SCRA Chamblissburg Supply PC# 2017-2298

SITE CHARACTERIZATION REPORT ADDENDUM

Chamblissburg Supply
10625 Stewartsville Road
Vinton, Virginia 24179

PC# 2017-2298
Greene Project# CSVI1003

December 20, 2018

DEQ Case Manager:
Mr. Robert L. Howard

SITE CHARACTERIZATION
REPORT ADDENDUM

Chamblissburg Supply
10625 Stewartsville Road
Vinton, Virginia 24179
PC 2017-2298

Submitted To:
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December 20, 2018
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EXECUTIVE SUMMARY

Site Characterization Report Addendum

Based on the findings of the site characterization report (SCR), the Virginia Department of Environmental Quality (VA DEQ) requested site characterization report addendum (SCRA) activities be performed at the Chamblissburg Supply facility. As part of SCRA activities three deep groundwater monitoring wells (MW12-MW14) were installed to Virginia Department of Health specifications for a Class IIIB supply well, which would allow for the conversion of the monitoring wells to drinking water supply wells at a later date. In addition, aquifer characterization, a free product recovery event, and sampling activities were performed.

To date, vapor phase, residual phase, dissolved phase, and free phase petroleum contamination have been encountered in the subsurface at the Chamblissburg Supply facility. During this phase of investigation, a maximum free product thickness of 0.45 feet was observed in monitoring well MW03 and a petroleum sheen was observed within monitoring well MW04. Groundwater samples collected during this phase of investigation from monitoring wells (MW01-MW05 and MW08-MW11) confirmed the presence of dissolved phase petroleum contamination in the shallow groundwater aquifer. In addition, drinking water samples collected from supply wells DW01A, DW02A, DW03A, DW04A, DW05A, and DW07A continue to yield evidence of petroleum impact.

Due to the presence of free phase petroleum, significant dissolved phase contamination onsite, and impact to onsite and offsite sensitive receptors, Greene recommends additional work be performed at the Chamblissburg Supply facility. Specifically, Greene recommends the removal of petroleum impacted soils during the scheduled UST closure activities at the subject site. In addition, Greene recommends installation of additional onsite soil borings/shallow groundwater monitoring wells to further delineate the observed residual phase, shallow groundwater dissolved phase, and free phase petroleum contamination. Subsequent to the installation of the additional wells, Greene recommends the performance of pump-down rising head testing to include the newly installed shallow groundwater monitoring wells. Data obtained from the groundwater sampling, pump-down tests, and additional aquifer characterization will be utilized to further estimate the approximate limits of the contaminant plume(s), update Isoconcentration Maps and fate and transport modeling, and will aid in the determination of remedial endpoints.

Based on the confirmed petroleum impact to onsite and offsite drinking water wells, Greene recommends the provision of alternate water supplies. Due to the lack of municipally-provided potable water in the area, groundwater will be utilized to provide the alternate water supplies. As the deep groundwater monitoring

wells (MW12-MW14) were installed to Virginia Department of Health specifications, Greene recommends converting the deep groundwater monitoring wells to supply wells for the Chamblissburg Supply, Dudley Property, and Farkas Residence. In addition, Greene recommends installing a deep groundwater monitoring well on the Houck Property (P04) in the location identified during this phase of investigation. The additional deep groundwater monitoring well also will be installed to Virginia Department of Health specifications, which would allow for conversion of the well to a drinking water supply well at a later date. Sufficient groundwater monitoring and sampling confirming the lack of petroleum contamination within the deep water monitoring wells will be required prior to converting the wells into drinking water wells.

Due to the presence of free phase petroleum, significant dissolved phase petroleum, greater than saturated residual phase petroleum, and the potential risk to additional offsite supply wells, corrective action measures in addition to alternate water supplies will likely be required. As a result, Greene also recommends additional work be performed to determine the appropriate remedial technology for the facility. The selected long-term remediation technology will be implemented to obtain corrective action endpoints for (1) free phase petroleum and (2) dissolved phase petroleum due to the risk to additional sensitive receptors from the significant dissolved phase petroleum plume. To aid in the selection and development of an appropriate long-term remedial technology, Greene recommends the performance of a pilot study event at the subject site.

Finally, Greene recommends ongoing drinking water and surface water sampling be performed. Specifically, Greene recommends collecting water samples from supply wells DW01A, DW02A, DW03A, DW03B, DW04A, DW04B, DW05A, DW06B, DW06C, DW07A, DW08A, DW08B, DW09A, DW09B, DW10A, DW11A, DW33A, DW33B, the unnamed tributary, and Pond-01.

This Executive Summary is an integral part of the Site Characterization Report Addendum. Greene recommends that the report be read in its entirety.

