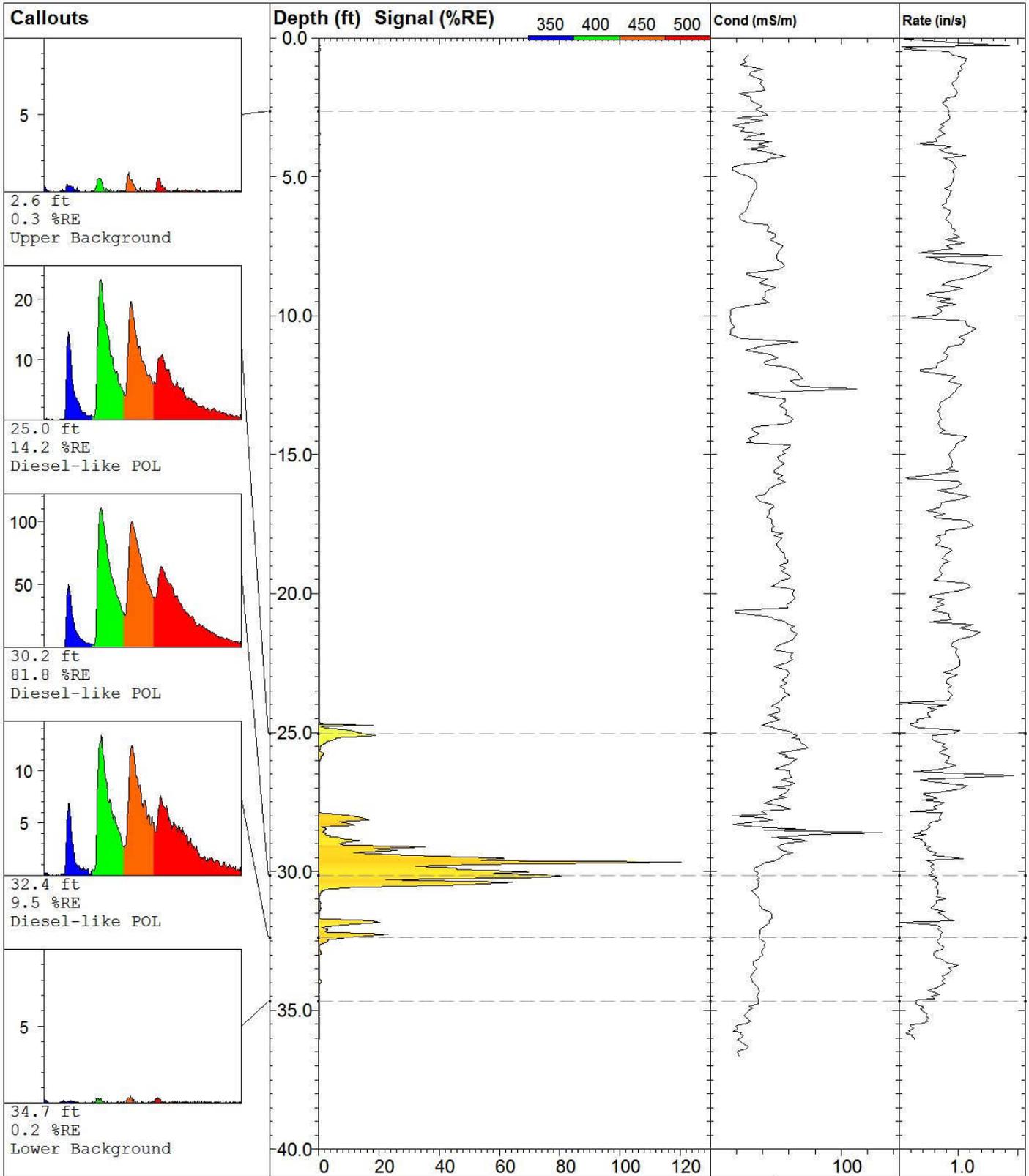
<i>Site:</i>	<i>Latitude / Datum:</i> Unavailable / NA	<i>Final depth:</i> 36.04 ft
<i>Client / Job:</i> I	<i>Longitude / Fix:</i> Unavailable / NA	<i>Max signal:</i> 0.9 %RE @ 0.06 ft
<i>Operator/Unit:</i> IUVOST1002	<i>Elevation:</i> Unavailable	<i>Date & Time:</i> 2013-12-09 05:32 AST



PRGS B-23

UVOST By Dakota
www.DakotaTechnologies.com

Site:	Latitude / Datum: Unavailable / NA	Final depth: 36.02 ft
Client / Job: I	Longitude / Fix: Unavailable / NA	Max signal: 2.1 %RE @ 14.11 ft
Operator/Unit: IUVOST1002	Elevation: Unavailable	Date & Time: 2013-12-09 06:12 AST

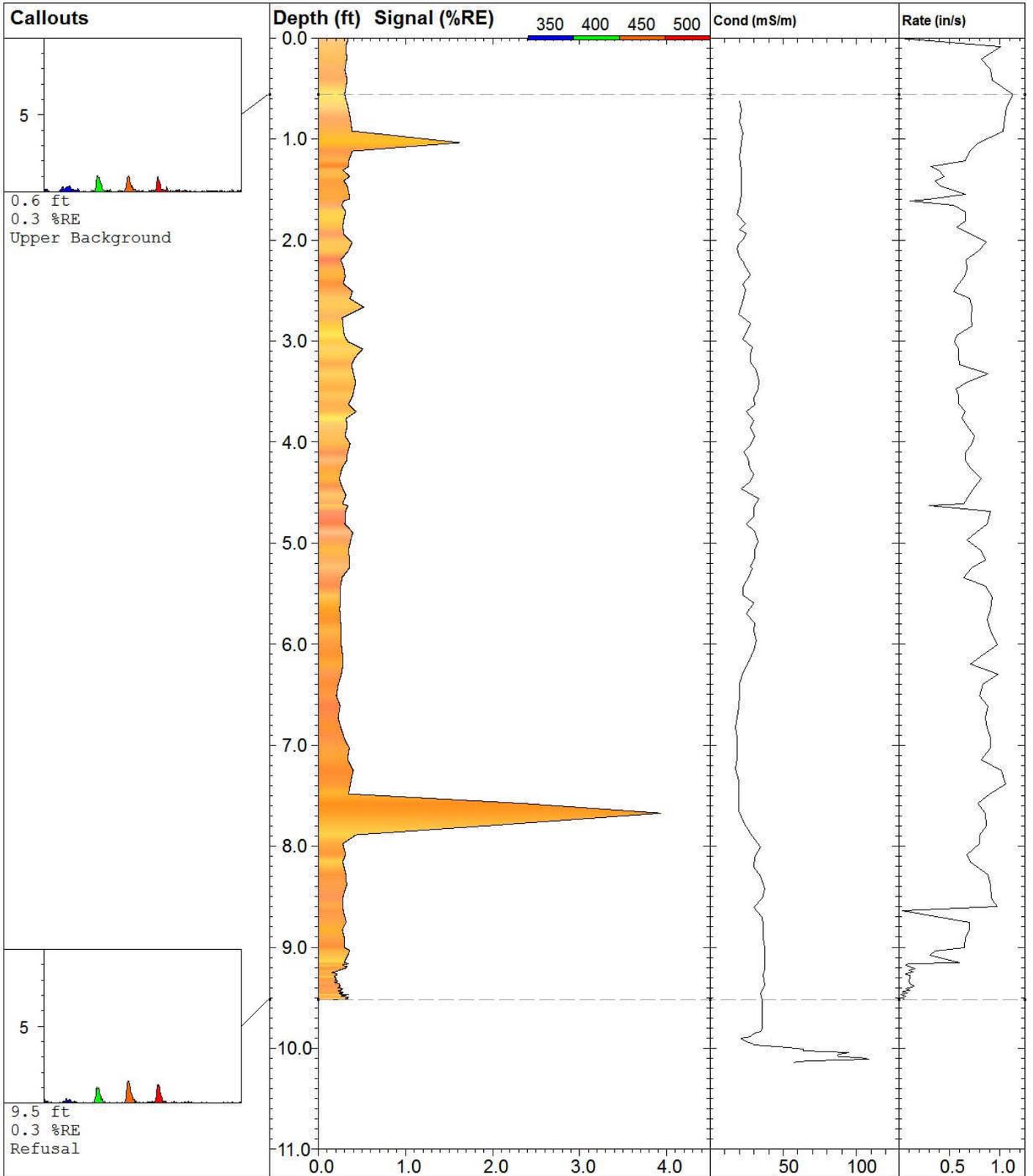


PRGS B-28

UVOST By Dakota

www.DakotaTechnologies.com

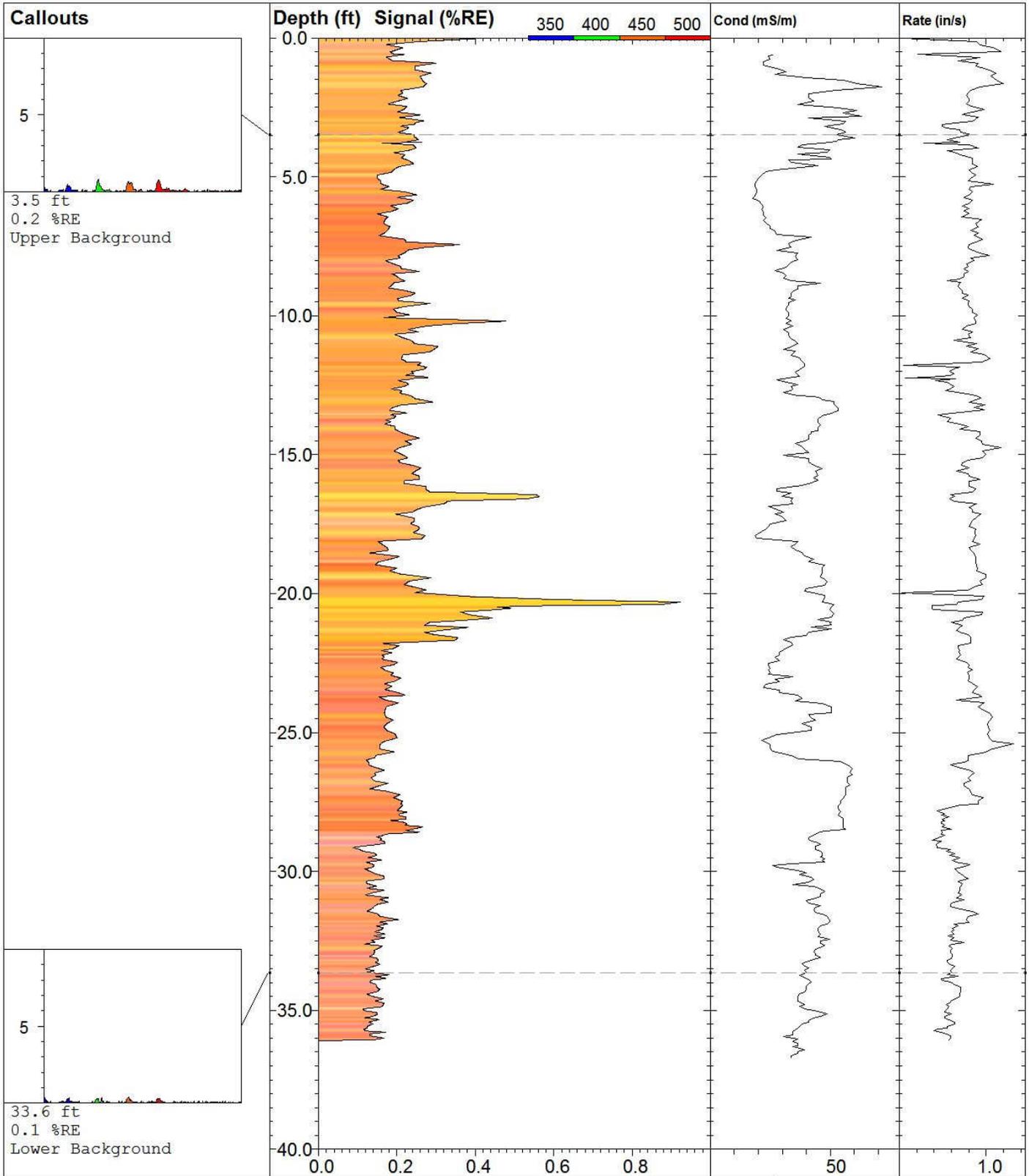
Site:	Latitude / Datum: Unavailable / NA	Final depth: 36.03 ft
Client / Job: I	Longitude / Fix: Unavailable / NA	Max signal: 121.3 %RE @ 29.66 ft
Operator/Unit: IUVOST1002	Elevation: Unavailable	Date & Time: 2013-12-09 10:06 AST



PRGS B-29

UVOST By Dakota
www.DakotaTechnologies.com

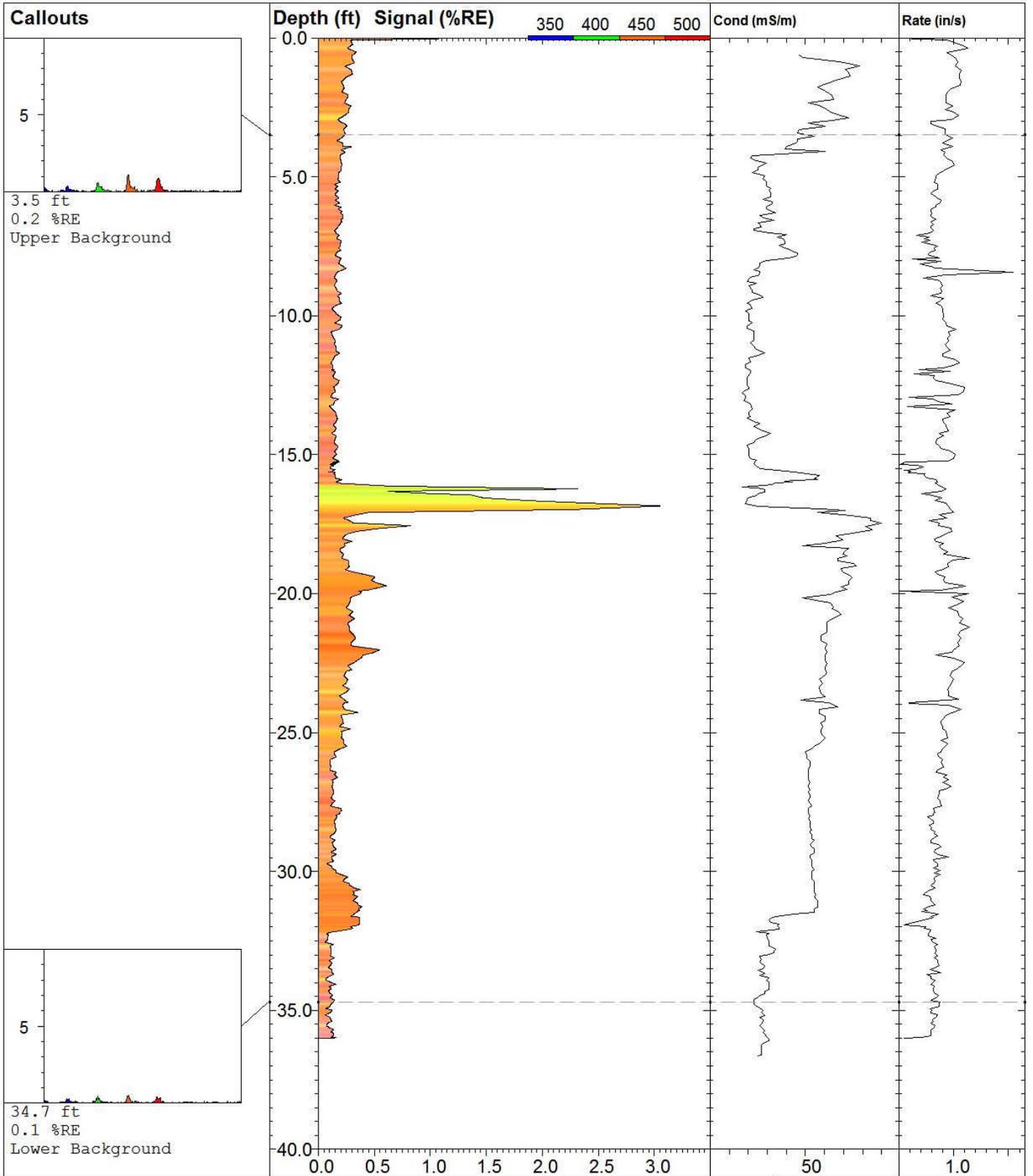
Site:	Latitude / Datum: Unavailable / NA	Final depth: 9.52 ft
Client / Job: I	Longitude / Fix: Unavailable / NA	Max signal: 3.9 %RE @ 7.67 ft
Operator/Unit: UVOST1002	Elevation: Unavailable	Date & Time: 2013-12-09 09:53 AST



PRGS B-37

UVOST By Dakota
www.DakotaTechnologies.com

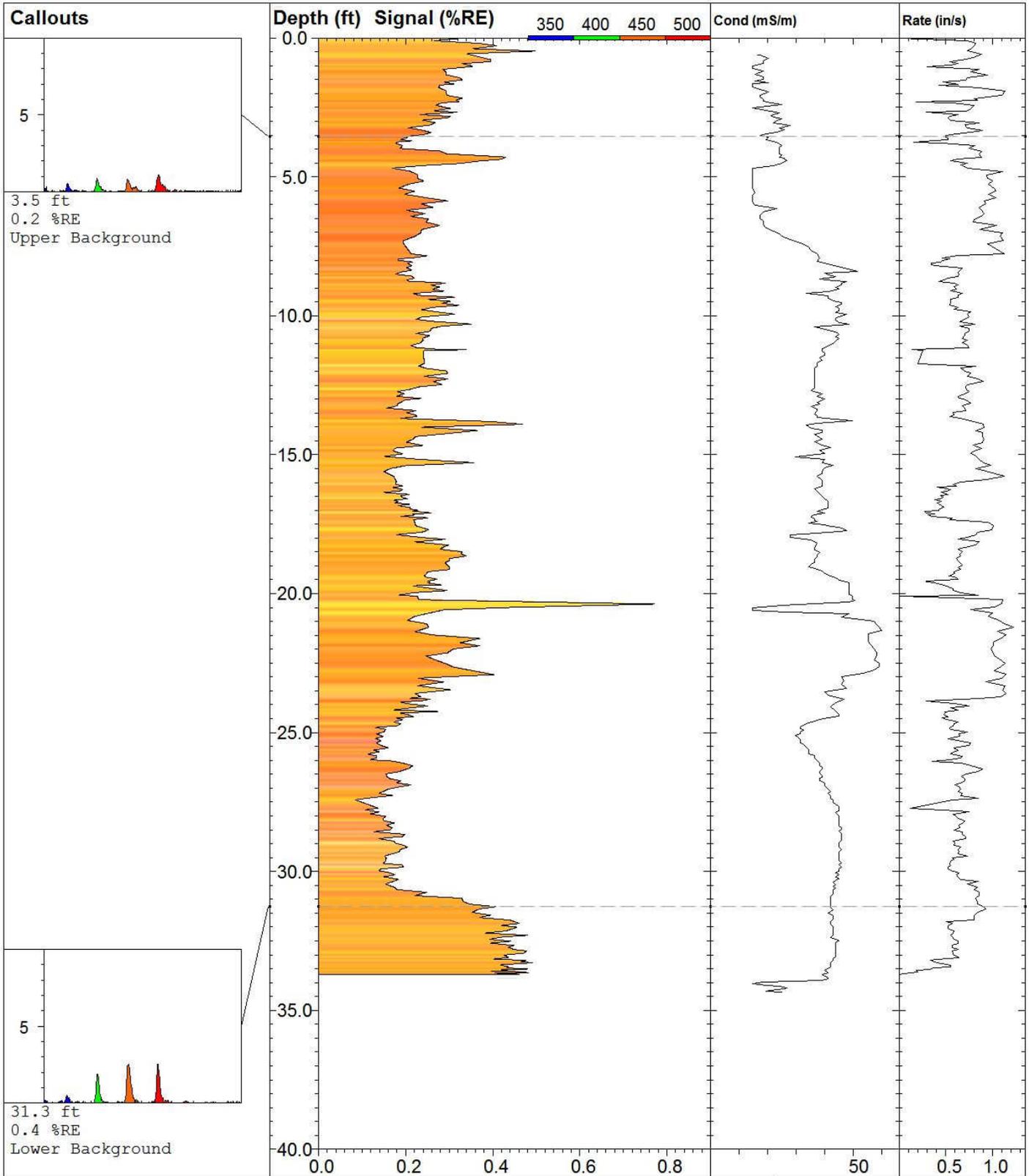
Site:	Latitude / Datum: Unavailable / NA	Final depth: 36.08 ft
Client / Job: I	Longitude / Fix: Unavailable / NA	Max signal: 0.9 %RE @ 20.30 ft
Operator/Unit: IUVOST1002	Elevation: Unavailable	Date & Time: 2013-12-09 09:12 AST



PRGS B-43

UVOST By Dakota
www.DakotaTechnologies.com

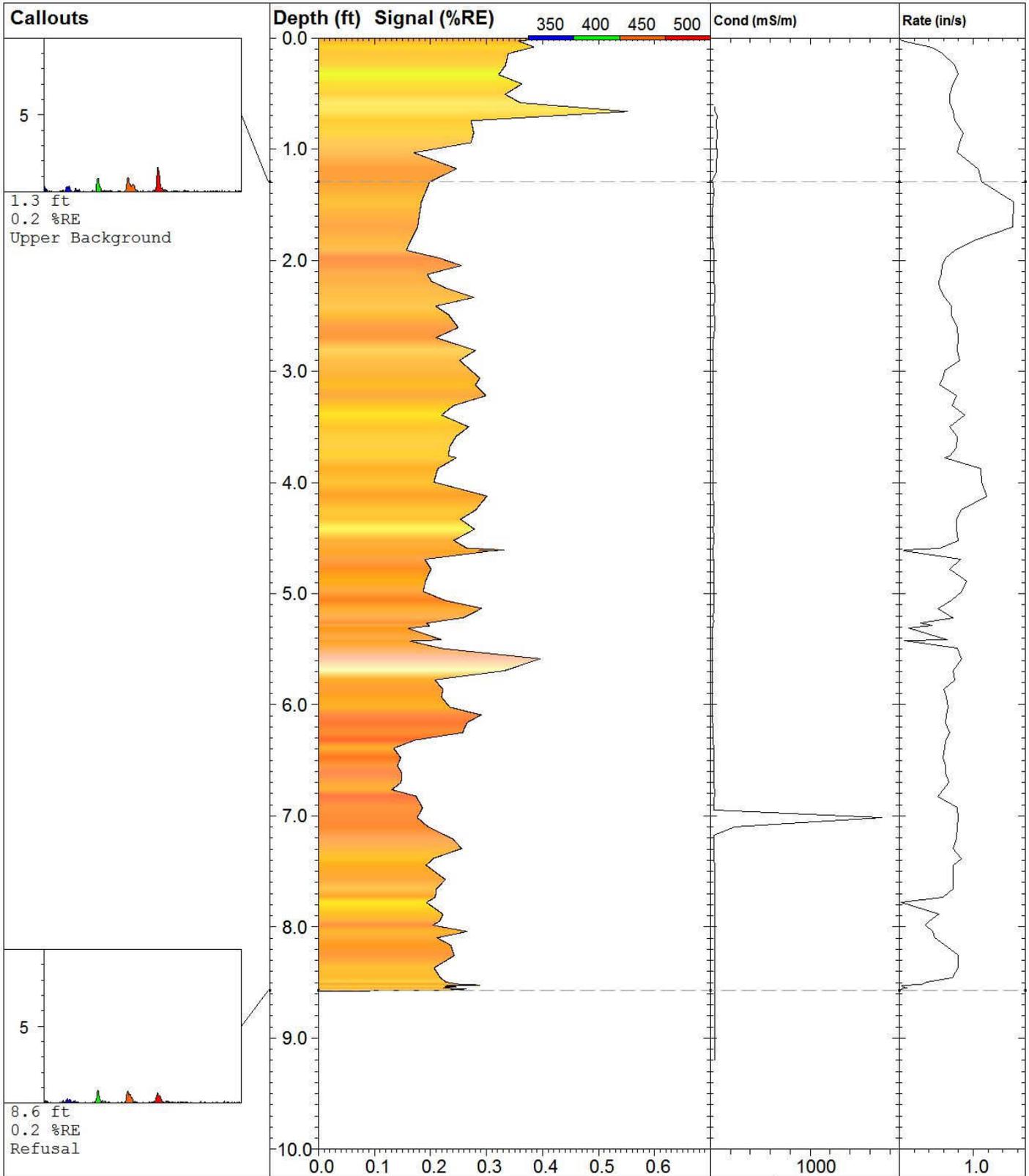
<i>Site:</i>	<i>Latitude / Datum:</i> Unavailable / NA	<i>Final depth:</i> 36.01 ft
<i>Client / Job:</i> I	<i>Longitude / Fix:</i> Unavailable / NA	<i>Max signal:</i> 3.1 %RE @ 16.84 ft
<i>Operator/Unit:</i> IUVOST1002	<i>Elevation:</i> Unavailable	<i>Date & Time:</i> 2013-12-09 08:18 AST



PRGS B-46

UVOST By Dakota
www.DakotaTechnologies.com

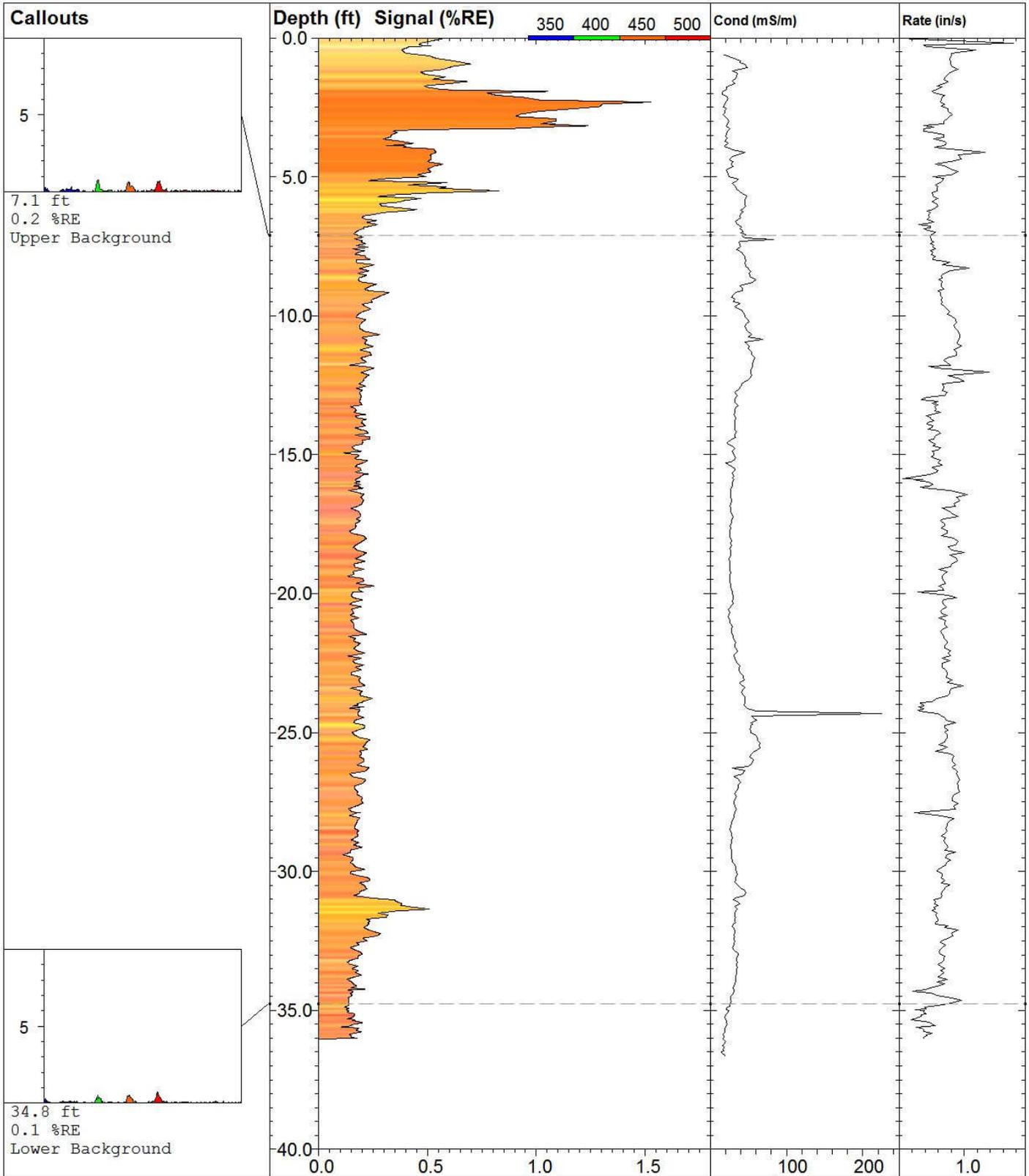
Site:	Latitude / Datum: Unavailable / NA	Final depth: 33.71 ft
Client / Job: I	Longitude / Fix: Unavailable / NA	Max signal: 0.8 %RE @ 20.37 ft
Operator/Unit: IUVOST1002	Elevation: Unavailable	Date & Time: 2013-12-09 07:42 AST



PRGS B-47

UVOST By Dakota
www.DakotaTechnologies.com

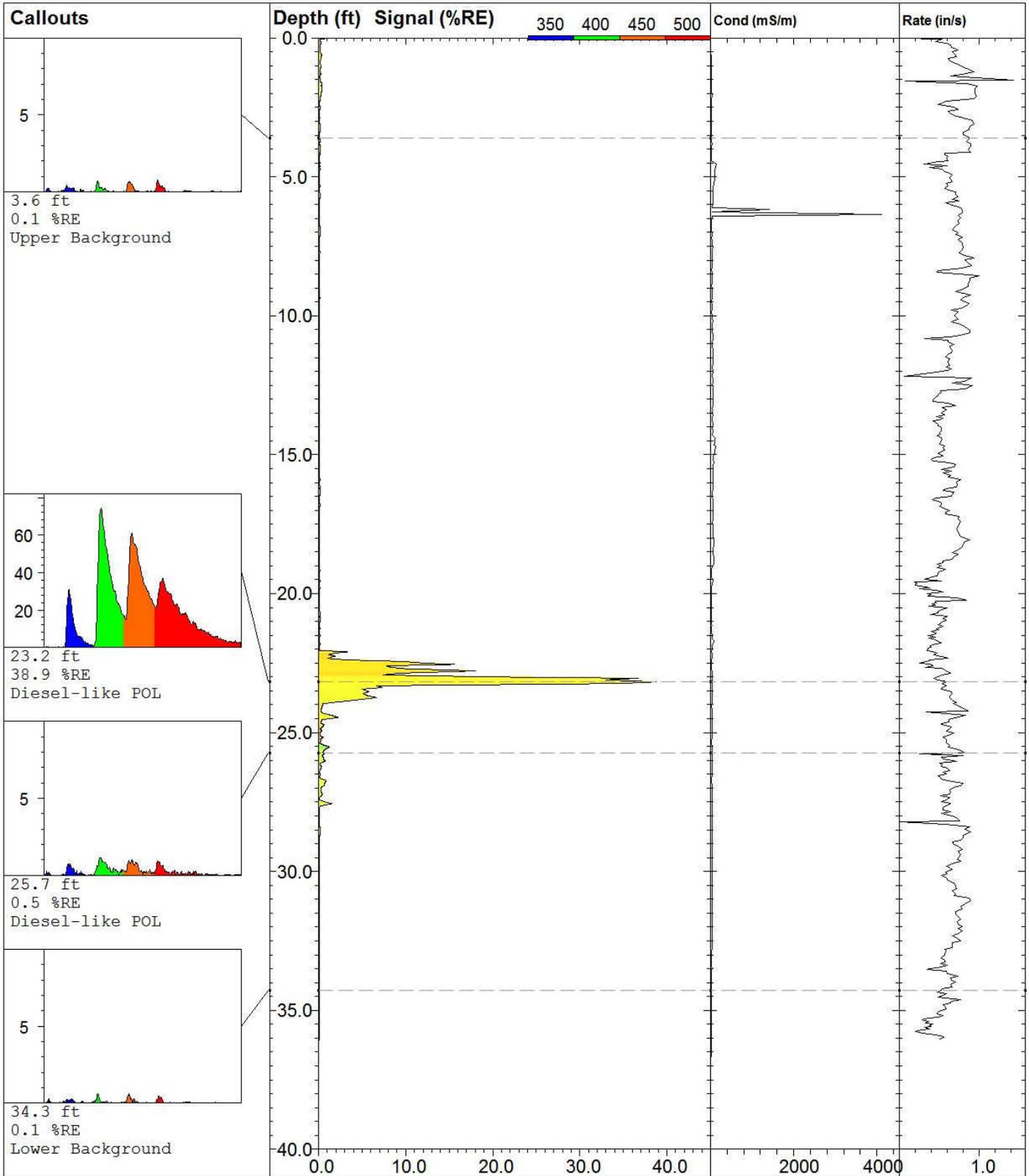
<i>Site:</i>	<i>Latitude / Datum:</i> Unavailable / NA	<i>Final depth:</i> 8.57 ft
<i>Client / Job:</i> I	<i>Longitude / Fix:</i> Unavailable / NA	<i>Max signal:</i> 0.6 %RE @ 0.66 ft
<i>Operator/Unit:</i> IUVOST1002	<i>Elevation:</i> Unavailable	<i>Date & Time:</i> 2013-12-09 07:27 AST



PRGS B-52

UVOST By Dakota
www.DakotaTechnologies.com

Site:	Latitude / Datum: Unavailable / NA	Final depth: 36.02 ft
Client / Job: I	Longitude / Fix: Unavailable / NA	Max signal: 1.5 %RE @ 2.31 ft
Operator/Unit: UVOST1002	Elevation: Unavailable	Date & Time: 2013-12-09 06:47 AST



PRGS B-26

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
36.06 ft

Client / Job:
URS/ VDEQ /

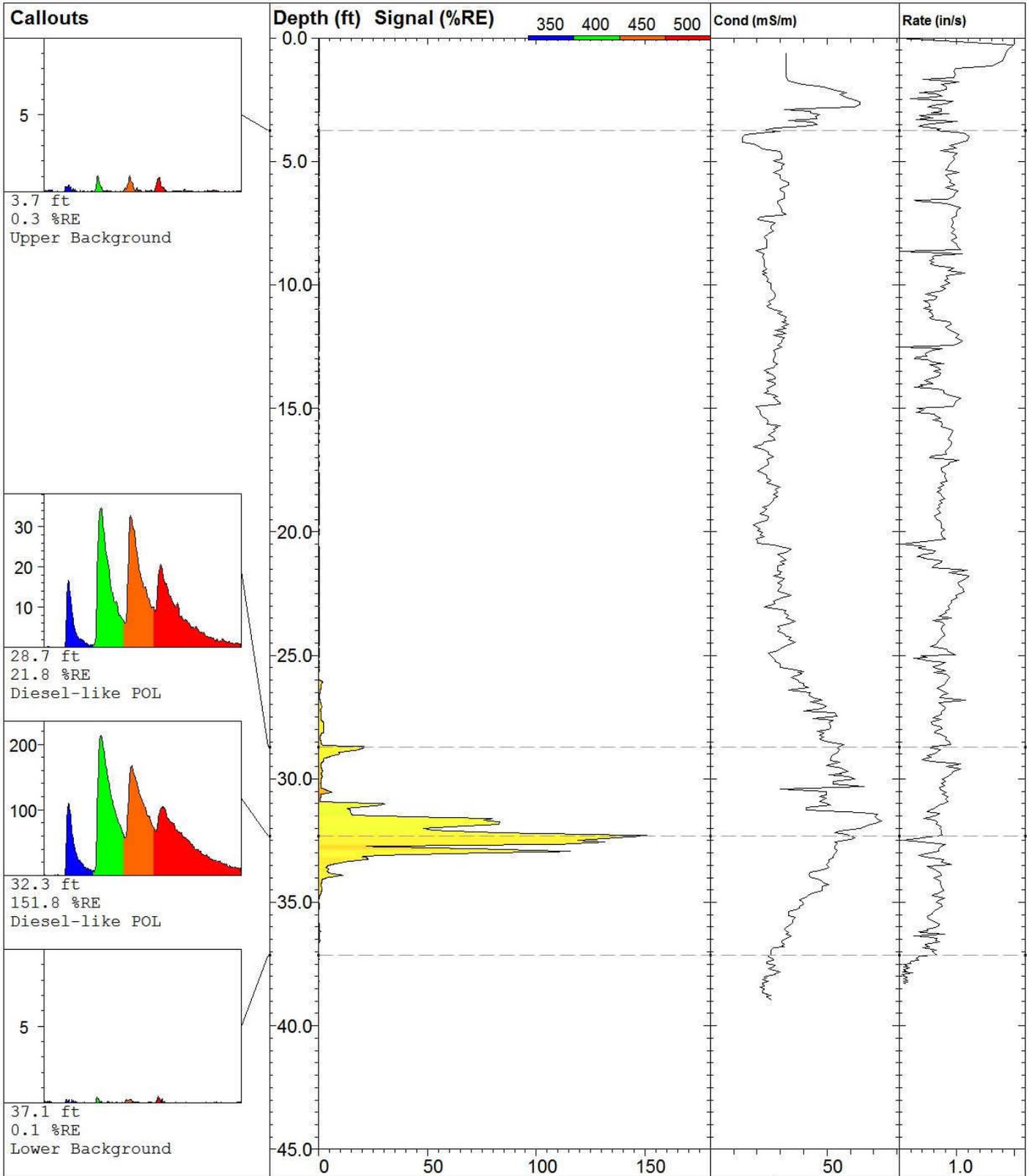
Longitude / Fix:
Unavailable / NA

Max signal:
38.9 %RE @ 23.17 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-10 06:01 AST



PRGS B-32

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
38.31 ft

Client / Job:
URS/ VDEQ /

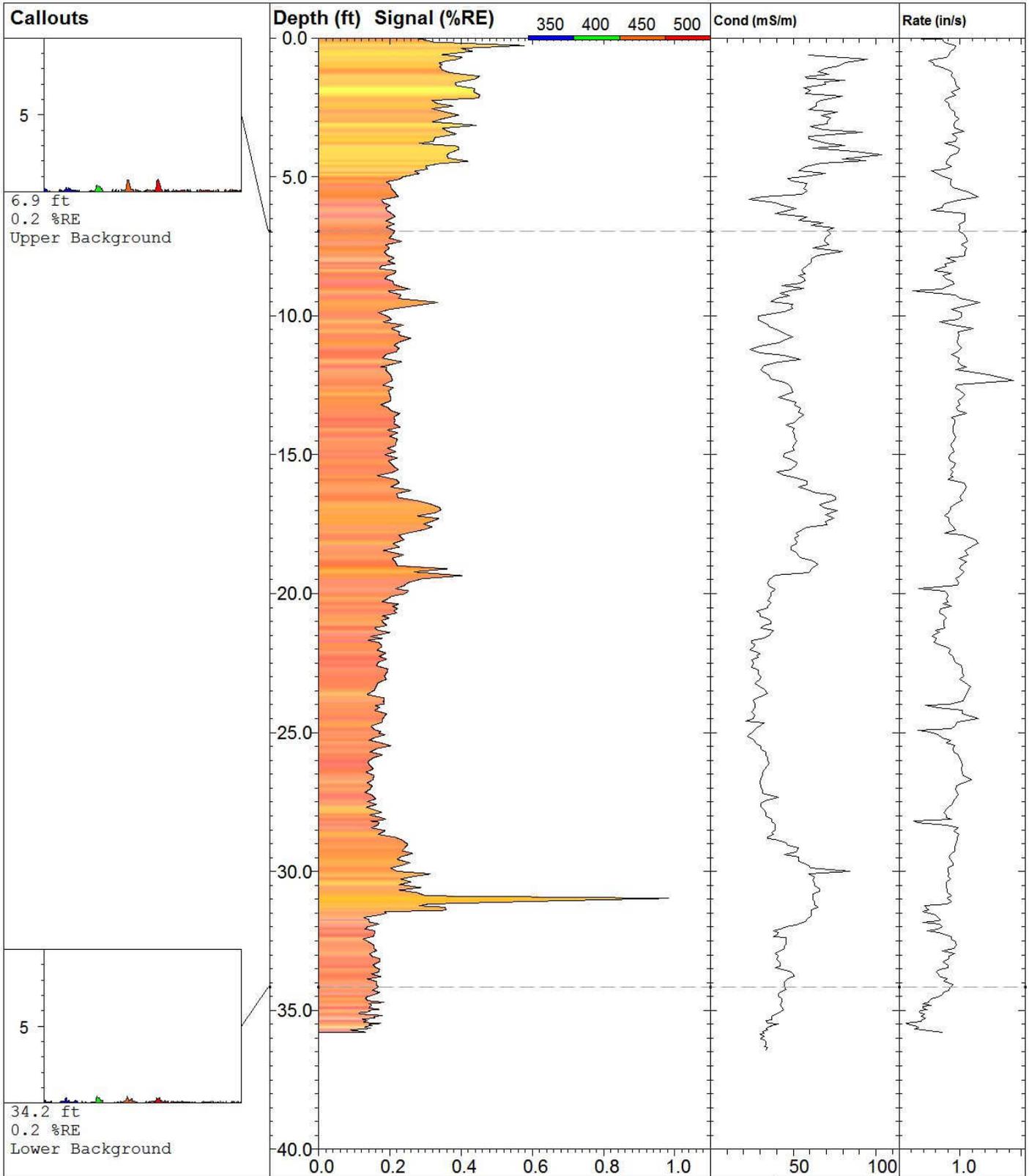
Longitude / Fix:
Unavailable / NA

Max signal:
151.8 %RE @ 32.30 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-10 06:40 AST



PRGS B-33

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
35.80 ft

Client / Job:
URS/ VDEQ /

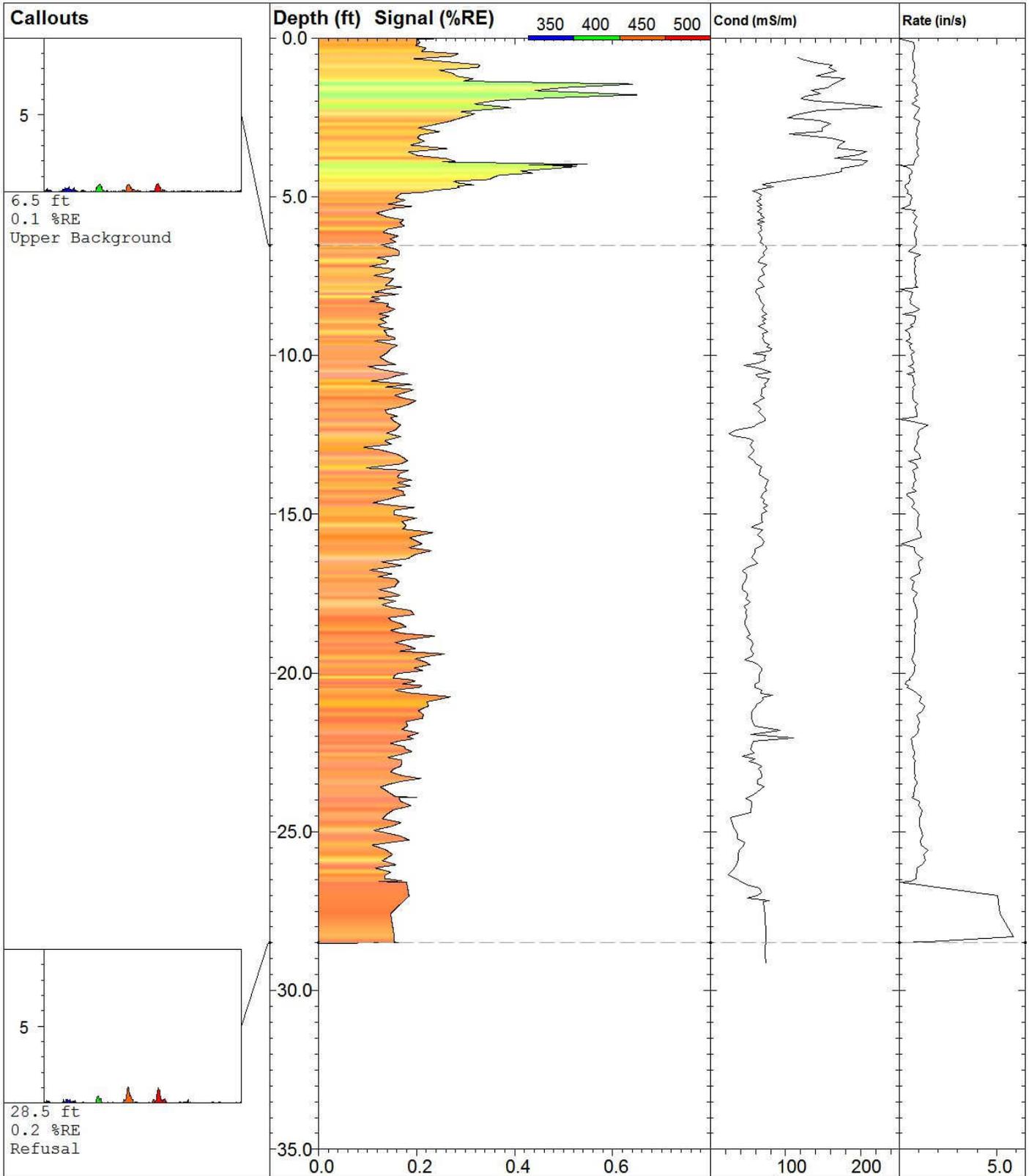
Longitude / Fix:
Unavailable / NA

Max signal:
1.0 %RE @ 30.97 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-10 09:33 AST



PRGS B-34

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
28.50 ft

Client / Job:
URS/ VDEQ /

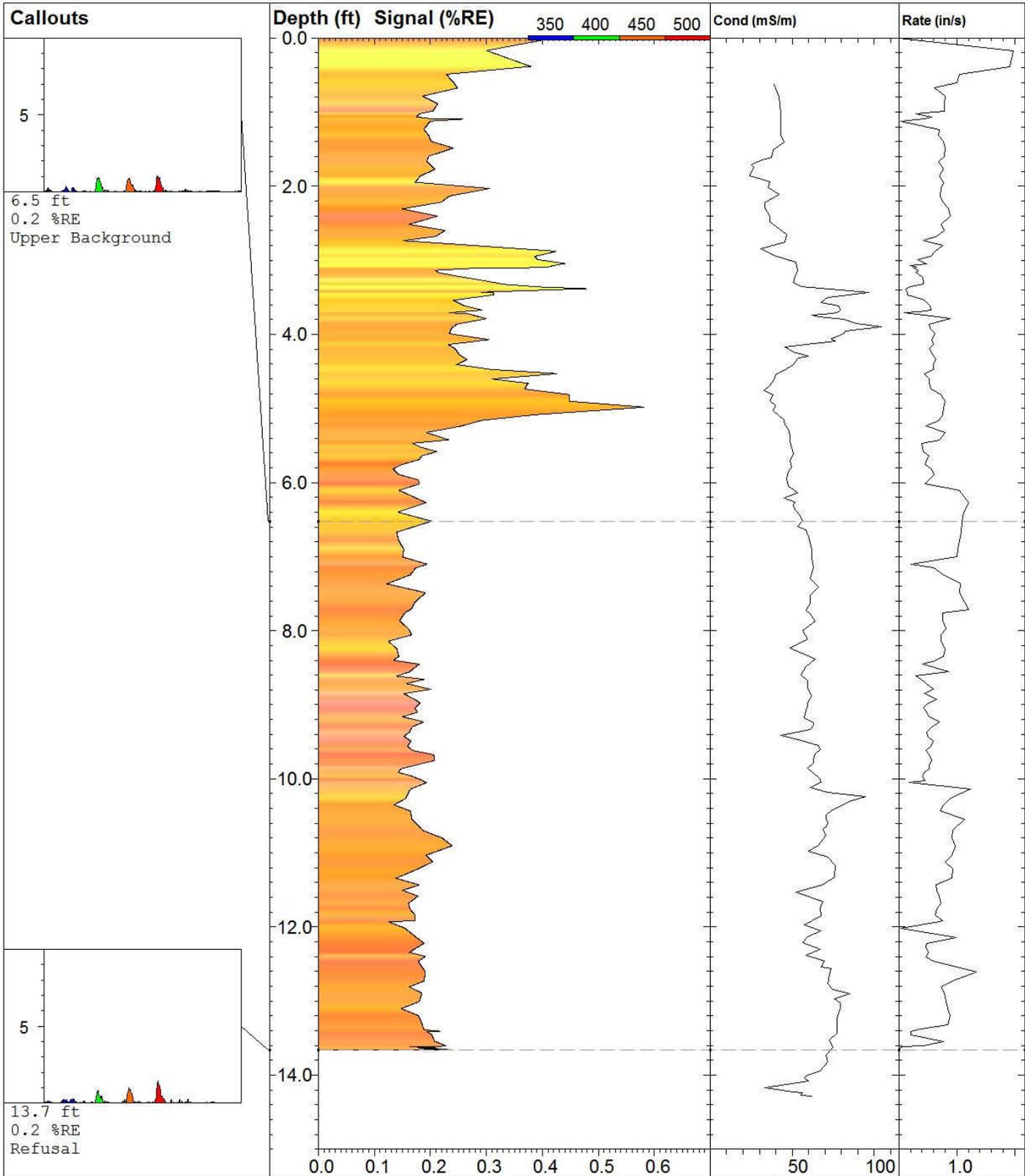
Longitude / Fix:
Unavailable / NA

Max signal:
0.7 %RE @ 1.79 ft

Operator/Unit:
PCaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-10 07:45 AST



PRGS B-35

Site:
URS/ PRGS 2013

Client / Job:
URS/ VDEQ /

Operator/Unit:
PCaron/UVOST1002

Latitude / Datum:
Unavailable / NA

Longitude / Fix:
Unavailable / NA

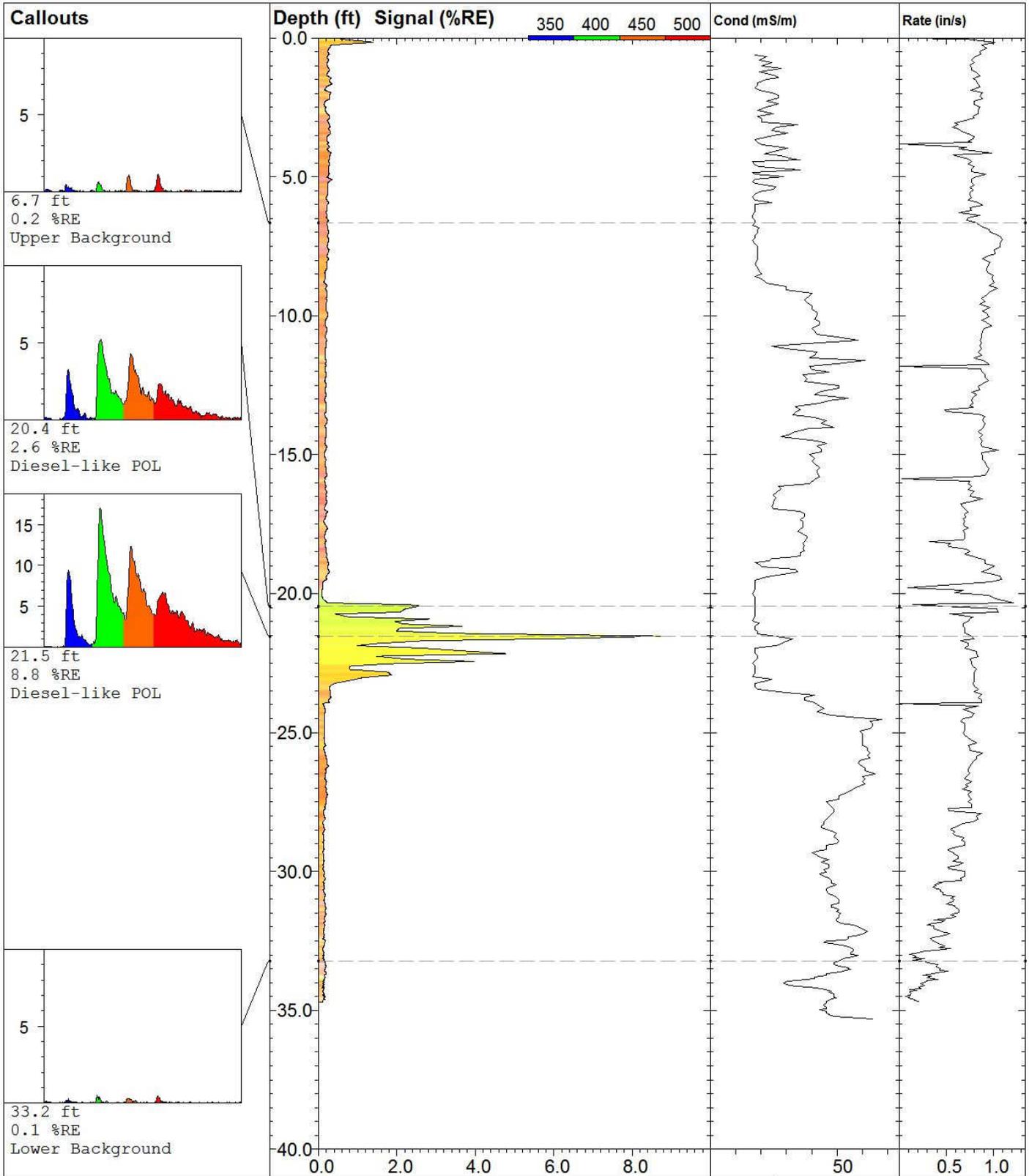
Elevation:
Unavailable

UVOST By Dakota
www.DakotaTechnologies.com

Final depth:
13.66 ft

Max signal:
0.6 %RE @ 4.98 ft

Date & Time:
2013-12-10 07:24 AST



PRGS B-69b

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Client / Job:
URS/ VDEQ /

Operator/Unit:
PCaron/UVOST1002

Latitude / Datum:
Unavailable / NA

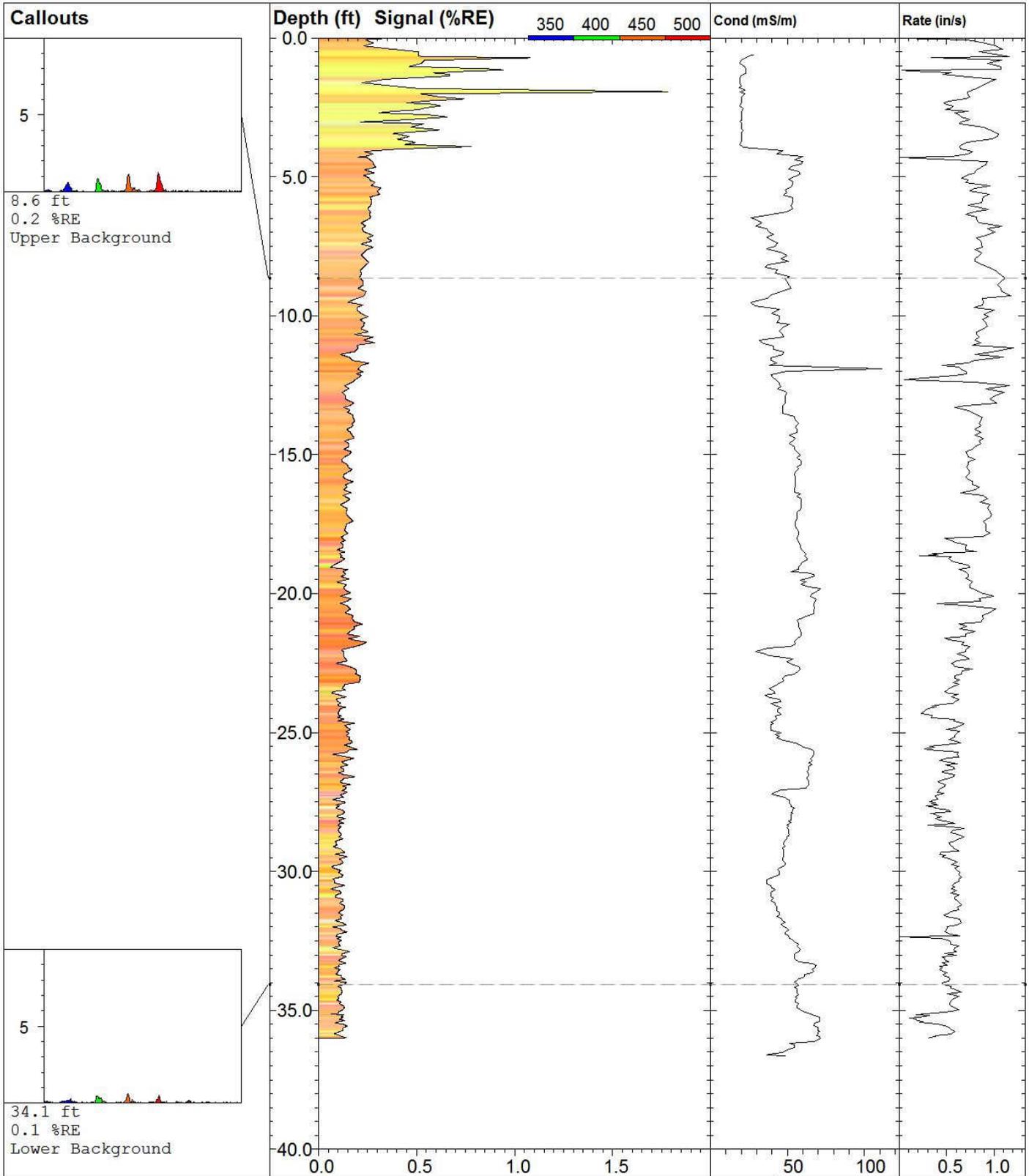
Longitude / Fix:
Unavailable / NA

Elevation:
Unavailable

Final depth:
34.70 ft

Max signal:
8.8 %RE @ 21.53 ft

Date & Time:
2013-12-10 10:50 AST



PRGS B-70

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Client / Job:
URS/ VDEQ /

Operator/Unit:
PCaron/UVOST1002

Latitude / Datum:
Unavailable / NA

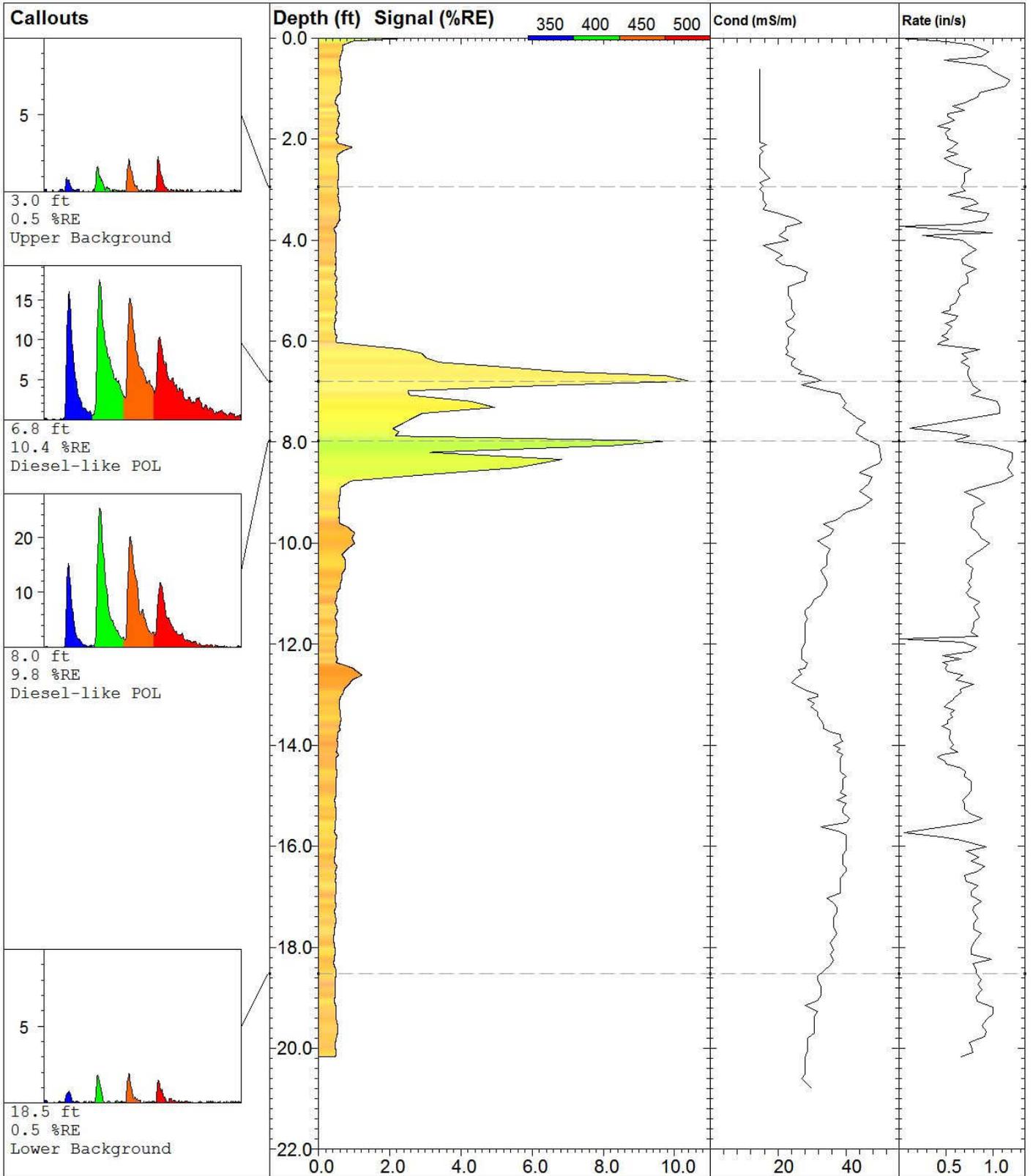
Longitude / Fix:
Unavailable / NA

Elevation:
Unavailable

Final depth:
36.02 ft

Max signal:
1.8 %RE @ 1.93 ft

Date & Time:
2013-12-10 11:26 AST



PRGS B-60

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
20.16 ft

Client / Job:
URS/ VDEQ /

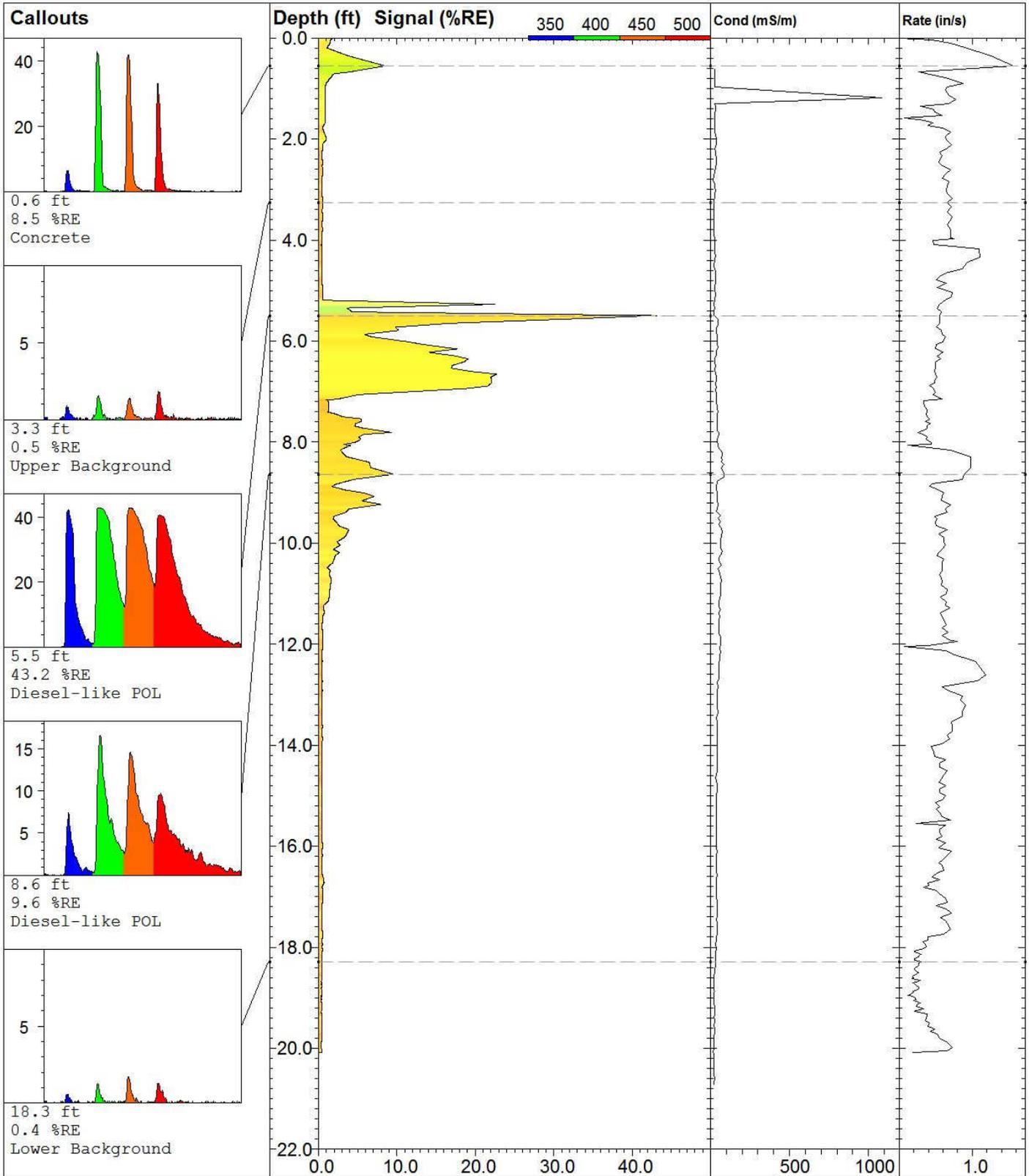
Longitude / Fix:
Unavailable / NA

Max signal:
10.4 %RE @ 6.79 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-13 09:48 AST



PRGS B-63

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
20.09 ft

Client / Job:
URS/ VDEQ /

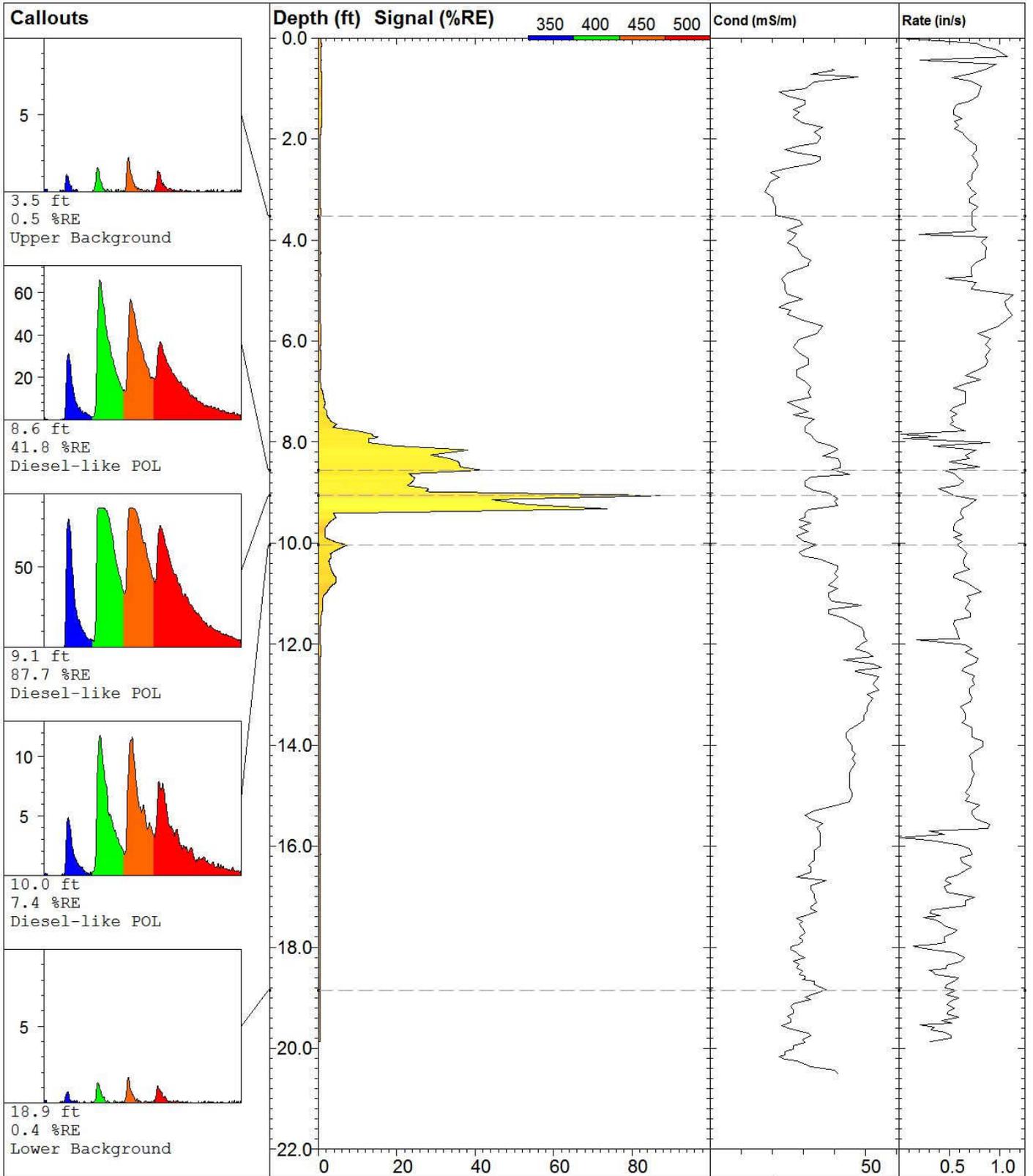
Longitude / Fix:
Unavailable / NA

Max signal:
43.2 %RE @ 5.50 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-13 08:06 AST



PRGS B-64

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
19.87 ft

Client / Job:
URS/ VDEQ /

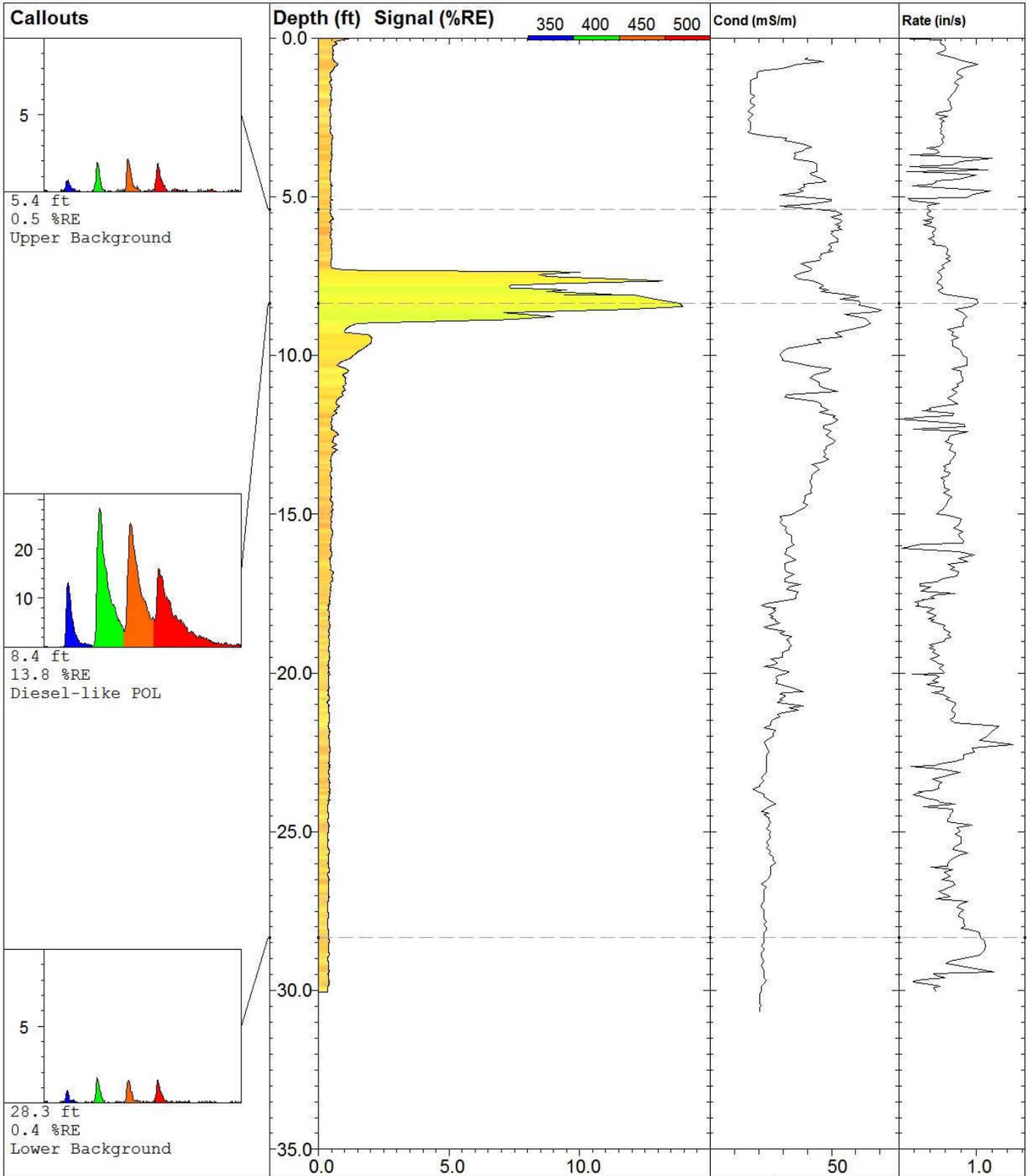
Longitude / Fix:
Unavailable / NA

Max signal:
87.7 %RE @ 9.06 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-13 07:40 AST



PRGS B-65

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
30.04 ft

Client / Job:
URS/ VDEQ /

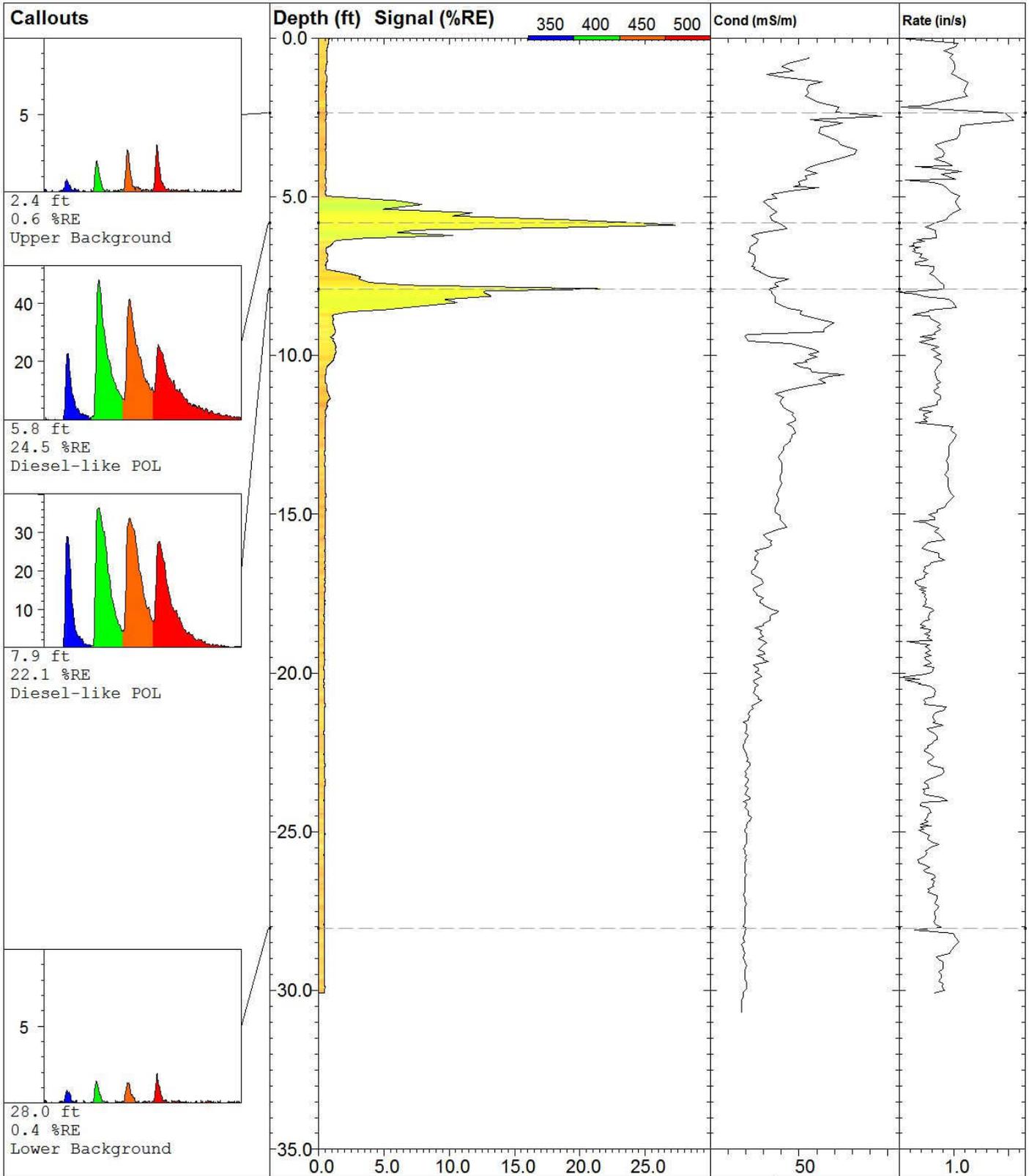
Longitude / Fix:
Unavailable / NA

Max signal:
13.9 %RE @ 8.46 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-13 06:44 AST



PRGS B-66

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
30.07 ft

Client / Job:
URS/ VDEQ /

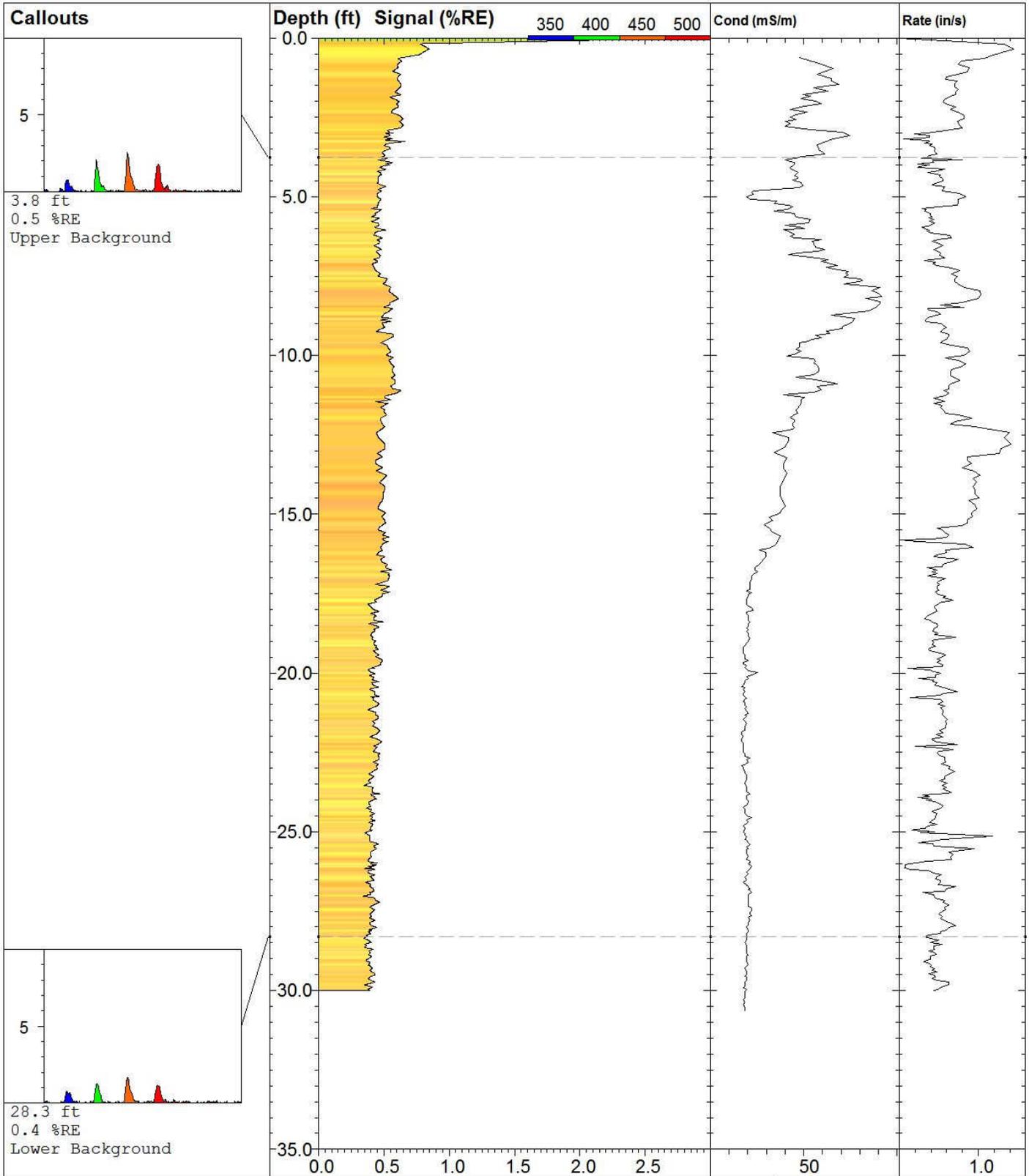
Longitude / Fix:
Unavailable / NA

Max signal:
27.4 %RE @ 5.89 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-13 06:17 AST



PRGS B-67

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
30.00 ft

Client / Job:
URS/ VDEQ /

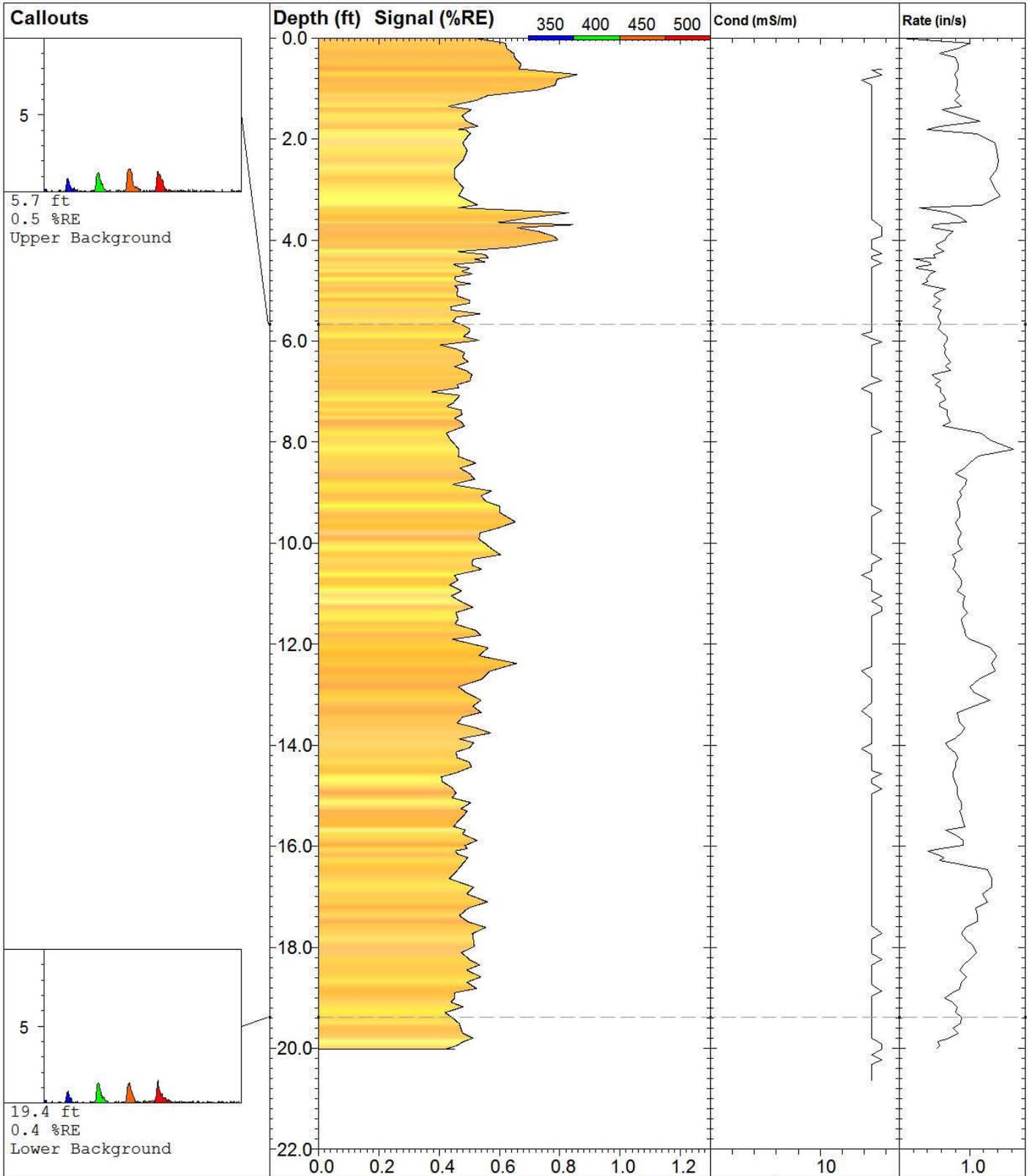
Longitude / Fix:
Unavailable / NA

Max signal:
2.8 %RE @ 0.00 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-13 05:23 AST



PRGS B-79

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
20.02 ft

Client / Job:
URS/ VDEQ /

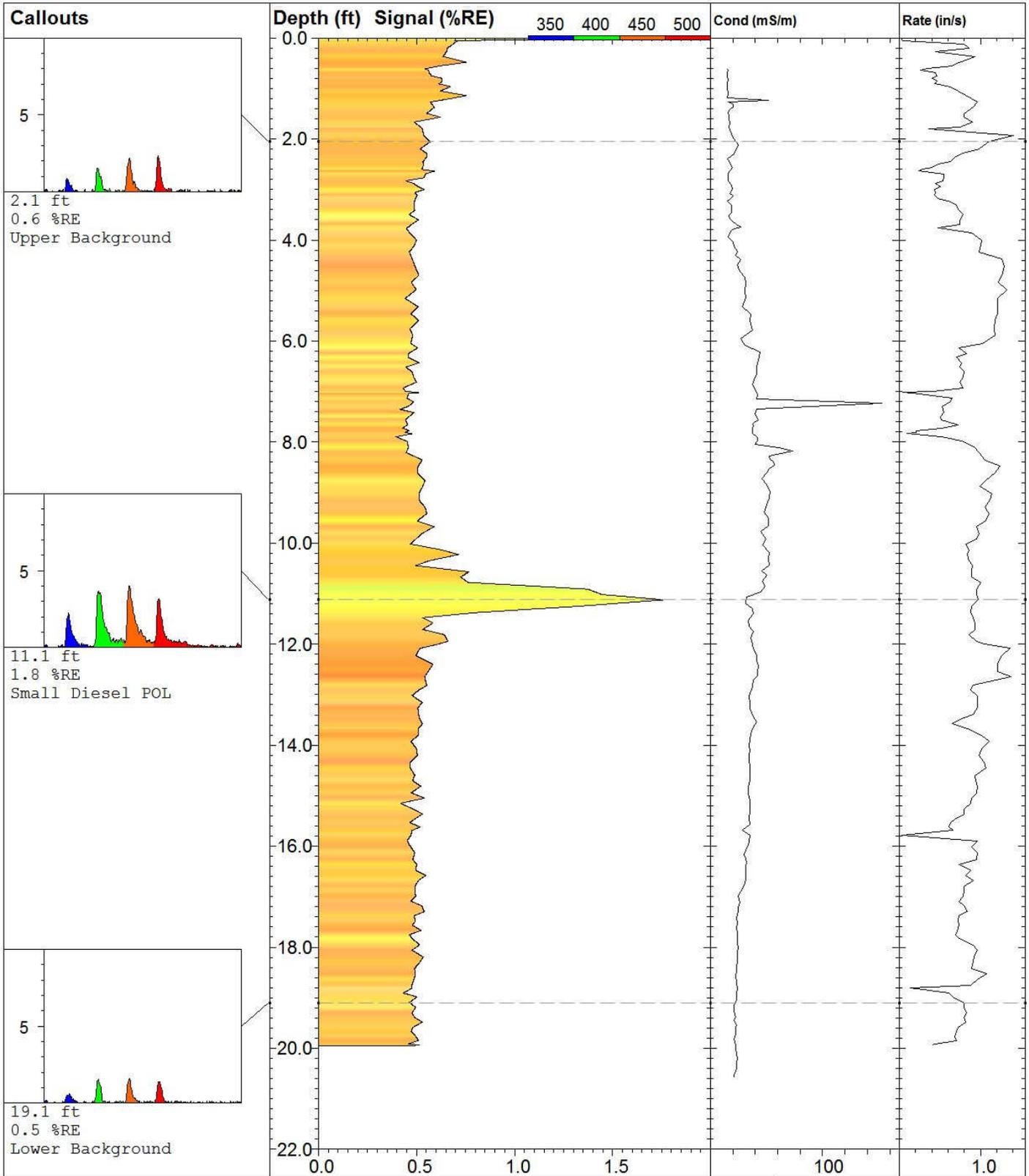
Longitude / Fix:
Unavailable / NA

Max signal:
1.2 %RE @ 0.00 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-13 10:23 AST



PRGS B-80

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
19.95 ft

Client / Job:
URS/ VDEQ /

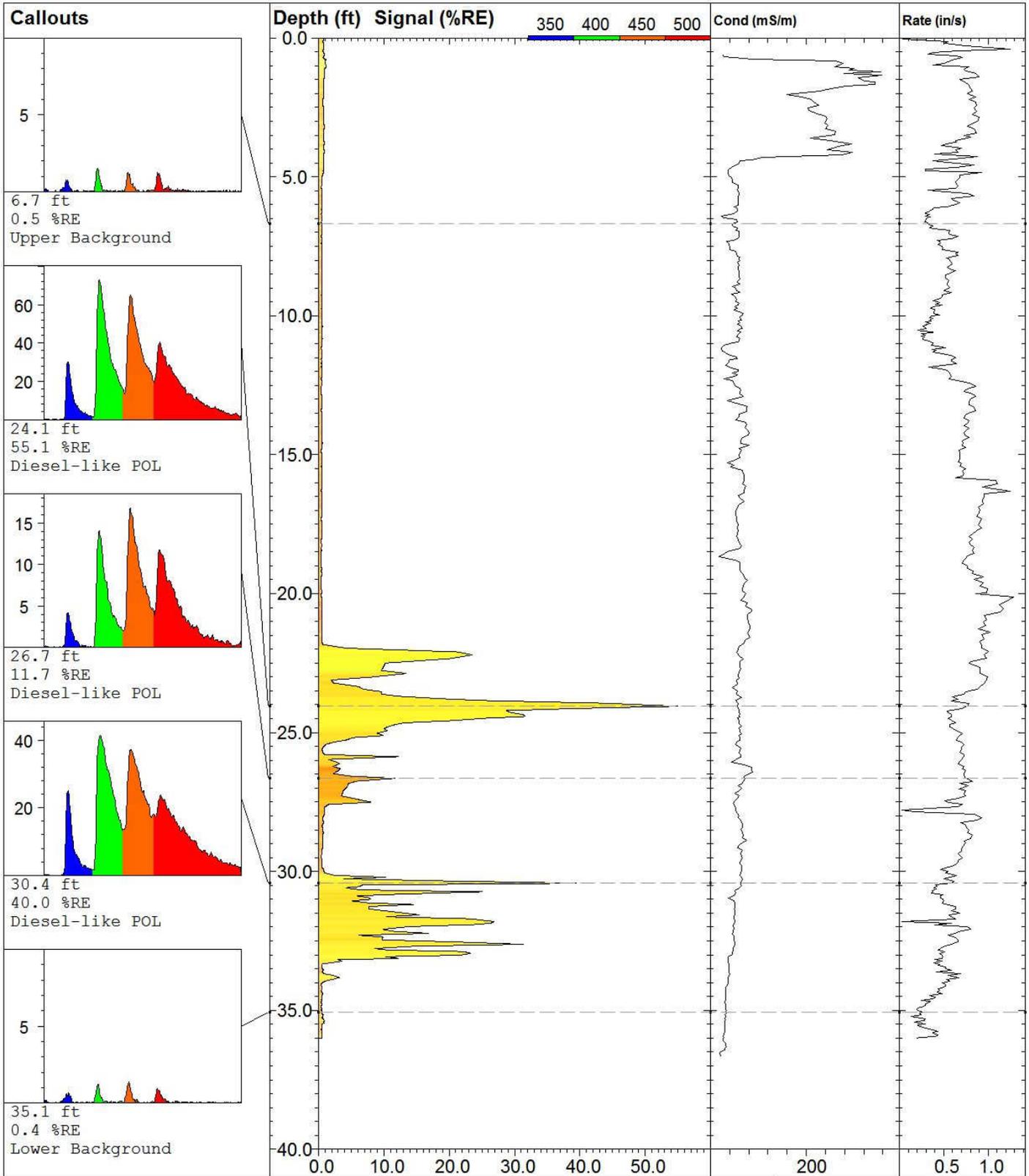
Longitude / Fix:
Unavailable / NA

Max signal:
1.8 %RE @ 11.12 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-13 08:57 AST



Callouts

5

6.7 ft
0.5 %RE
Upper Background

60
40
20

24.1 ft
55.1 %RE
Diesel-like POL

15
10
5

26.7 ft
11.7 %RE
Diesel-like POL

40
20

30.4 ft
40.0 %RE
Diesel-like POL

5

35.1 ft
0.4 %RE
Lower Background

PRGS B-30

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Client / Job:
URS/ VDEQ /

Operator/Unit:
Pcaron/UVOST1002

Latitude / Datum:
Unavailable / NA

Longitude / Fix:
Unavailable / NA

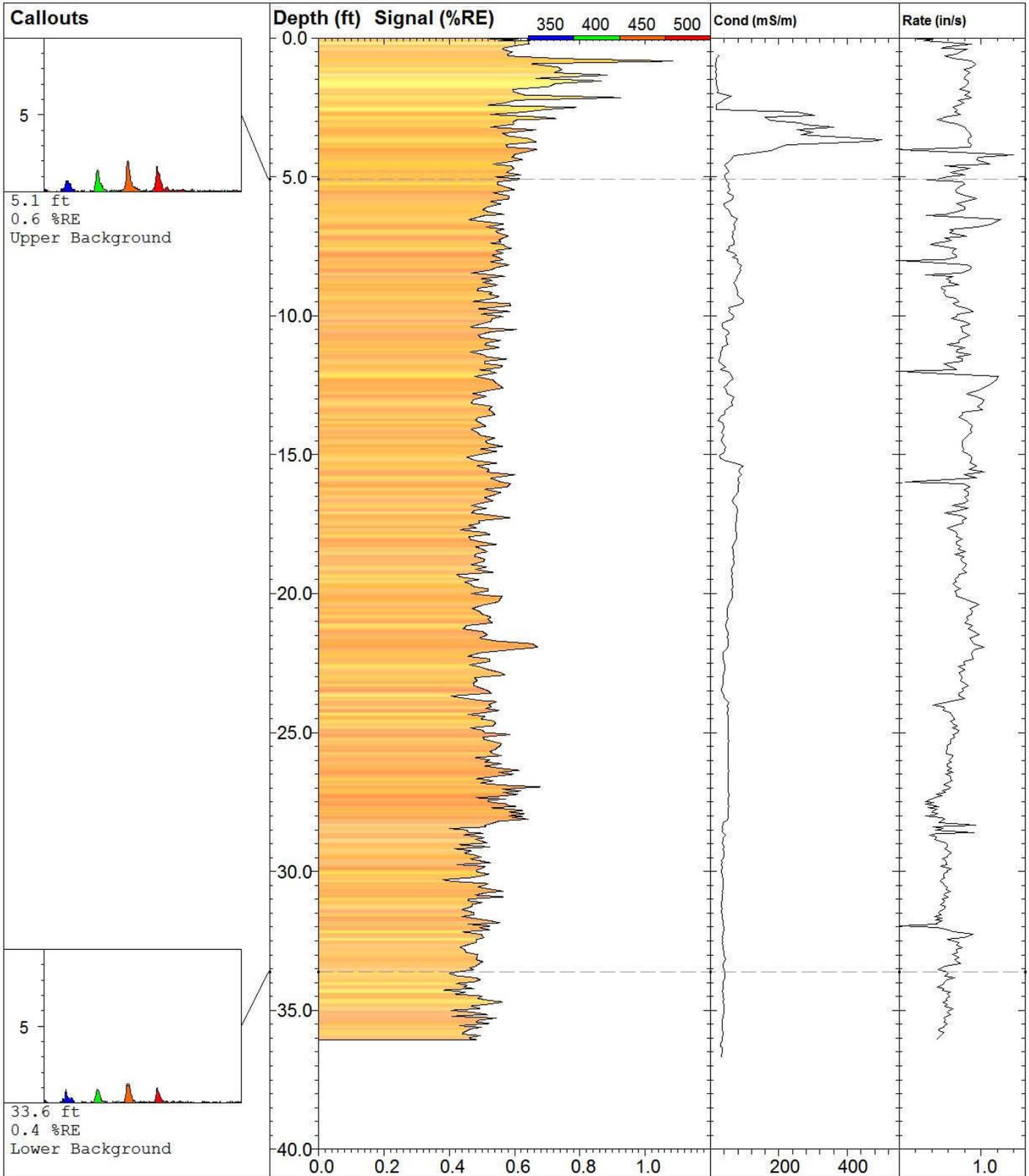
Elevation:
Unavailable

Final depth:
36.01 ft

Max signal:
55.1 %RE @ 24.06 ft

Date & Time:
2013-12-16 08:09 AST





PRGS B-36

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
36.05 ft

Client / Job:
URS/ VDEQ /

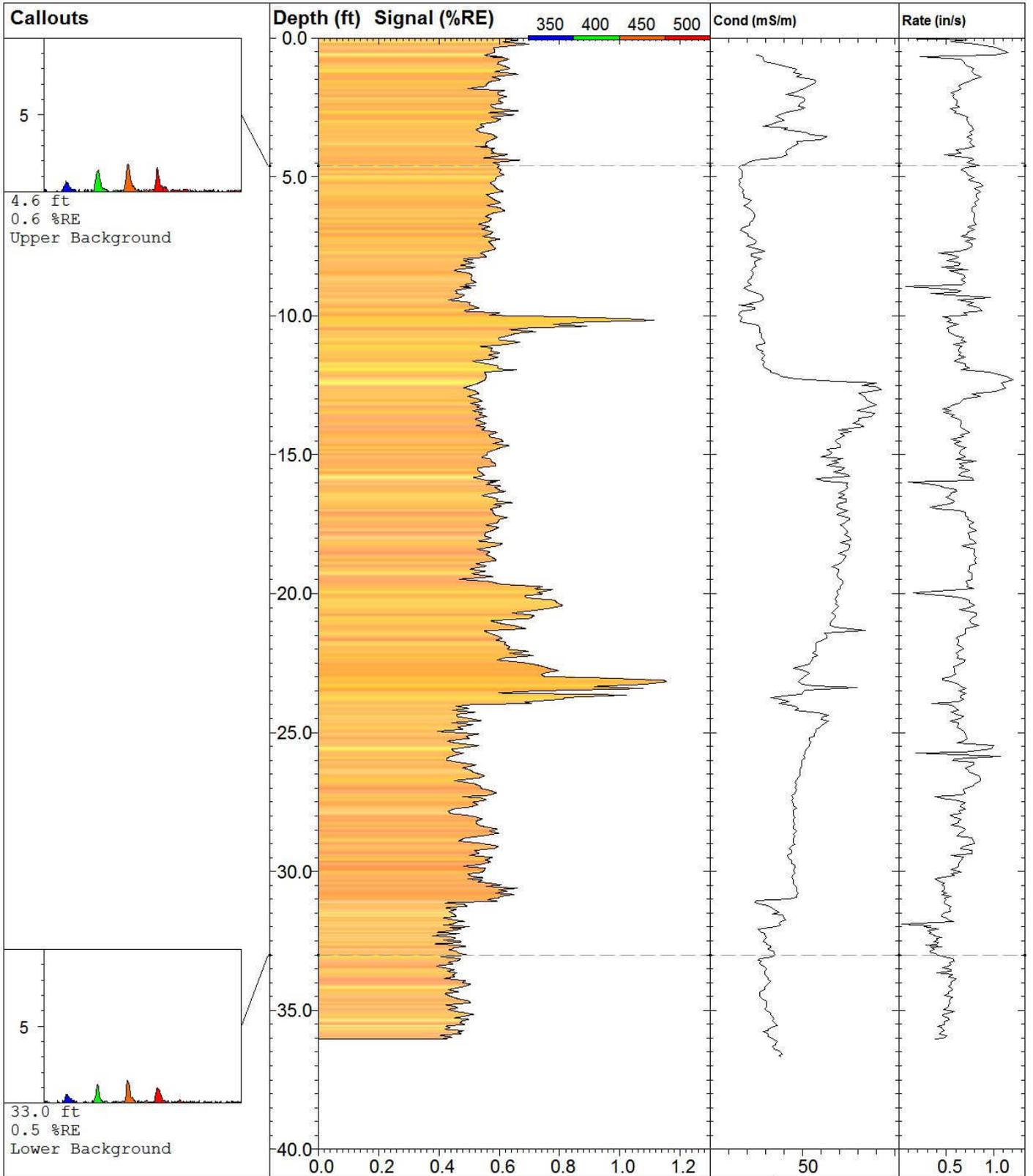
Longitude / Fix:
Unavailable / NA

Max signal:
1.1 %RE @ 0.83 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-16 08:44 AST



PRGS B-40

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
36.04 ft

Client / Job:
URS/ VDEQ /

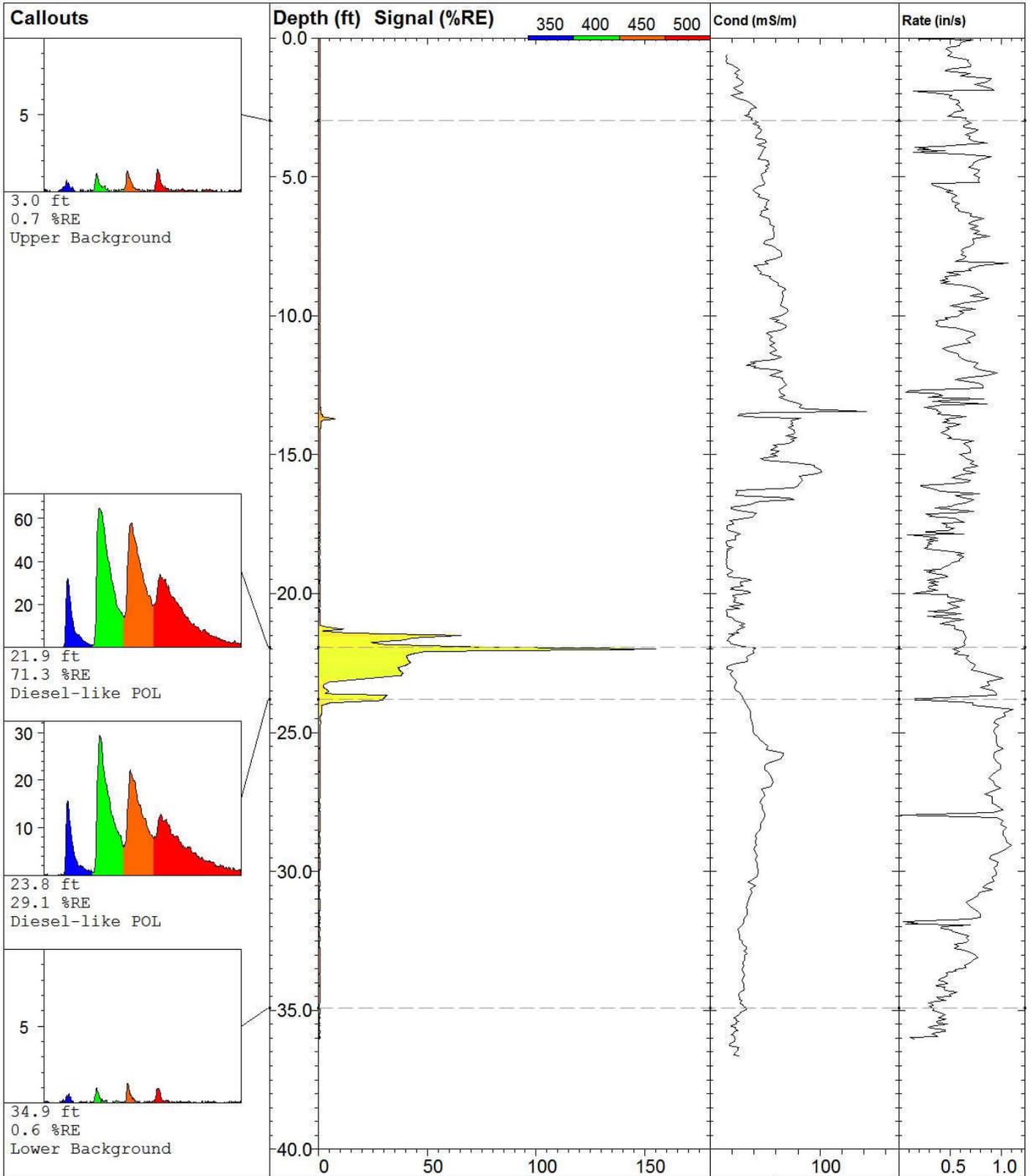
Longitude / Fix:
Unavailable / NA

Max signal:
1.2 %RE @ 23.18 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

Date & Time:
2013-12-16 09:16 AST



PRGS B-71

UVOST By Dakota
www.DakotaTechnologies.com

Site:
URS/ PRGS 2013

Latitude / Datum:
Unavailable / NA

Final depth:
36.03 ft

Client / Job:
URS/ VDEQ /

Longitude / Fix:
Unavailable / NA

Max signal:
156.9 %RE @ 22.00 ft

Operator/Unit:
Pcaron/UVOST1002

Elevation:
Unavailable

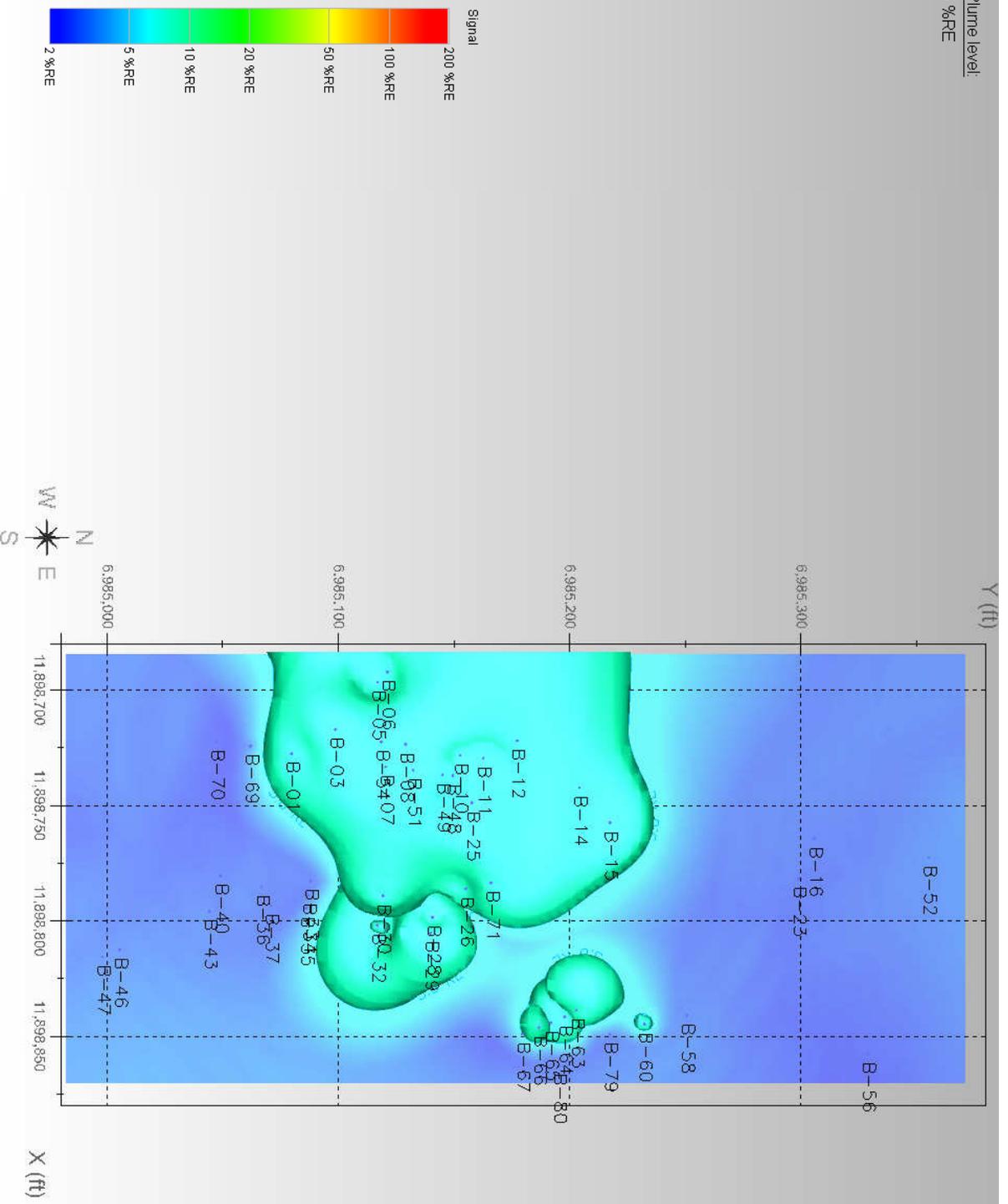
Date & Time:
2013-12-16 10:03 AST

ATTACHMENT B

Site Models

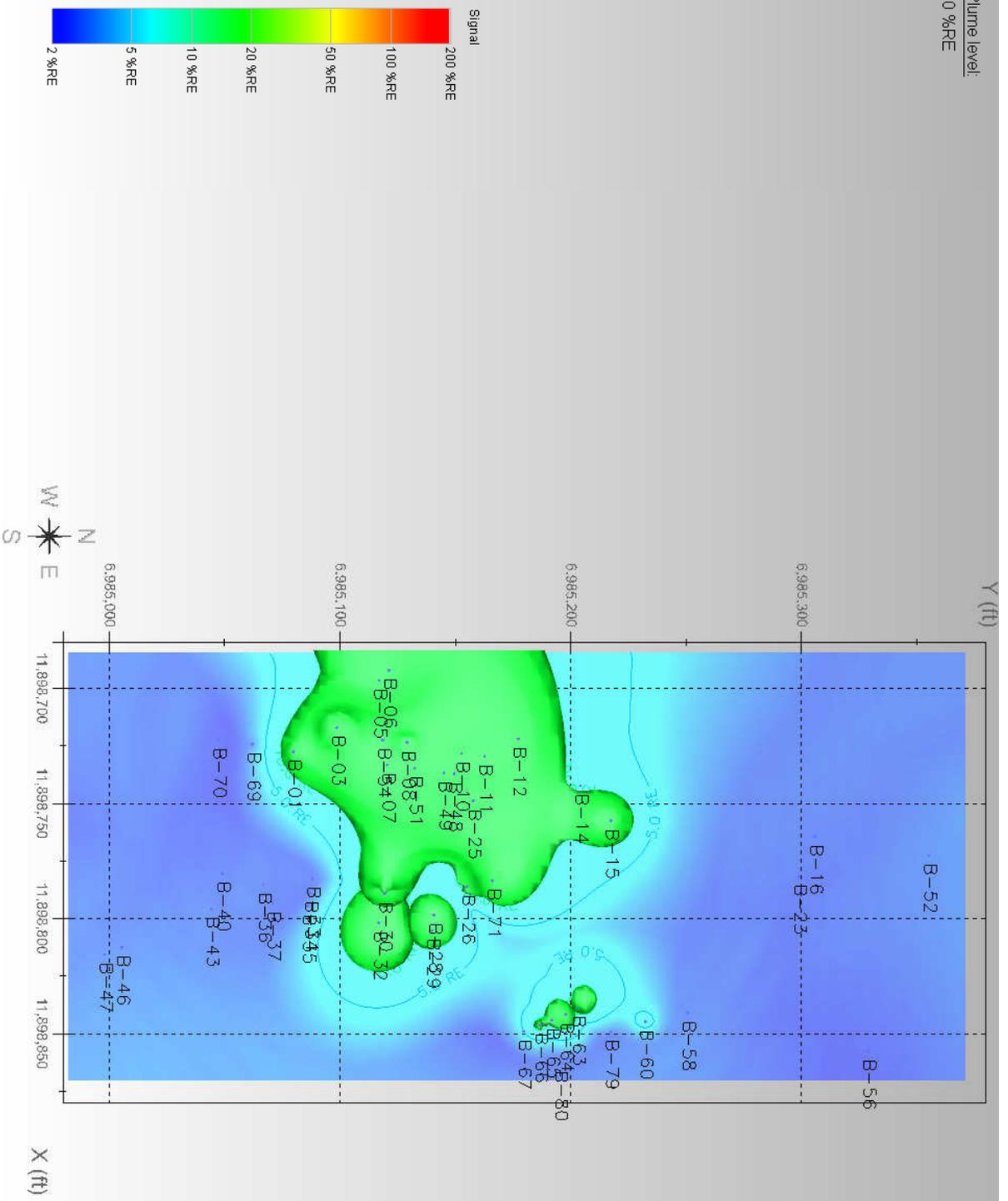
Plume level:
5 %RE

Z exaggeration: 5



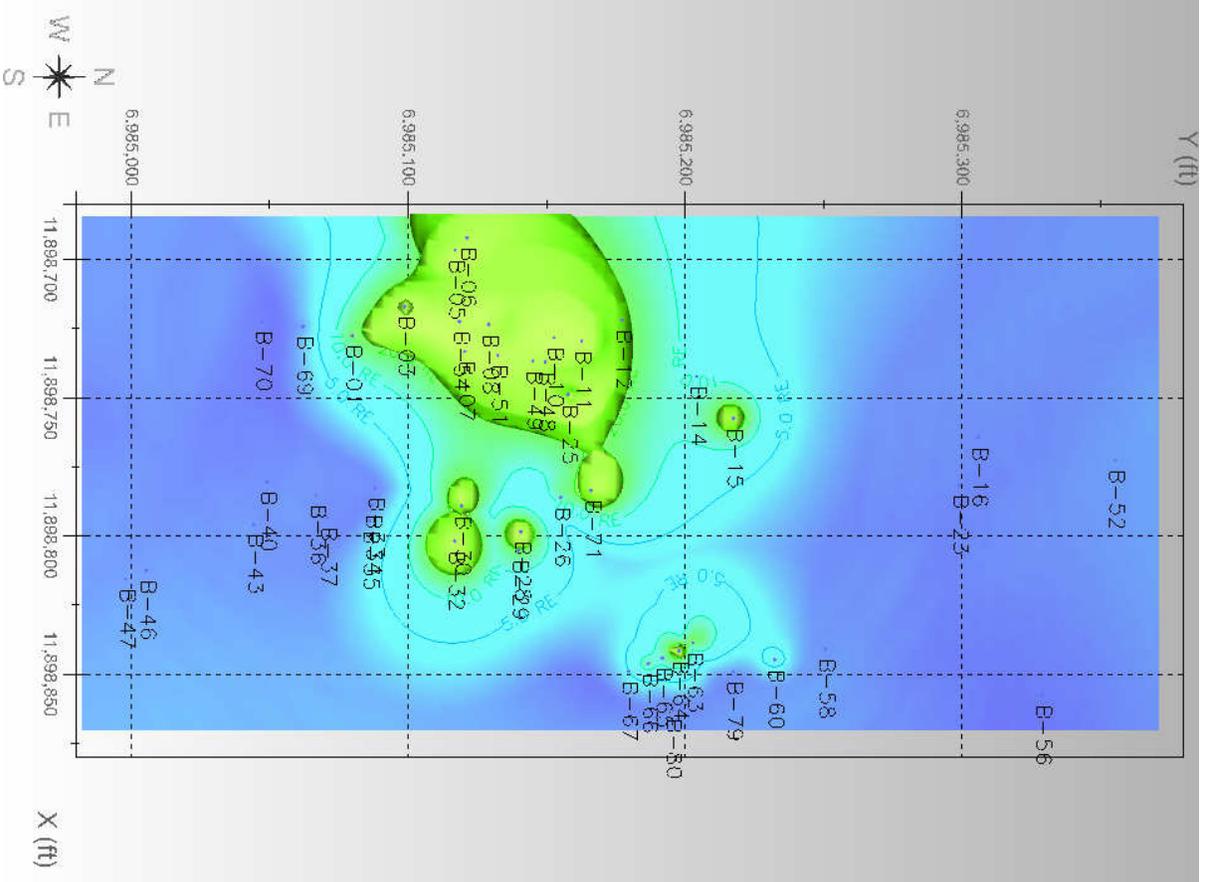
Plume level:
10 %RE

Z exaggeration: 5



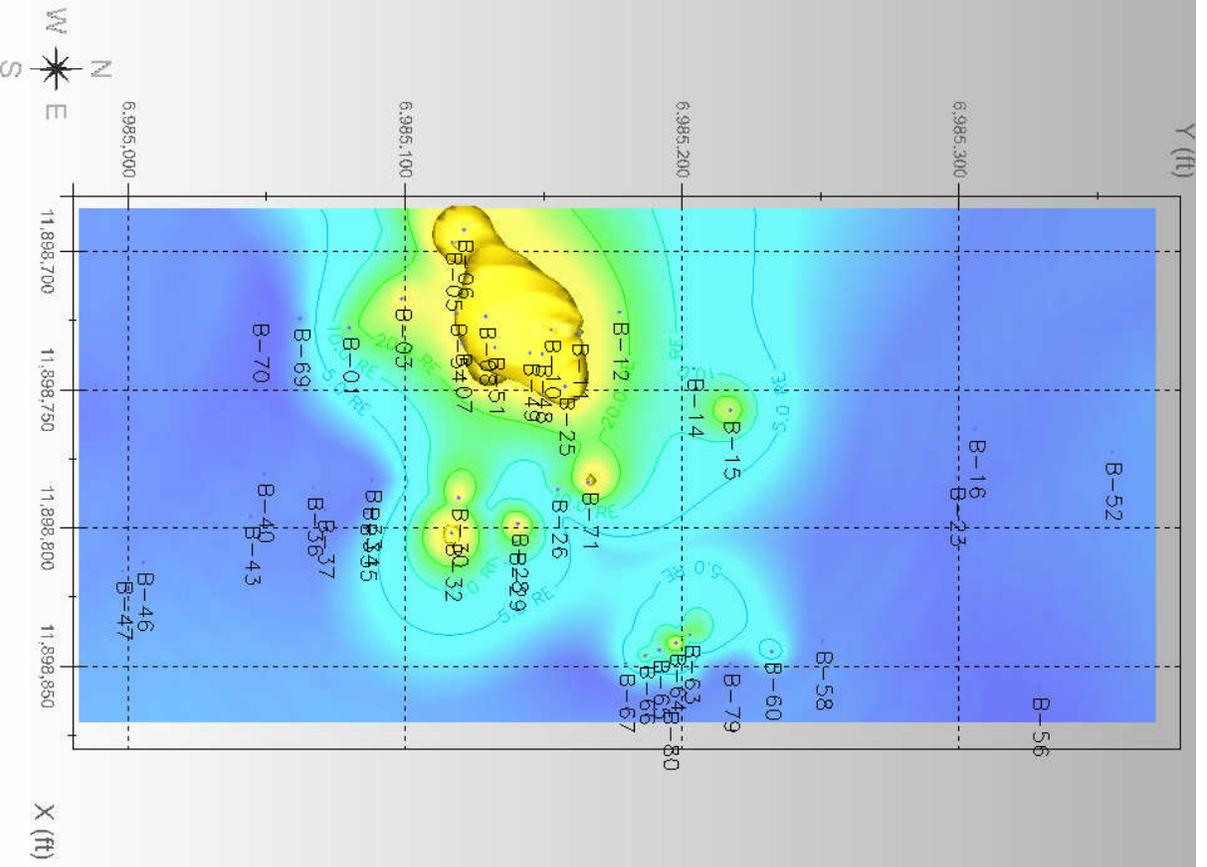
Plume level:
20 %RE

Z exaggeration: 5



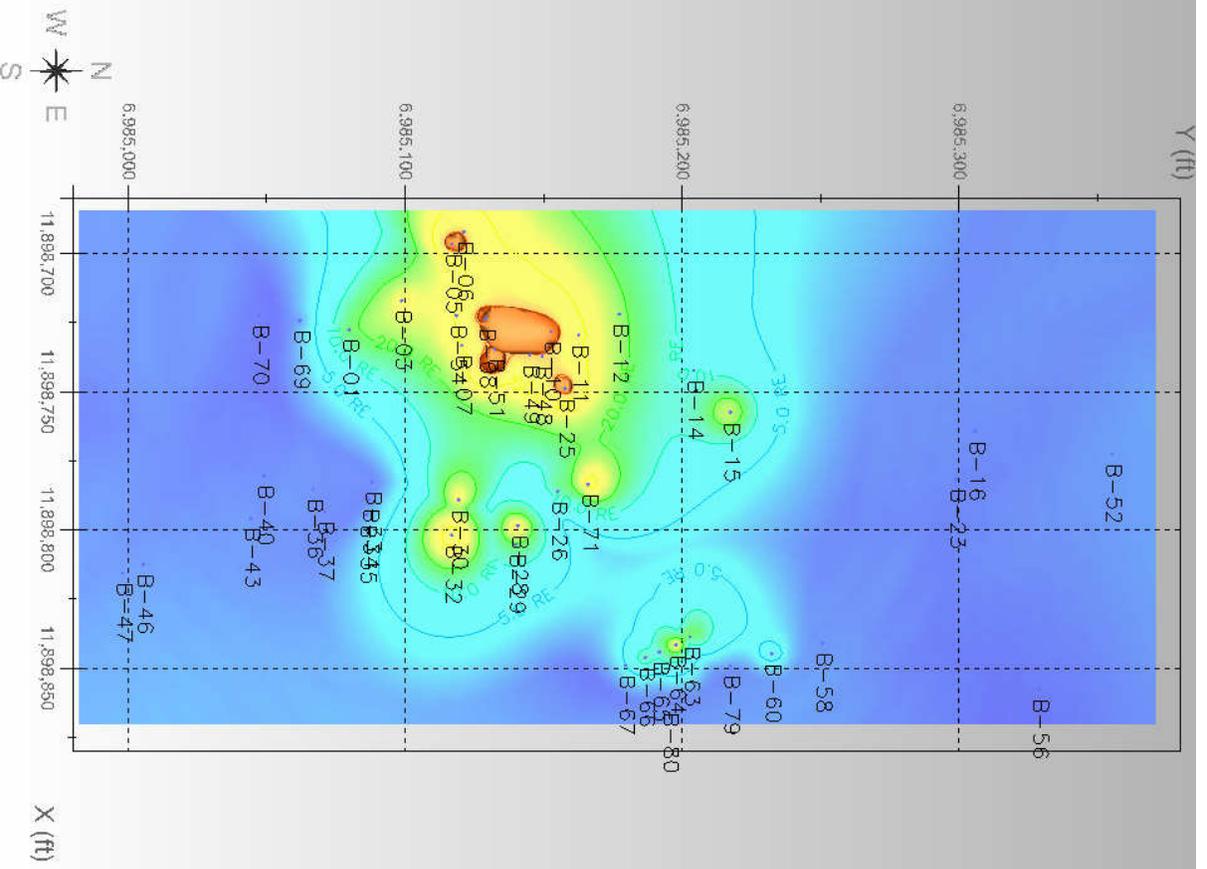
Plume level:
50 %RE

Z exaggeration: 5



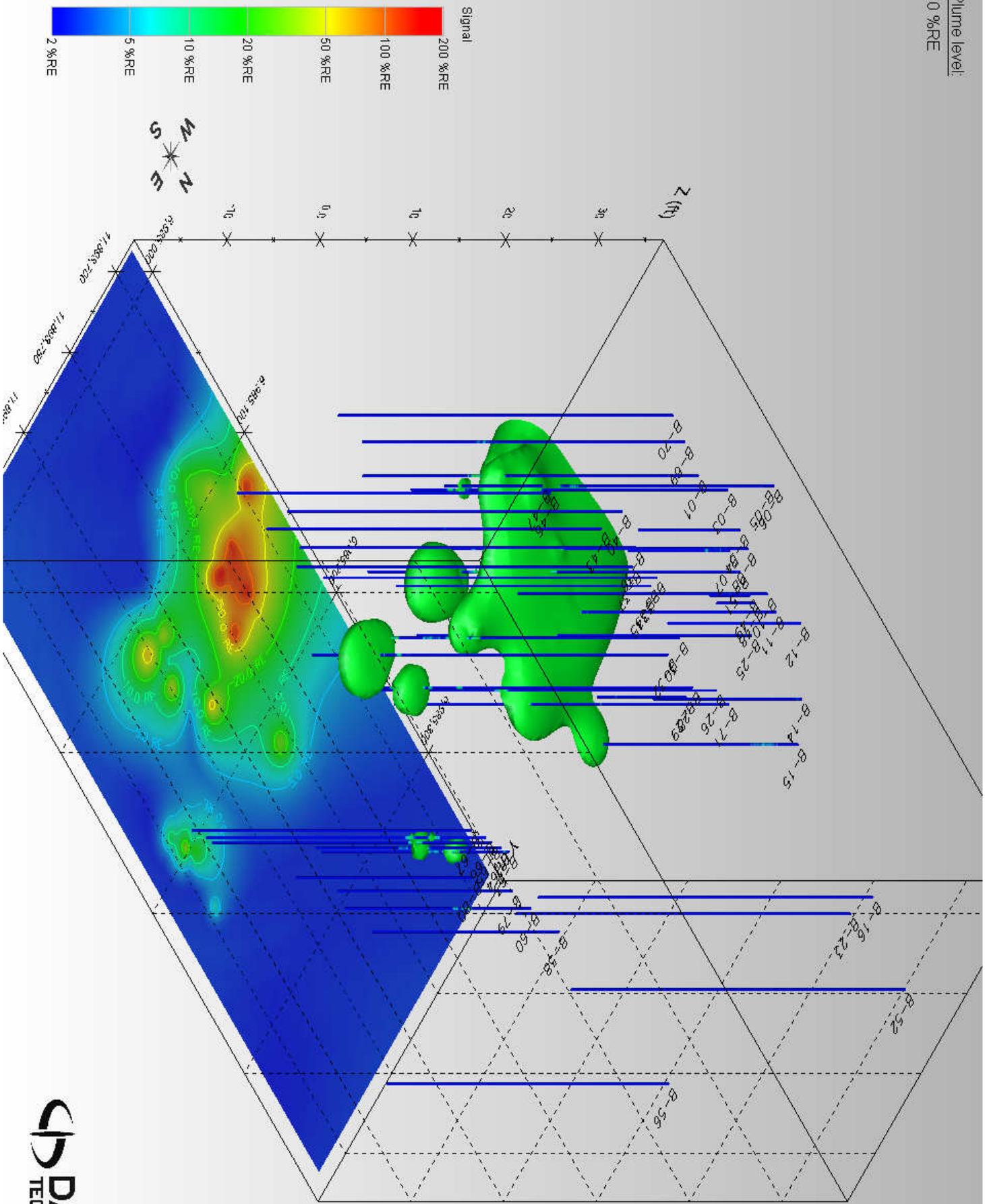
Plume level:
100 %RE

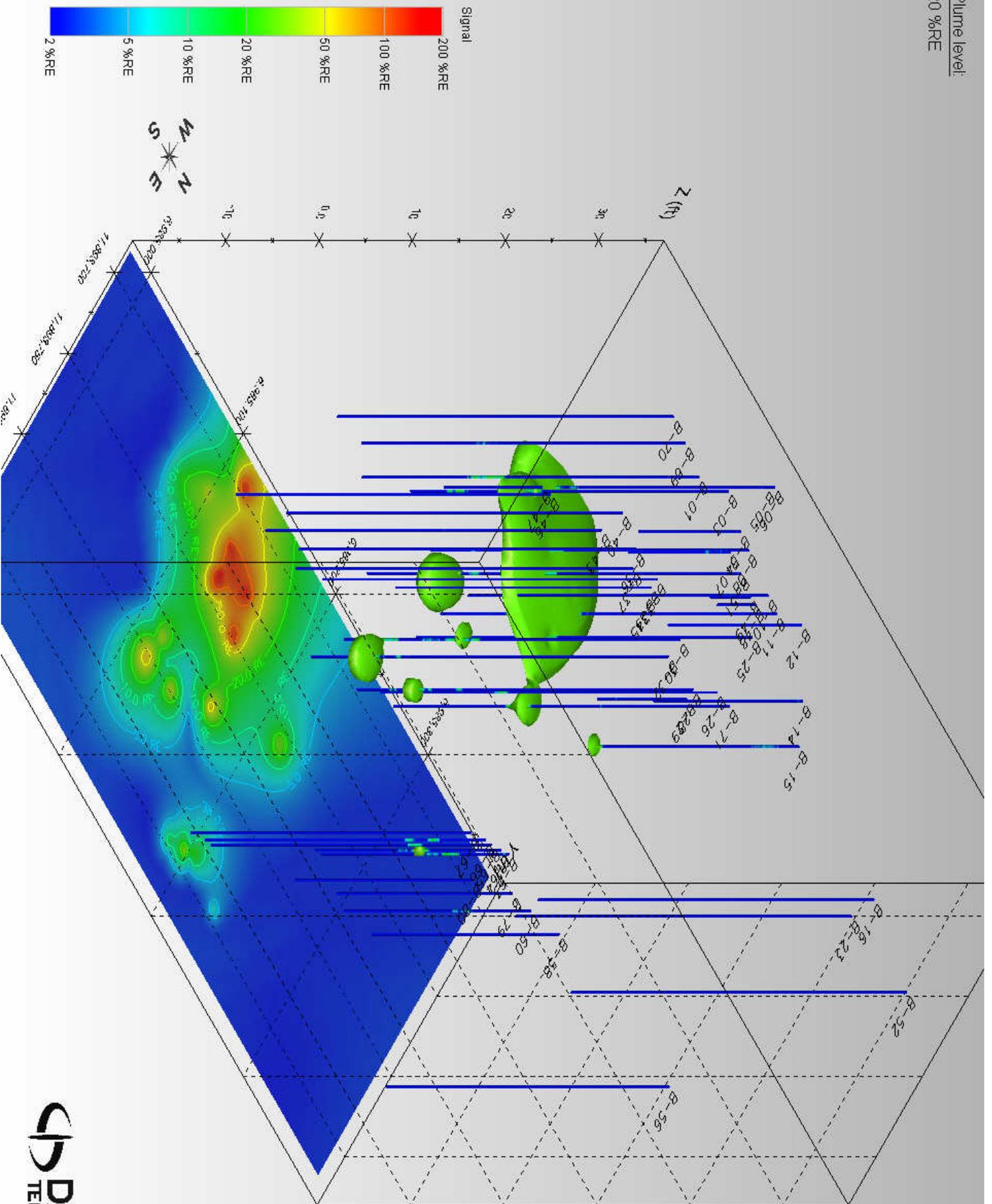
Z exaggeration: 5

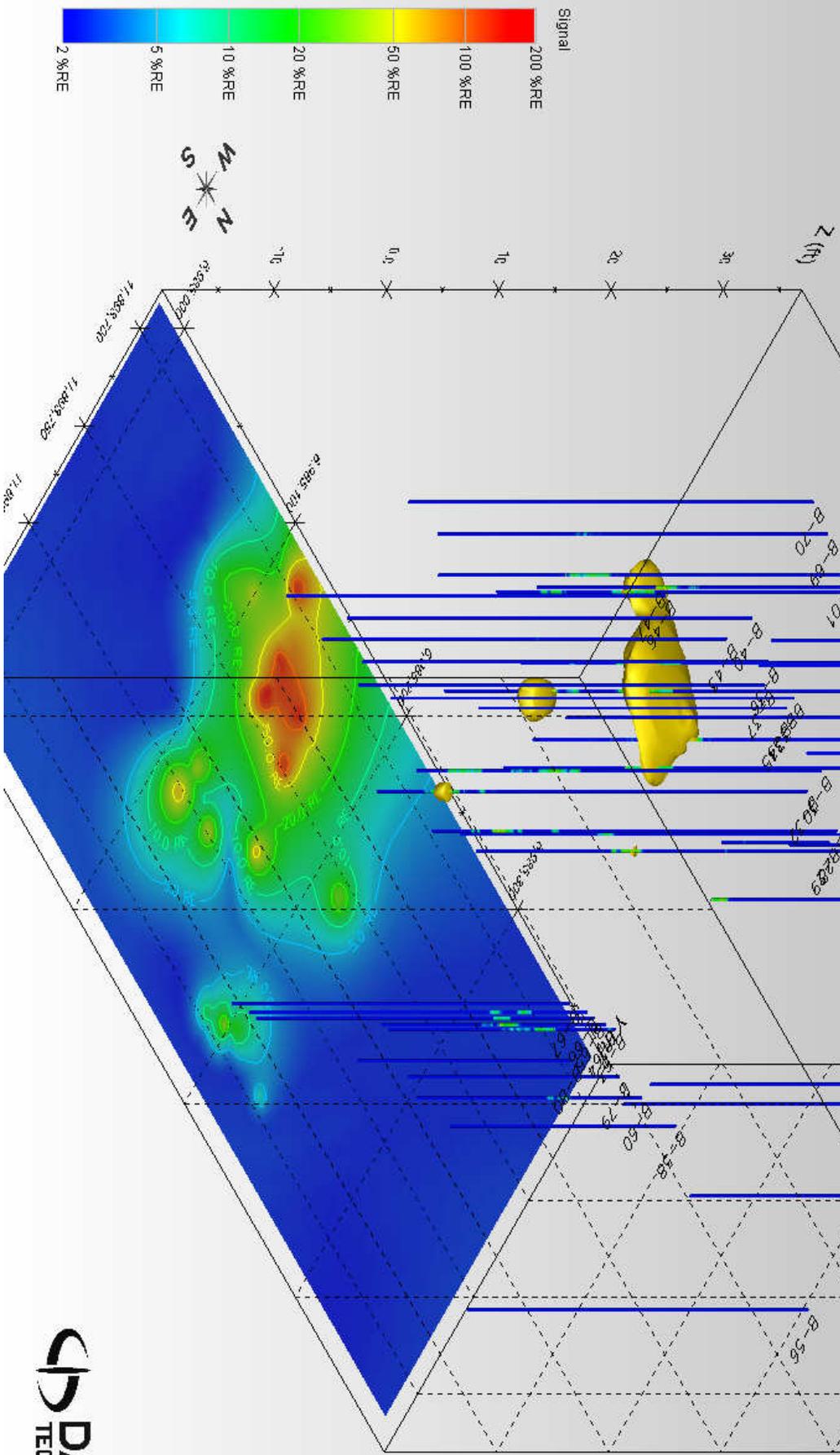


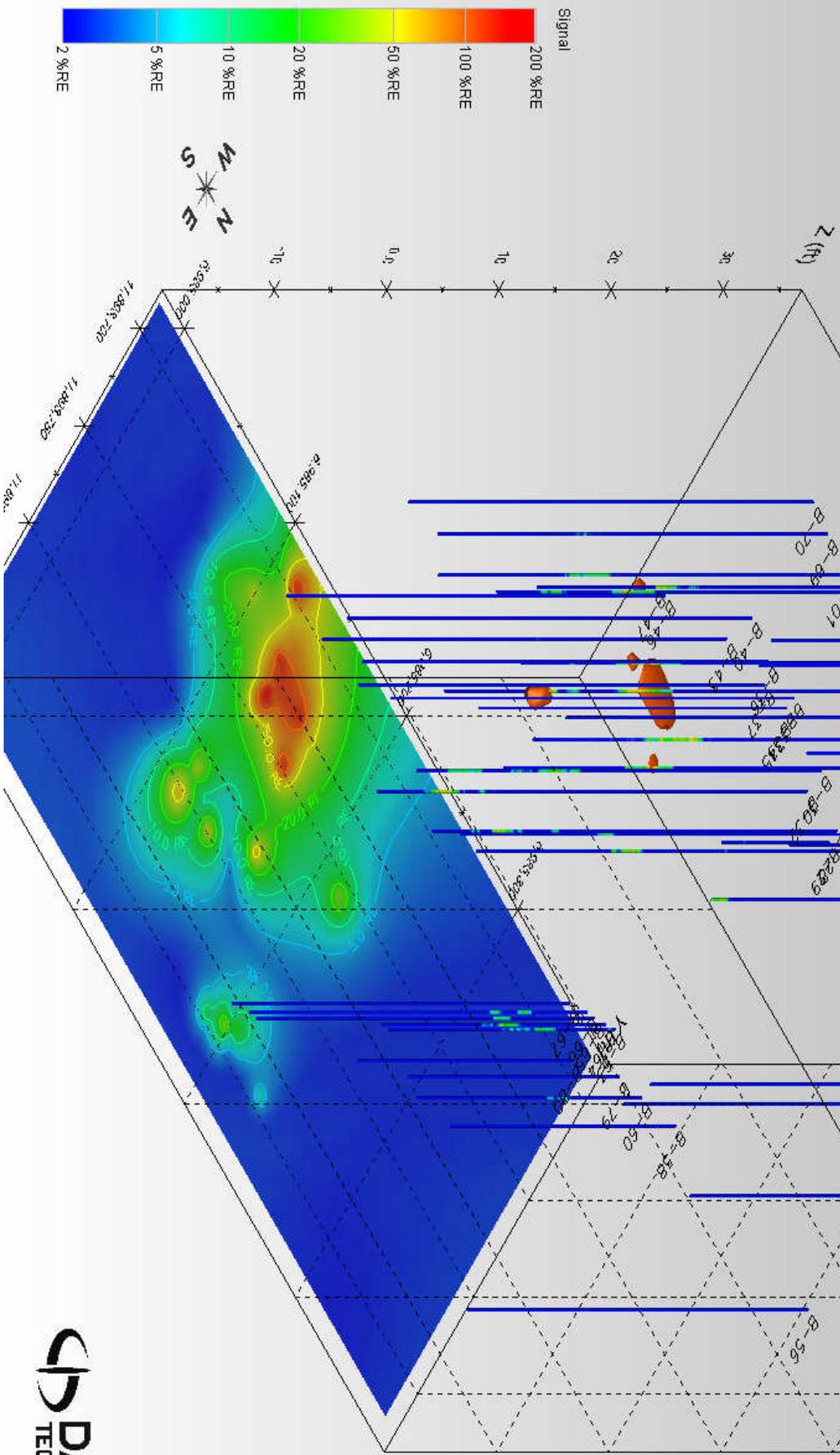
Plume level:
10 %RE

Z exaggeration: 5









Appendix E
LIF Survey Soil and Groundwater Laboratory Analytical Report

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-43219-1
TestAmerica SDG: Potomac River Generating Station
Client Project/Site: NRG Energy

For:
URS Corporation
12420 Milestone Center Drive
Ste 150
Germantown, Maryland 20876

Attn: Ms. Adriane Rogers

Cathy Gartner

Authorized for release by:
12/31/2013 2:52:13 PM

Cathy Gartner, Project Manager I
(615)726-0177
cathy.gartner@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

3

4

5

6

7

8

9

10

11

12

13



Table of Contents

Cover Page	1
Table of Contents	2
Sample Summary	3
Case Narrative	4
Definitions	6
Client Sample Results	7
QC Sample Results	29
QC Association	36
Chronicle	39
Method Summary	44
Certification Summary	45
Chain of Custody	46
Receipt Checklists	50

Sample Summary

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-43219-1	TW-01	Water	12/16/13 09:00	12/20/13 09:20
490-43219-2	TW-02	Water	12/16/13 09:15	12/20/13 09:20
490-43219-3	TW-03	Water	12/16/13 09:20	12/20/13 09:20
490-43219-4	TW-04	Water	12/16/13 09:25	12/20/13 09:20
490-43219-5	TW-05	Water	12/16/13 09:30	12/20/13 09:20
490-43219-6	TW-06	Water	12/16/13 09:35	12/20/13 09:20
490-43219-7	TW-07	Water	12/16/13 09:35	12/20/13 09:20
490-43219-8	B-72 (22-23)	Soil	12/17/13 09:50	12/20/13 09:20
490-43219-9	B-72 (31-32)	Soil	12/17/13 09:55	12/20/13 09:20
490-43219-10	B-27 (29-30)	Soil	12/17/13 12:00	12/20/13 09:20
490-43219-11	B-27 (23-24)	Soil	12/17/13 10:30	12/20/13 09:20
490-43219-12	B-31 (25-26)	Soil	12/17/13 12:30	12/20/13 09:20
490-43219-13	B-31 (35-36)	Soil	12/17/13 14:50	12/20/13 09:20
490-43219-14	B-34 (26-27)	Soil	12/18/13 13:00	12/20/13 09:20
490-43219-15	B-14 (22-23)	Soil	12/18/13 14:00	12/20/13 09:20
490-43219-16	B-14 (28-29)	Soil	12/18/13 14:30	12/20/13 09:20
490-43219-17	WALL SEEP	Water	12/18/13 15:00	12/20/13 09:20
490-43219-18	TW-13	Water	12/18/13 15:30	12/20/13 09:20
490-43219-19	Trip Blank	Water	12/18/13 00:01	12/20/13 09:20
490-43219-20	Trip Blank	Water	12/18/13 00:01	12/20/13 09:20
490-43219-21	TW-10	Water	12/18/13 10:00	12/20/13 09:20
490-43219-22	TW-11	Water	12/18/13 10:30	12/20/13 09:20

Case Narrative

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Job ID: 490-43219-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-43219-1

Comments

No additional comments.

Receipt

The samples were received on 12/20/2013 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.2° C and 4.8° C.

Except:

The following sample(s) was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): TW-10 (490-43219-21), TW-11 (490-43219-22) Analyze per client request.

GC VOA

Method(s) 8021B: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 131982. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8021B: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 132054. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8021B: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 132229. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No other analytical or quality issues were noted.

GC Semi VOA

Method(s) 8015B: The following sample(s) required a dilution due to the nature of the sample matrix: TW-01 (490-43219-1), TW-05 (490-43219-5), TW-06 (490-43219-6), B-14 (22-23) (490-43219-15), B-14 (28-29) (490-43219-16), B-72 (22-23) (490-43219-8), TW-11 (490-43219-22). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8015B: Due to the high concentration of c10-c28, the matrix spike / matrix spike duplicate (MS/MSD) for batch 131239 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 8015B: Surrogate recovery for the following sample(s) was outside control limits: (490-43219-8 MS), (490-43219-8 MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8015B: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 131321.

Method(s) 8015B: Insufficient sample volume was available to perform batch matrix spike/matrix spike duplicate (MS/MSD) associated with batch 130792.

No other analytical or quality issues were noted.

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with batch 131321.

Method(s) Moisture: The sample duplicate precision for the following sample associated with batch 131026 was outside control limits: (490-43219-8 DU). The associated Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) precision met acceptance criteria.

Case Narrative

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Job ID: 490-43219-1 (Continued)

Laboratory: TestAmerica Nashville (Continued)

No other analytical or quality issues were noted.

VOA Prep

No analytical or quality issues were noted.

1

2

3

4

5

6

7

8

9

10

11

12

13

Definitions/Glossary

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
X	Surrogate is outside control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-01

Lab Sample ID: 490-43219-1

Date Collected: 12/16/13 09:00

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	14.3		0.500		ug/L			12/28/13 11:40	1
Ethylbenzene	13.1		0.500		ug/L			12/28/13 11:40	1
Methyl tert-butyl ether	1.55		0.500		ug/L			12/28/13 11:40	1
Naphthalene	119		5.00		ug/L			12/28/13 11:40	1
Toluene	ND		0.500		ug/L			12/28/13 11:40	1
Xylenes, Total	63.5		1.50		ug/L			12/28/13 11:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	141		50 - 150		12/28/13 11:40	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	14100		1790		ug/L		12/21/13 11:19	12/22/13 14:23	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	0	X	50 - 150	12/21/13 11:19	12/22/13 14:23	20

Client Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-02

Lab Sample ID: 490-43219-2

Date Collected: 12/16/13 09:15

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.500		ug/L			12/28/13 08:49	1
Ethylbenzene	ND		0.500		ug/L			12/28/13 08:49	1
Methyl tert-butyl ether	0.791		0.500		ug/L			12/28/13 08:49	1
Naphthalene	ND		5.00		ug/L			12/28/13 08:49	1
Toluene	ND		0.500		ug/L			12/28/13 08:49	1
Xylenes, Total	ND		1.50		ug/L			12/28/13 08:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	108		50 - 150		12/28/13 08:49	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	584		89.3		ug/L		12/21/13 11:19	12/21/13 21:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	86		50 - 150	12/21/13 11:19	12/21/13 21:23	1

Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: TW-03

Lab Sample ID: 490-43219-3

Date Collected: 12/16/13 09:20

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.500		ug/L			12/28/13 03:11	1
Ethylbenzene	ND		0.500		ug/L			12/28/13 03:11	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/28/13 03:11	1
Naphthalene	ND		5.00		ug/L			12/28/13 03:11	1
Toluene	ND		0.500		ug/L			12/28/13 03:11	1
Xylenes, Total	ND		1.50		ug/L			12/28/13 03:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	104		50 - 150		12/28/13 03:11	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	351		89.3		ug/L		12/21/13 11:19	12/21/13 21:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	99		50 - 150	12/21/13 11:19	12/21/13 21:39	1

Client Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-04

Lab Sample ID: 490-43219-4

Date Collected: 12/16/13 09:25

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.20		0.500		ug/L			12/28/13 03:42	1
Ethylbenzene	3.45		0.500		ug/L			12/28/13 03:42	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/28/13 03:42	1
Naphthalene	27.7		5.00		ug/L			12/28/13 03:42	1
Toluene	ND		0.500		ug/L			12/28/13 03:42	1
Xylenes, Total	7.11		1.50		ug/L			12/28/13 03:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	104		50 - 150		12/28/13 03:42	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2000		89.3		ug/L		12/21/13 11:19	12/21/13 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	102		50 - 150	12/21/13 11:19	12/21/13 21:55	1

Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: TW-05

Lab Sample ID: 490-43219-5

Date Collected: 12/16/13 09:30

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	7.68		0.500		ug/L			12/29/13 20:29	1
Ethylbenzene	62.8		0.500		ug/L			12/29/13 20:29	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/29/13 20:29	1
Naphthalene	240		5.00		ug/L			12/29/13 20:29	1
Toluene	ND		0.500		ug/L			12/29/13 20:29	1
Xylenes, Total	40.3		1.50		ug/L			12/29/13 20:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	63		50 - 150		12/29/13 20:29	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	136000		4460		ug/L		12/21/13 11:19	12/22/13 14:39	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	1346	X	50 - 150	12/21/13 11:19	12/22/13 14:39	50

Client Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-06

Lab Sample ID: 490-43219-6

Date Collected: 12/16/13 09:35

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.09		0.500		ug/L			12/28/13 12:10	1
Ethylbenzene	20.3		0.500		ug/L			12/28/13 12:10	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/28/13 12:10	1
Naphthalene	174		5.00		ug/L			12/28/13 12:10	1
Toluene	ND		0.500		ug/L			12/28/13 12:10	1
Xylenes, Total	7.86		1.50		ug/L			12/28/13 12:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	100		50 - 150		12/28/13 12:10	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	47000		4460		ug/L		12/21/13 11:19	12/22/13 14:55	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	503	X	50 - 150	12/21/13 11:19	12/22/13 14:55	50

Client Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-07

Lab Sample ID: 490-43219-7

Date Collected: 12/16/13 09:35

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.38		0.500		ug/L			12/28/13 08:18	1
Ethylbenzene	0.969		0.500		ug/L			12/28/13 08:18	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/28/13 08:18	1
Naphthalene	34.0		5.00		ug/L			12/28/13 08:18	1
Toluene	ND		0.500		ug/L			12/28/13 08:18	1
Xylenes, Total	ND		1.50		ug/L			12/28/13 08:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	101		50 - 150		12/28/13 08:18	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3290		89.3		ug/L		12/21/13 11:19	12/21/13 22:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	140		50 - 150	12/21/13 11:19	12/21/13 22:43	1



Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: B-72 (22-23)

Lab Sample ID: 490-43219-8

Date Collected: 12/17/13 09:50

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 91.5

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2340		267		mg/Kg	☼	12/24/13 07:53	12/26/13 16:47	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	286	X	50 - 150				12/24/13 07:53	12/26/13 16:47	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10		%			12/23/13 09:27	1



Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: B-72 (31-32)

Lab Sample ID: 490-43219-9

Date Collected: 12/17/13 09:55

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 83.6

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	10.4		5.84		mg/Kg	☼	12/24/13 07:53	12/24/13 18:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	55		50 - 150				12/24/13 07:53	12/24/13 18:15	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84		0.10		%			12/23/13 09:27	1



Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: B-27 (29-30)

Lab Sample ID: 490-43219-10

Date Collected: 12/17/13 12:00

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 82.3

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		4.98		mg/Kg	✱	12/27/13 11:15	12/27/13 19:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	63		50 - 150				12/27/13 11:15	12/27/13 19:17	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82		0.10		%			12/23/13 09:27	1



Client Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: B-27 (23-24)

Lab Sample ID: 490-43219-11

Date Collected: 12/17/13 10:30

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 88.4

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	572		54.7		mg/Kg	☼	12/24/13 07:53	12/26/13 17:02	10
<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>o-Terphenyl (Surr)</i>	186	X	50 - 150				12/24/13 07:53	12/26/13 17:02	10

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88		0.10		%			12/23/13 09:27	1



Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: B-31 (25-26)

Lab Sample ID: 490-43219-12

Date Collected: 12/17/13 12:30

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 84.9

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.78		mg/Kg	☼	12/24/13 07:53	12/26/13 16:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	55		50 - 150				12/24/13 07:53	12/26/13 16:16	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10		%			12/23/13 09:27	1



Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: B-31 (35-36)

Lab Sample ID: 490-43219-13

Date Collected: 12/17/13 14:50

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 86.0

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.78		mg/Kg	☼	12/24/13 07:53	12/24/13 19:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	53		50 - 150				12/24/13 07:53	12/24/13 19:15	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86		0.10		%			12/23/13 09:27	1



Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: B-34 (26-27)

Lab Sample ID: 490-43219-14

Date Collected: 12/18/13 13:00

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 84.7

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.84		mg/Kg	✱	12/24/13 07:53	12/24/13 19:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	54		50 - 150				12/24/13 07:53	12/24/13 19:31	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85		0.10		%			12/23/13 09:27	1



Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: B-14 (22-23)

Lab Sample ID: 490-43219-15

Date Collected: 12/18/13 14:00

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 87.4

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	1510		279		mg/Kg	☼	12/24/13 07:53	12/26/13 17:18	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	75		50 - 150				12/24/13 07:53	12/26/13 17:18	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87		0.10		%			12/23/13 09:27	1



Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: B-14 (28-29)

Lab Sample ID: 490-43219-16

Date Collected: 12/18/13 14:30

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 83.4

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	2490		292		mg/Kg	☼	12/24/13 07:53	12/26/13 17:33	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	308	X	50 - 150				12/24/13 07:53	12/26/13 17:33	50

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			12/23/13 09:27	1



Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: WALL SEEP

Lab Sample ID: 490-43219-17

Date Collected: 12/18/13 15:00

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.09		0.500		ug/L			12/28/13 02:40	1
Ethylbenzene	1.07		0.500		ug/L			12/28/13 02:40	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/28/13 02:40	1
Naphthalene	19.9		5.00		ug/L			12/28/13 02:40	1
Toluene	ND		0.500		ug/L			12/28/13 02:40	1
Xylenes, Total	3.00		1.50		ug/L			12/28/13 02:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	109		50 - 150		12/28/13 02:40	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	989		105		ug/L		12/24/13 10:40	12/26/13 18:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	76		50 - 150	12/24/13 10:40	12/26/13 18:25	1

Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: TW-13

Lab Sample ID: 490-43219-18

Date Collected: 12/18/13 15:30

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	6.06		0.500		ug/L			12/28/13 07:17	1
Ethylbenzene	44.5		0.500		ug/L			12/28/13 07:17	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/28/13 07:17	1
Naphthalene	239		5.00		ug/L			12/28/13 07:17	1
Toluene	ND		0.500		ug/L			12/28/13 07:17	1
Xylenes, Total	137		1.50		ug/L			12/28/13 07:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	102		50 - 150		12/28/13 07:17	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3580		111		ug/L		12/24/13 10:40	12/26/13 18:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	88		50 - 150	12/24/13 10:40	12/26/13 18:41	1

Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: Trip Blank

Lab Sample ID: 490-43219-19

Date Collected: 12/18/13 00:01

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.500		ug/L			12/27/13 22:34	1
Ethylbenzene	ND		0.500		ug/L			12/27/13 22:34	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/27/13 22:34	1
Naphthalene	ND		5.00		ug/L			12/27/13 22:34	1
Toluene	ND		0.500		ug/L			12/27/13 22:34	1
Xylenes, Total	ND		1.50		ug/L			12/27/13 22:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	98		50 - 150					12/27/13 22:34	1

Client Sample Results

Client: URS Corporation
 Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
 SDG: Potomac River Generating Station

Client Sample ID: Trip Blank

Lab Sample ID: 490-43219-20

Date Collected: 12/18/13 00:01

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.500		ug/L			12/27/13 23:05	1
Ethylbenzene	ND		0.500		ug/L			12/27/13 23:05	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/27/13 23:05	1
Naphthalene	ND		5.00		ug/L			12/27/13 23:05	1
Toluene	ND		0.500		ug/L			12/27/13 23:05	1
Xylenes, Total	ND		1.50		ug/L			12/27/13 23:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	104		50 - 150					12/27/13 23:05	1

Client Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-10

Lab Sample ID: 490-43219-21

Date Collected: 12/18/13 10:00

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.51		0.500		ug/L			12/28/13 07:47	1
Ethylbenzene	19.7		0.500		ug/L			12/28/13 07:47	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/28/13 07:47	1
Naphthalene	131		5.00		ug/L			12/28/13 07:47	1
Toluene	ND		0.500		ug/L			12/28/13 07:47	1
Xylenes, Total	4.99		1.50		ug/L			12/28/13 07:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	125		50 - 150		12/28/13 07:47	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	3040		89.3		ug/L		12/21/13 11:19	12/21/13 22:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	73		50 - 150	12/21/13 11:19	12/21/13 22:59	1

Client Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-11

Lab Sample ID: 490-43219-22

Date Collected: 12/18/13 10:30

Matrix: Water

Date Received: 12/20/13 09:20

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.55		0.500		ug/L			12/28/13 12:41	1
Ethylbenzene	8.30		0.500		ug/L			12/28/13 12:41	1
Methyl tert-butyl ether	0.578		0.500		ug/L			12/28/13 12:41	1
Naphthalene	263		5.00		ug/L			12/28/13 12:41	1
Toluene	0.664		0.500		ug/L			12/28/13 12:41	1
Xylenes, Total	9.67		1.50		ug/L			12/28/13 12:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	97		50 - 150		12/28/13 12:41	1

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	170000		4460		ug/L		12/21/13 11:19	12/22/13 15:11	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	1622	X	50 - 150	12/21/13 11:19	12/22/13 15:11	50

QC Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 490-131982/17

Matrix: Water

Analysis Batch: 131982

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.500		ug/L			12/27/13 22:03	1
Ethylbenzene	ND		0.500		ug/L			12/27/13 22:03	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/27/13 22:03	1
Naphthalene	ND		5.00		ug/L			12/27/13 22:03	1
Toluene	ND		0.500		ug/L			12/27/13 22:03	1
Xylenes, Total	ND		1.50		ug/L			12/27/13 22:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	104		50 - 150		12/27/13 22:03	1

Lab Sample ID: MB 490-131982/4

Matrix: Water

Analysis Batch: 131982

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.500		ug/L			12/27/13 12:56	1
Ethylbenzene	ND		0.500		ug/L			12/27/13 12:56	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/27/13 12:56	1
Naphthalene	ND		5.00		ug/L			12/27/13 12:56	1
Toluene	ND		0.500		ug/L			12/27/13 12:56	1
Xylenes, Total	ND		1.50		ug/L			12/27/13 12:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	98		50 - 150		12/27/13 12:56	1

Lab Sample ID: LCS 490-131982/2

Matrix: Water

Analysis Batch: 131982

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	100	98.05		ug/L		98	69 - 129
Ethylbenzene	100	104.7		ug/L		105	70 - 130
Methyl tert-butyl ether	100	94.47		ug/L		94	57 - 138
Naphthalene	100	112.4		ug/L		112	69 - 133
Toluene	100	106.4		ug/L		106	66 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	108		50 - 150

Lab Sample ID: LCSD 490-131982/29

Matrix: Water

Analysis Batch: 131982

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	100	98.02		ug/L		98	69 - 129	0	33
Ethylbenzene	100	103.9		ug/L		104	70 - 130	1	35
Methyl tert-butyl ether	100	93.74		ug/L		94	57 - 138	1	40

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 490-131982/29

Matrix: Water

Analysis Batch: 131982

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							RPD	Limit		
Naphthalene	100	106.3		ug/L		106	69 - 133	6	48	
Toluene	100	105.8		ug/L		106	66 - 127	1	34	
LCSD LCSD										
Surrogate	%Recovery	Qualifier	Limits							
a,a,a-Trifluorotoluene	124		50 - 150							

Lab Sample ID: MB 490-132054/18

Matrix: Water

Analysis Batch: 132054

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.500		ug/L		12/28/13 15:15	1	
Methyl tert-butyl ether	ND		0.500		ug/L		12/28/13 15:15	1	
Naphthalene	ND		5.00		ug/L		12/28/13 15:15	1	
Toluene	ND		0.500		ug/L		12/28/13 15:15	1	
Xylenes, Total	ND		1.50		ug/L		12/28/13 15:15	1	
MB MB									
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
a,a,a-Trifluorotoluene	102		50 - 150		12/28/13 15:15	1			

Lab Sample ID: MB 490-132054/4

Matrix: Water

Analysis Batch: 132054

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		0.500		ug/L		12/28/13 09:51	1	
Methyl tert-butyl ether	ND		0.500		ug/L		12/28/13 09:51	1	
Naphthalene	ND		5.00		ug/L		12/28/13 09:51	1	
Toluene	ND		0.500		ug/L		12/28/13 09:51	1	
Xylenes, Total	ND		1.50		ug/L		12/28/13 09:51	1	
MB MB									
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
a,a,a-Trifluorotoluene	108		50 - 150		12/28/13 09:51	1			

Lab Sample ID: LCS 490-132054/2

Matrix: Water

Analysis Batch: 132054

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							RPD	Limit
Benzene	100	97.74		ug/L		98	69 - 129	
Ethylbenzene	100	103.7		ug/L		104	70 - 130	
Methyl tert-butyl ether	100	92.47		ug/L		92	57 - 138	
Naphthalene	100	106.2		ug/L		106	69 - 133	
Toluene	100	105.6		ug/L		106	66 - 127	

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 490-132054/2

Matrix: Water

Analysis Batch: 132054

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCS LCS Qualifier</i>	<i>Limits</i>
<i>a,a,a-Trifluorotoluene</i>	123		50 - 150

Lab Sample ID: LCSD 490-132054/30

Matrix: Water

Analysis Batch: 132054

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

<i>Analyte</i>	<i>Spike Added</i>	<i>LCSD Result</i>	<i>LCSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
Benzene	100	95.63		ug/L		96	69 - 129	2	33
Ethylbenzene	100	104.0		ug/L		104	70 - 130	0	35
Methyl tert-butyl ether	100	94.94		ug/L		95	57 - 138	3	40
Naphthalene	100	112.7		ug/L		113	69 - 133	6	48
Toluene	100	105.4		ug/L		105	66 - 127	0	34

<i>Surrogate</i>	<i>%Recovery</i>	<i>LCSD LCSD Qualifier</i>	<i>Limits</i>
<i>a,a,a-Trifluorotoluene</i>	113		50 - 150

Lab Sample ID: MB 490-132229/21

Matrix: Water

Analysis Batch: 132229

Client Sample ID: Method Blank

Prep Type: Total/NA

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Benzene	ND		0.500		ug/L			12/30/13 01:37	1
Ethylbenzene	ND		0.500		ug/L			12/30/13 01:37	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/30/13 01:37	1
Naphthalene	ND		5.00		ug/L			12/30/13 01:37	1
Toluene	ND		0.500		ug/L			12/30/13 01:37	1
Xylenes, Total	ND		1.50		ug/L			12/30/13 01:37	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>a,a,a-Trifluorotoluene</i>	80		50 - 150		12/30/13 01:37	1

Lab Sample ID: MB 490-132229/7

Matrix: Water

Analysis Batch: 132229

Client Sample ID: Method Blank

Prep Type: Total/NA

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Benzene	ND		0.500		ug/L			12/29/13 19:05	1
Ethylbenzene	ND		0.500		ug/L			12/29/13 19:05	1
Methyl tert-butyl ether	ND		0.500		ug/L			12/29/13 19:05	1
Naphthalene	ND		5.00		ug/L			12/29/13 19:05	1
Toluene	ND		0.500		ug/L			12/29/13 19:05	1
Xylenes, Total	ND		1.50		ug/L			12/29/13 19:05	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>a,a,a-Trifluorotoluene</i>	81		50 - 150		12/29/13 19:05	1

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 490-132229/4

Matrix: Water

Analysis Batch: 132229

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	100	92.91		ug/L		93	69 - 129
Ethylbenzene	100	100.8		ug/L		101	70 - 130
Methyl tert-butyl ether	100	91.03		ug/L		91	57 - 138
Naphthalene	100	112.9		ug/L		113	69 - 133
Toluene	100	103.1		ug/L		103	66 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	101		50 - 150

Lab Sample ID: LCSD 490-132229/26

Matrix: Water

Analysis Batch: 132229

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	100	91.95		ug/L		92	69 - 129	1	33
Ethylbenzene	100	97.06		ug/L		97	70 - 130	4	35
Methyl tert-butyl ether	100	86.47		ug/L		86	57 - 138	5	40
Naphthalene	100	97.74		ug/L		98	69 - 133	14	48
Toluene	100	101.7		ug/L		102	66 - 127	1	34

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene	99		50 - 150

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 490-130792/1-A

Matrix: Water

Analysis Batch: 130795

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 130792

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		100		ug/L		12/21/13 11:19	12/21/13 20:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl (Surr)	91		50 - 150	12/21/13 11:19	12/21/13 20:35	1

Lab Sample ID: LCS 490-130792/2-A

Matrix: Water

Analysis Batch: 130795

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 130792

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	800	868.5		ug/L		109	46 - 132

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl (Surr)	98		50 - 150

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 490-131239/1-A
Matrix: Solid
Analysis Batch: 131305

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 131239

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.00		mg/Kg		12/24/13 07:52	12/24/13 16:59	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	64		50 - 150				12/24/13 07:52	12/24/13 16:59	1

Lab Sample ID: LCS 490-131239/2-A
Matrix: Solid
Analysis Batch: 131305

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 131239

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Diesel Range Organics [C10-C28]	40.0	34.35		mg/Kg		86	54 - 130
Surrogate	%Recovery	LCS Qualifier	Limits				
<i>o</i> -Terphenyl (Surr)	74		50 - 150				

Lab Sample ID: 490-43219-A-8-B MS
Matrix: Soil
Analysis Batch: 131305

Client Sample ID: 490-43219-A-8-B MS
Prep Type: Total/NA
Prep Batch: 131239

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	785		43.3	794.6	E 4	mg/Kg	☼	23	10 - 142
Surrogate	%Recovery	MS Qualifier	Limits						
<i>o</i> -Terphenyl (Surr)	0	X	50 - 150						

Lab Sample ID: 490-43219-A-8-C MSD
Matrix: Soil
Analysis Batch: 131305

Client Sample ID: 490-43219-A-8-C MSD
Prep Type: Total/NA
Prep Batch: 131239

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	785		42.9	758.3	E 4	mg/Kg	☼	-61	10 - 142	5	47
Surrogate	%Recovery	MSD Qualifier	Limits								
<i>o</i> -Terphenyl (Surr)	0	X	50 - 150								

Lab Sample ID: MB 490-131321/1-A
Matrix: Water
Analysis Batch: 131761

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 131321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		100		ug/L		12/24/13 10:40	12/26/13 17:54	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl (Surr)	85		50 - 150				12/24/13 10:40	12/26/13 17:54	1

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 490-131321/2-A

Matrix: Water

Analysis Batch: 131761

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	1000	688.4		ug/L	-	69	46 - 132
Surrogate							
		LCS	LCS				
		%Recovery	Qualifier				Limits
<i>o-Terphenyl (Surr)</i>		87					50 - 150

Lab Sample ID: MB 490-131841/1-A

Matrix: Solid

Analysis Batch: 131872

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 131841

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		5.00		mg/Kg	-	12/27/13 08:36	12/27/13 17:14	1
Surrogate									
							Prepared	Analyzed	Dil Fac
		MB	MB						
		%Recovery	Qualifier						
<i>o-Terphenyl (Surr)</i>		63					12/27/13 08:36	12/27/13 17:14	1

Lab Sample ID: LCS 490-131841/2-A

Matrix: Solid

Analysis Batch: 131872

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 131841

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	40.0	31.94		mg/Kg	-	80	54 - 130
Surrogate							
		LCS	LCS				
		%Recovery	Qualifier				Limits
<i>o-Terphenyl (Surr)</i>		70					50 - 150

Lab Sample ID: 490-43150-B-9-D MS

Matrix: Solid

Analysis Batch: 131872

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 131841

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	75.6		39.8	131.6		mg/Kg	-	141	10 - 142
Surrogate									
		MS	MS						
		%Recovery	Qualifier						Limits
<i>o-Terphenyl (Surr)</i>		63							50 - 150

Lab Sample ID: 490-43150-B-9-E MSD

Matrix: Solid

Analysis Batch: 131872

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 131841

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	75.6		39.7	75.93	F	mg/Kg	-	0.9	10 - 142	54	47

TestAmerica Nashville

QC Sample Results

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 490-43150-B-9-E MSD
Matrix: Solid
Analysis Batch: 131872

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 131841

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
<i>%Recovery</i>	<i>Qualifier</i>		
<i>o-Terphenyl (Surr)</i>	58		50 - 150

Method: Moisture - Percent Moisture

Lab Sample ID: 490-43219-8 DU
Matrix: Soil
Analysis Batch: 131026

Client Sample ID: B-72 (22-23)
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample</i>	<i>Sample</i>	<i>DU</i>	<i>DU</i>	<i>Unit</i>	<i>D</i>	<i>RPD</i>	<i>RPD</i>
<i>Result</i>	<i>Qualifier</i>	<i>Result</i>	<i>Qualifier</i>			<i>Limit</i>		
Percent Solids	92		89		%		3	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

QC Association Summary

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

GC VOA

Analysis Batch: 131982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-3	TW-03	Total/NA	Water	8021B	
490-43219-4	TW-04	Total/NA	Water	8021B	
490-43219-17	WALL SEEP	Total/NA	Water	8021B	
490-43219-19	Trip Blank	Total/NA	Water	8021B	
490-43219-20	Trip Blank	Total/NA	Water	8021B	
LCS 490-131982/2	Lab Control Sample	Total/NA	Water	8021B	
LCSD 490-131982/29	Lab Control Sample Dup	Total/NA	Water	8021B	
MB 490-131982/17	Method Blank	Total/NA	Water	8021B	
MB 490-131982/4	Method Blank	Total/NA	Water	8021B	

Analysis Batch: 132054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-1	TW-01	Total/NA	Water	8021B	
490-43219-2	TW-02	Total/NA	Water	8021B	
490-43219-6	TW-06	Total/NA	Water	8021B	
490-43219-7	TW-07	Total/NA	Water	8021B	
490-43219-18	TW-13	Total/NA	Water	8021B	
490-43219-21	TW-10	Total/NA	Water	8021B	
490-43219-22	TW-11	Total/NA	Water	8021B	
LCS 490-132054/2	Lab Control Sample	Total/NA	Water	8021B	
LCSD 490-132054/30	Lab Control Sample Dup	Total/NA	Water	8021B	
MB 490-132054/18	Method Blank	Total/NA	Water	8021B	
MB 490-132054/4	Method Blank	Total/NA	Water	8021B	

Analysis Batch: 132229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-5	TW-05	Total/NA	Water	8021B	
LCS 490-132229/4	Lab Control Sample	Total/NA	Water	8021B	
LCSD 490-132229/26	Lab Control Sample Dup	Total/NA	Water	8021B	
MB 490-132229/21	Method Blank	Total/NA	Water	8021B	
MB 490-132229/7	Method Blank	Total/NA	Water	8021B	

GC Semi VOA

Prep Batch: 130792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-1	TW-01	Total/NA	Water	3510C	
490-43219-2	TW-02	Total/NA	Water	3510C	
490-43219-3	TW-03	Total/NA	Water	3510C	
490-43219-4	TW-04	Total/NA	Water	3510C	
490-43219-5	TW-05	Total/NA	Water	3510C	
490-43219-6	TW-06	Total/NA	Water	3510C	
490-43219-7	TW-07	Total/NA	Water	3510C	
490-43219-21	TW-10	Total/NA	Water	3510C	
490-43219-22	TW-11	Total/NA	Water	3510C	
LCS 490-130792/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 490-130792/1-A	Method Blank	Total/NA	Water	3510C	

QC Association Summary

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

GC Semi VOA (Continued)

Analysis Batch: 130795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-2	TW-02	Total/NA	Water	8015B	130792
490-43219-3	TW-03	Total/NA	Water	8015B	130792
490-43219-4	TW-04	Total/NA	Water	8015B	130792
490-43219-7	TW-07	Total/NA	Water	8015B	130792
490-43219-21	TW-10	Total/NA	Water	8015B	130792
LCS 490-130792/2-A	Lab Control Sample	Total/NA	Water	8015B	130792
MB 490-130792/1-A	Method Blank	Total/NA	Water	8015B	130792

Analysis Batch: 130937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-1	TW-01	Total/NA	Water	8015B	130792
490-43219-5	TW-05	Total/NA	Water	8015B	130792
490-43219-6	TW-06	Total/NA	Water	8015B	130792
490-43219-22	TW-11	Total/NA	Water	8015B	130792

Prep Batch: 131239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-8	B-72 (22-23)	Total/NA	Soil	3550B	
490-43219-9	B-72 (31-32)	Total/NA	Soil	3550B	
490-43219-11	B-27 (23-24)	Total/NA	Soil	3550B	
490-43219-12	B-31 (25-26)	Total/NA	Soil	3550B	
490-43219-13	B-31 (35-36)	Total/NA	Soil	3550B	
490-43219-14	B-34 (26-27)	Total/NA	Soil	3550B	
490-43219-15	B-14 (22-23)	Total/NA	Soil	3550B	
490-43219-16	B-14 (28-29)	Total/NA	Soil	3550B	
490-43219-A-8-B MS	490-43219-A-8-B MS	Total/NA	Soil	3550B	
490-43219-A-8-C MSD	490-43219-A-8-C MSD	Total/NA	Soil	3550B	
LCS 490-131239/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-131239/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 131305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-9	B-72 (31-32)	Total/NA	Soil	8015B	131239
490-43219-13	B-31 (35-36)	Total/NA	Soil	8015B	131239
490-43219-14	B-34 (26-27)	Total/NA	Soil	8015B	131239
490-43219-A-8-B MS	490-43219-A-8-B MS	Total/NA	Soil	8015B	131239
490-43219-A-8-C MSD	490-43219-A-8-C MSD	Total/NA	Soil	8015B	131239
LCS 490-131239/2-A	Lab Control Sample	Total/NA	Solid	8015B	131239
MB 490-131239/1-A	Method Blank	Total/NA	Solid	8015B	131239

Prep Batch: 131321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-17	WALL SEEP	Total/NA	Water	3510C	
490-43219-18	TW-13	Total/NA	Water	3510C	
LCS 490-131321/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 490-131321/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 131616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-8	B-72 (22-23)	Total/NA	Soil	8015B	131239
490-43219-11	B-27 (23-24)	Total/NA	Soil	8015B	131239

TestAmerica Nashville

QC Association Summary

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

GC Semi VOA (Continued)

Analysis Batch: 131616 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-12	B-31 (25-26)	Total/NA	Soil	8015B	131239
490-43219-15	B-14 (22-23)	Total/NA	Soil	8015B	131239
490-43219-16	B-14 (28-29)	Total/NA	Soil	8015B	131239

Analysis Batch: 131761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-17	WALL SEEP	Total/NA	Water	8015B	131321
490-43219-18	TW-13	Total/NA	Water	8015B	131321
LCS 490-131321/2-A	Lab Control Sample	Total/NA	Water	8015B	131321
MB 490-131321/1-A	Method Blank	Total/NA	Water	8015B	131321

Prep Batch: 131841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43150-B-9-D MS	Matrix Spike	Total/NA	Solid	3550B	
490-43150-B-9-E MSD	Matrix Spike Duplicate	Total/NA	Solid	3550B	
490-43219-10	B-27 (29-30)	Total/NA	Soil	3550B	
LCS 490-131841/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 490-131841/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 131872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43150-B-9-D MS	Matrix Spike	Total/NA	Solid	8015B	131841
490-43150-B-9-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	131841
490-43219-10	B-27 (29-30)	Total/NA	Soil	8015B	131841
LCS 490-131841/2-A	Lab Control Sample	Total/NA	Solid	8015B	131841
MB 490-131841/1-A	Method Blank	Total/NA	Solid	8015B	131841

General Chemistry

Analysis Batch: 131026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-43219-8	B-72 (22-23)	Total/NA	Soil	Moisture	
490-43219-8 DU	B-72 (22-23)	Total/NA	Soil	Moisture	
490-43219-9	B-72 (31-32)	Total/NA	Soil	Moisture	
490-43219-10	B-27 (29-30)	Total/NA	Soil	Moisture	
490-43219-11	B-27 (23-24)	Total/NA	Soil	Moisture	
490-43219-12	B-31 (25-26)	Total/NA	Soil	Moisture	
490-43219-13	B-31 (35-36)	Total/NA	Soil	Moisture	
490-43219-14	B-34 (26-27)	Total/NA	Soil	Moisture	
490-43219-15	B-14 (22-23)	Total/NA	Soil	Moisture	
490-43219-16	B-14 (28-29)	Total/NA	Soil	Moisture	

Lab Chronicle

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-01

Date Collected: 12/16/13 09:00

Date Received: 12/20/13 09:20

Lab Sample ID: 490-43219-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	132054	12/28/13 11:40	KML	TAL NSH
Total/NA	Prep	3510C			280 mL	1 mL	130792	12/21/13 11:19	CLH	TAL NSH
Total/NA	Analysis	8015B		20	280 mL	1 mL	130937	12/22/13 14:23	GMH	TAL NSH

Client Sample ID: TW-02

Date Collected: 12/16/13 09:15

Date Received: 12/20/13 09:20

Lab Sample ID: 490-43219-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	132054	12/28/13 08:49	KML	TAL NSH
Total/NA	Prep	3510C			280 mL	1 mL	130792	12/21/13 11:19	CLH	TAL NSH
Total/NA	Analysis	8015B		1	280 mL	1 mL	130795	12/21/13 21:23	GMH	TAL NSH

Client Sample ID: TW-03

Date Collected: 12/16/13 09:20

Date Received: 12/20/13 09:20

Lab Sample ID: 490-43219-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	131982	12/28/13 03:11	KML	TAL NSH
Total/NA	Prep	3510C			280 mL	1 mL	130792	12/21/13 11:19	CLH	TAL NSH
Total/NA	Analysis	8015B		1	280 mL	1 mL	130795	12/21/13 21:39	GMH	TAL NSH

Client Sample ID: TW-04

Date Collected: 12/16/13 09:25

Date Received: 12/20/13 09:20

Lab Sample ID: 490-43219-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	131982	12/28/13 03:42	KML	TAL NSH
Total/NA	Prep	3510C			280 mL	1 mL	130792	12/21/13 11:19	CLH	TAL NSH
Total/NA	Analysis	8015B		1	280 mL	1 mL	130795	12/21/13 21:55	GMH	TAL NSH

Client Sample ID: TW-05

Date Collected: 12/16/13 09:30

Date Received: 12/20/13 09:20

Lab Sample ID: 490-43219-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	132229	12/29/13 20:29	KML	TAL NSH
Total/NA	Prep	3510C			280 mL	1 mL	130792	12/21/13 11:19	CLH	TAL NSH
Total/NA	Analysis	8015B		50	280 mL	1 mL	130937	12/22/13 14:39	GMH	TAL NSH

Lab Chronicle

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-06

Lab Sample ID: 490-43219-6

Date Collected: 12/16/13 09:35

Matrix: Water

Date Received: 12/20/13 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	132054	12/28/13 12:10	KML	TAL NSH
Total/NA	Prep	3510C			280 mL	1 mL	130792	12/21/13 11:19	CLH	TAL NSH
Total/NA	Analysis	8015B		50	280 mL	1 mL	130937	12/22/13 14:55	GMH	TAL NSH

Client Sample ID: TW-07

Lab Sample ID: 490-43219-7

Date Collected: 12/16/13 09:35

Matrix: Water

Date Received: 12/20/13 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	132054	12/28/13 08:18	KML	TAL NSH
Total/NA	Prep	3510C			280 mL	1 mL	130792	12/21/13 11:19	CLH	TAL NSH
Total/NA	Analysis	8015B		1	280 mL	1 mL	130795	12/21/13 22:43	GMH	TAL NSH

Client Sample ID: B-72 (22-23)

Lab Sample ID: 490-43219-8

Date Collected: 12/17/13 09:50

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 91.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			25.56 g	1.0 mL	131239	12/24/13 07:53	AJK	TAL NSH
Total/NA	Analysis	8015B		50	25.56 g	1.0 mL	131616	12/26/13 16:47	JLF	TAL NSH
Total/NA	Analysis	Moisture		1			131026	12/23/13 09:27	RRS	TAL NSH

Client Sample ID: B-72 (31-32)

Lab Sample ID: 490-43219-9

Date Collected: 12/17/13 09:55

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 83.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			25.62 g	1.0 mL	131239	12/24/13 07:53	AJK	TAL NSH
Total/NA	Analysis	8015B		1	25.62 g	1.0 mL	131305	12/24/13 18:15	JML	TAL NSH
Total/NA	Analysis	Moisture		1			131026	12/23/13 09:27	RRS	TAL NSH

Client Sample ID: B-27 (29-30)

Lab Sample ID: 490-43219-10

Date Collected: 12/17/13 12:00

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 82.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			30.48 g	1.00 mL	131841	12/27/13 11:15	BJB	TAL NSH
Total/NA	Analysis	8015B		1	30.48 g	1.00 mL	131872	12/27/13 19:17	GMH	TAL NSH
Total/NA	Analysis	Moisture		1			131026	12/23/13 09:27	RRS	TAL NSH

Lab Chronicle

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: B-27 (23-24)

Lab Sample ID: 490-43219-11

Date Collected: 12/17/13 10:30

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			25.84 g	1.0 mL	131239	12/24/13 07:53	AJK	TAL NSH
Total/NA	Analysis	8015B		10	25.84 g	1.0 mL	131616	12/26/13 17:02	JLF	TAL NSH
Total/NA	Analysis	Moisture		1			131026	12/23/13 09:27	RRS	TAL NSH

Client Sample ID: B-31 (25-26)

Lab Sample ID: 490-43219-12

Date Collected: 12/17/13 12:30

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			25.49 g	1.0 mL	131239	12/24/13 07:53	AJK	TAL NSH
Total/NA	Analysis	8015B		1	25.49 g	1.0 mL	131616	12/26/13 16:16	JLF	TAL NSH
Total/NA	Analysis	Moisture		1			131026	12/23/13 09:27	RRS	TAL NSH

Client Sample ID: B-31 (35-36)

Lab Sample ID: 490-43219-13

Date Collected: 12/17/13 14:50

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 86.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			25.16 g	1.0 mL	131239	12/24/13 07:53	AJK	TAL NSH
Total/NA	Analysis	8015B		1	25.16 g	1.0 mL	131305	12/24/13 19:15	JML	TAL NSH
Total/NA	Analysis	Moisture		1			131026	12/23/13 09:27	RRS	TAL NSH

Client Sample ID: B-34 (26-27)

Lab Sample ID: 490-43219-14

Date Collected: 12/18/13 13:00

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 84.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			25.26 g	1.0 mL	131239	12/24/13 07:53	AJK	TAL NSH
Total/NA	Analysis	8015B		1	25.26 g	1.0 mL	131305	12/24/13 19:31	JML	TAL NSH
Total/NA	Analysis	Moisture		1			131026	12/23/13 09:27	RRS	TAL NSH

Client Sample ID: B-14 (22-23)

Lab Sample ID: 490-43219-15

Date Collected: 12/18/13 14:00

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 87.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			25.66 g	1.0 mL	131239	12/24/13 07:53	AJK	TAL NSH
Total/NA	Analysis	8015B		50	25.66 g	1.0 mL	131616	12/26/13 17:18	JLF	TAL NSH
Total/NA	Analysis	Moisture		1			131026	12/23/13 09:27	RRS	TAL NSH

Lab Chronicle

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: B-14 (28-29)

Lab Sample ID: 490-43219-16

Date Collected: 12/18/13 14:30

Matrix: Soil

Date Received: 12/20/13 09:20

Percent Solids: 83.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			25.65 g	1.0 mL	131239	12/24/13 07:53	AJK	TAL NSH
Total/NA	Analysis	8015B		50	25.65 g	1.0 mL	131616	12/26/13 17:33	JLF	TAL NSH
Total/NA	Analysis	Moisture		1			131026	12/23/13 09:27	RRS	TAL NSH

Client Sample ID: WALL SEEP

Lab Sample ID: 490-43219-17

Date Collected: 12/18/13 15:00

Matrix: Water

Date Received: 12/20/13 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	131982	12/28/13 02:40	KML	TAL NSH
Total/NA	Prep	3510C			950 mL	1 mL	131321	12/24/13 10:40	RCH	TAL NSH
Total/NA	Analysis	8015B		1	950 mL	1 mL	131761	12/26/13 18:25	JML	TAL NSH

Client Sample ID: TW-13

Lab Sample ID: 490-43219-18

Date Collected: 12/18/13 15:30

Matrix: Water

Date Received: 12/20/13 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	132054	12/28/13 07:17	KML	TAL NSH
Total/NA	Prep	3510C			900 mL	1 mL	131321	12/24/13 10:40	RCH	TAL NSH
Total/NA	Analysis	8015B		1	900 mL	1 mL	131761	12/26/13 18:41	JML	TAL NSH

Client Sample ID: Trip Blank

Lab Sample ID: 490-43219-19

Date Collected: 12/18/13 00:01

Matrix: Water

Date Received: 12/20/13 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	131982	12/27/13 22:34	KML	TAL NSH

Client Sample ID: Trip Blank

Lab Sample ID: 490-43219-20

Date Collected: 12/18/13 00:01

Matrix: Water

Date Received: 12/20/13 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	131982	12/27/13 23:05	KML	TAL NSH

Client Sample ID: TW-10

Lab Sample ID: 490-43219-21

Date Collected: 12/18/13 10:00

Matrix: Water

Date Received: 12/20/13 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	132054	12/28/13 07:47	KML	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Client Sample ID: TW-10

Lab Sample ID: 490-43219-21

Date Collected: 12/18/13 10:00

Matrix: Water

Date Received: 12/20/13 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			280 mL	1 mL	130792	12/21/13 11:19	CLH	TAL NSH
Total/NA	Analysis	8015B		1	280 mL	1 mL	130795	12/21/13 22:59	GMH	TAL NSH

Client Sample ID: TW-11

Lab Sample ID: 490-43219-22

Date Collected: 12/18/13 10:30

Matrix: Water

Date Received: 12/20/13 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8021B		1	5 mL	5 mL	132054	12/28/13 12:41	KML	TAL NSH
Total/NA	Prep	3510C			280 mL	1 mL	130792	12/21/13 11:19	CLH	TAL NSH
Total/NA	Analysis	8015B		50	280 mL	1 mL	130937	12/22/13 15:11	GMH	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	TAL NSH
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



Certification Summary

Client: URS Corporation
Project/Site: NRG Energy

TestAmerica Job ID: 490-43219-1
SDG: Potomac River Generating Station

Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	07-24-14
Arizona	State Program	9	AZ0473	05-05-14
Arizona	State Program	9	AZ0473	05-05-14 *
Arkansas DEQ	State Program	6	88-0737	04-25-14
California	NELAP	9	1168CA	10-31-14
Canadian Assoc Lab Accred (CALA)	Canada		3744	03-08-14
Connecticut	State Program	1	PH-0220	12-31-13 *
Florida	NELAP	4	E87358	06-30-14
Illinois	NELAP	5	200010	12-09-14
Iowa	State Program	7	131	05-01-14
Kansas	NELAP	7	E-10229	10-31-14
Kentucky (UST)	State Program	4	19	06-30-14
Louisiana	NELAP	6	30613	06-30-14
Maryland	State Program	3	316	03-31-14
Massachusetts	State Program	1	M-TN032	06-30-14
Minnesota	NELAP	5	047-999-345	12-31-13 *
Mississippi	State Program	4	N/A	06-30-14
Montana (UST)	State Program	8	NA	01-01-20
Nevada	State Program	9	TN00032	07-31-14
New Hampshire	NELAP	1	2963	10-10-14
New Jersey	NELAP	2	TN965	06-30-14
New York	NELAP	2	11342	04-01-14
North Carolina DENR	State Program	4	387	12-31-14
North Dakota	State Program	8	R-146	06-30-14
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-14
Oregon	NELAP	10	TN200001	04-29-14
Pennsylvania	NELAP	3	68-00585	06-30-14
Rhode Island	State Program	1	LAO00268	12-30-13 *
South Carolina	State Program	4	84009 (001)	02-28-14
Tennessee	State Program	4	2008	02-23-14
Texas	NELAP	6	T104704077-09-TX	08-31-14
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-14
Virginia	NELAP	3	460152	06-14-14
Washington	State Program	10	C789	07-19-14
West Virginia DEP	State Program	3	219	02-28-14
Wisconsin	State Program	5	998020430	08-31-14
Wyoming (UST)	A2LA	8	453.07	12-31-15

* Expired certification is currently pending renewal and is considered valid.



Cooler Received/Opened On : 12/20/2013 @ 0920

Tracking # 4143 (last 4 digits, FedEx)

Courier: Fed-ex IR Gun : 17960357

1. Temperature of rep. sample or temp blank when opened: 2.2 Degrees Celsius
3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA
4. Were custody seals on outside of cooler? YES...NO...NA
If yes, how many and where: 1 front
5. Were the seals intact, signed, and dated correctly? YES...NO...NA
6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) MDM

7. Were custody seals on containers: YES NO and Intact YES NO NA
Were these signed and dated correctly? YES...NO... NA
8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None
9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None
10. Did all containers arrive in good condition (unbroken)? YES...NO...NA
11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA
12. Did all container labels and tags agree with custody papers? YES...NO...NA
- 13a. Were VOA vials received? YES...NO...NA
b. Was there any observable headspace present in any VOA vial? YES NO...NA
14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) MDM

- 15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO... NA
b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA
16. Was residual chlorine present? YES... NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) MDM

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA
18. Did you sign the custody papers in the appropriate place? YES...NO...NA
19. Were correct containers used for the analysis requested? YES...NO...NA
20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) MDM

I certify that I attached a label with the unique LIMS number to each container (initial) MDM

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO. # MDM 12-20-13

Extra Samples - TW-10 + TW-11 . MDM

COOLER RECEIPT FORM

Loc: 490
43219
#1
B

Cooler Received/Opened On: 12/20/2013 @0920

1. Tracking # 4154 (last 4 digits, FedEx)

Courier: Fed-Ex IR Gun ID: 14740456

2. Temperature of rep. sample or temp blank when opened: 4.8 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES..NO...NA

If yes, how many and where: 1 Front

5. Were the seals intact, signed, and dated correctly? YES..NO...NA

6. Were custody papers inside cooler? YES..NO..NA

I certify that I opened the cooler and answered questions 1-6 (initial) EF

7. Were custody seals on containers: YES NO and Intact YES...NO..NA

Were these signed and dated correctly? YES...NO..NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES..NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES..NO...NA

12. Did all container labels and tags agree with custody papers? YES..NO...NA

13a. Were VOA vials received? YES..NO...NA

b. Was there any observable headspace present in any VOA vial? YES..NO..NA

14. Was there a Trip Blank in this cooler? YES..NO...NA If multiple coolers, sequence # 2

I certify that I unloaded the cooler and answered questions 7-14 (initial) MDM

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES..NO..NA

b. Did the bottle labels indicate that the correct preservatives were used YES..NO...NA

16. Was residual chlorine present? YES..NO..NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) MDM

17. Were custody papers properly filled out (ink, signed, etc)? YES..NO...NA

18. Did you sign the custody papers in the appropriate place? YES..NO...NA

19. Were correct containers used for the analysis requested? YES..NO...NA

20. Was sufficient amount of sample sent in each container? YES..NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) MDM

I certify that I attached a label with the unique LIMS number to each container (initial) MSM

21. Were there Non-Conformance issues at login? YES..NO Was a NCM generated? YES..NO...#

Chain of Custody Record

Client Information
 Client Contact: Ms. Adriane Rogers
 Company: URS Corporation
 Address: 12420 Milestone Center Drive Site 150
 City: Germantown
 State Zip: MD, 20876
 Phone: (301) 820-3000
 Email: adriane.rogers@urscorp.com
 Project Name: NRG Energy
 Site: Potomac River Generating Station

Sampler: Eric Schwab
 Phone: (301) 338-4799
 Lab PM: Cathy Gartner
 E-Mail: cathy.gartner@testamericainc.com
 Gartner Tracking No(s):
 COC No: 490-13391-5886.2
 Page: 1 of 2
 Job #: 15303533

Analysis Requested

Due Date Requested:
 TAT Requested (days):
 Standard

PO #: 280822US
 WO #: V# 1427536
 Project #: 49003128
 SCON#:

Field Filtered Sample (Yes or No)
 Perform MS/MSD (Yes or No)

8015B_DRO
 8021B - BTEX + MTBE + Naphthalene

Preservation Codes:
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Amphiol
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 M - Hexane
 N - None
 O - AsHAc2
 P - Na2OAS
 Q - Na2SO3
 R - Na2S2O8
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - ph 4.5
 Z - other (Specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=various)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Total Number of containers	Special Instructions/Note
TW-01	12/16/13	0900	G	W		X	N	5	
TW-02	12/16/13	0915	G	W		X	N	5	
TW-03	12/16/13	0920	G	W		X	N	5	
TW-04	12/16/13	0925	G	W		X	N	5	
TW-05	12/16/13	0930	G	W		X	N	5	
TW-06	12/16/13	0935	G	W		X	N	5	
TW-07	12/16/13	0935	G	W		X	N	5	
B-72 (22-23)	12/17/13	0950	G	S		X	N	1	8015B only
B-72 (31-32)	12/17/13	0955	G	S		X	N	1	8015B only
B-27 (29-30)	12/17/13	1200	G	S		X	N	1	8015B only
B-27 (23-24)	12/17/13	1030	G	S		X	N	1	8015B only

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV, Other (Specify)

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: _____ Date/Time: 12/19/13 07:00 Company: URS

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: Yes No Custody Seal No.: _____

Cooler Temperature(s) °C and Other Remarks: 22/4.8

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

Special Instructions/OC Requirements:

Received by: FED EX
 Received by: _____
 Received by: _____

Date/Time: 12-20-13 @ 0920 Company: TAW

Date/Time: _____ Company: _____

Method of Shipment: _____

Login Sample Receipt Checklist

Client: URS Corporation

Job Number: 490-43219-1
SDG Number: Potomac River Generating Station

Login Number: 43219

List Number: 1

Creator: McBride, Mike

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2/4.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