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SCRA Super Slug™ Pump-Down Test Data & Graphical Representations

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SCRA BIOSCREEN-AT Modeling Input Data & Graphical Representations

SITE CHARACTERIZATION REPORT ADDENDUM
for
Chamblissburg Supply
Vinton, VA

1.0 Introduction

On behalf of The Estate of Lacy Dudley, Greene Environmental Services, LLC (Greene) has prepared this Site Characterization Report Addendum (SCRA) for the Chamblissburg Supply (dba Elei's) facility located at 10625 Stewartsville Road within Bedford County, Virginia. Subsequent to Greene's submittal of the Site Characterization Report (SCR), the Virginia Department of Environmental Quality (VA DEQ) requested the preparation and submittal of an SCRA to further characterize the petroleum contamination at the subject site and address impact to sensitive receptors in a letter dated April 3, 2018. This report documents the continued subsurface and release investigation performed at the Chamblissburg Supply facility. A comprehensive summary of Pollution Complaint (PC) #2017-2298 is provided in Section 3.0 of this report. A copy of the VA DEQ request letter dated April 3, 2018 is included in Appendix F of this report.

2.0 Site Assessment

2.1 Site Location and Description

The subject property is an approximately 3.5-acre parcel located at 10625 Stewartsville Road in a primarily residential area within the limits of Bedford County, Virginia. The subject site is improved with a single-story building that currently serves as the Chamblissburg Supply (dba Elei's). It is believed that the site has operated as a retail gasoline station and convenience store from approximately 1978 to present. The property currently maintains one 4,000-gallon gasoline underground storage tank (UST), two 5,000-gallon gasoline USTs, one 6,000-gallon gasoline UST, one 1,000-gallon diesel fuel UST, and one 1,000-gallon kerosene UST. In addition the site maintains three gasoline dispensers and associated canopy, one diesel fuel dispenser, and one kerosene dispenser.

The subject site is further improved with a single-story building currently serving as the Stewartsville – Chamblissburg Volunteer Fire Department Station 2, three storage buildings, and asphalt, concrete, and gravel access and parking areas. The subject site obtains potable water from a drilled supply well (DW01A) located approximately 135 feet east of the shared gasoline UST basin and approximately 70 feet east of the shared diesel fuel and kerosene UST basin. On July 5, 2017, the Bedford Regional Water Authority (BRWA) stated the nearest public water supply line is located approximately 4.5 miles west of the Chamblissburg Supply and there are currently no plans to extend municipal water to the subject property. The site is bordered by Stewartsville Road to the southwest, the Beaverdam Baptist Church property to the

northwest, an undeveloped wooded area to the northeast, and a residential parcel to the southeast. Table 1 - Summary of UST Information is included in Appendix A, Page 1. A Site Map documenting pertinent features of the site and surrounding area is included in Appendix B.

2.2 Topography

The subject site is located at 10625 Stewartsville Road within the limits of Bedford County, Virginia. According to the U.S. Geological Survey 7 ½ Minute Series Topographic Map of the Irving Quadrangle, Virginia, the site elevation is approximately 1,060 feet above mean sea level. At its closest point, the nearest identified surface water body is an unnamed intermittent tributary to East Fork Beaverdam Creek located approximately 700 feet to the northeast of the shared gasoline UST basin and approximately 620 feet northeast of the shared diesel fuel and kerosene UST basin. An aerial map and topographic map of the subject site are included in Appendix B.

2.3 Local Geology

Greene reviewed the Geologic Map of Virginia prepared by the Commonwealth of Virginia, Department of Mines, Minerals, and Energy. Published geologic information indicates that local geologic structures are primarily comprised of layered biotite granulite and gneiss. This rock formation is described in detail below:

> *Layered Biotite Granulite and Gneiss*: Leucocratic to mesocratic, segregation-layered quartzofeldspathic granulite and gneiss contain quartz, plagioclase (albite), microcline (includes assemblages with one alkali feldspar), biotite, ilmenite, and titanite; garnet and horn blende are commonly present. Accessory minerals include apatite and zircon. Epidote and white mica are ubiquitous secondary minerals. Relict pyroxene, largely replaced by actinolitic amphibole, occurs locally. Segregation layering is defined by alternating quartzofeldspathic and biotite-rich domains on the order of a few millimeters to centimeters thick. Quartz and feldspar are granoblastic; biotite defines a penetrative schistosity that crosscuts segregation layering. Migmatitic leucosomes composed of alkali feldspar and blue quartz cut segregation layering, and locally define attenuated isoclinal folds.

The above description was obtained from the Geologic Map of Virginia – Expanded Explanation (1993).

3.0 Comprehensive Summary of Pollution Complaint #2017-2298

3.1 Initial Release Reporting

On June 5, 2017, Ms. Debra Farkas contacted the VA DEQ and reported suspected petroleum in the drinking water well providing potable water to her property addressed as 10590 Stewartsville Road within Bedford

County, Virginia. Based on the suspected impact by petroleum, a VA DEQ State Lead contractor collected a drinking water sample from the Farkas supply well (DW02A) on June 5, 2017. Laboratory analytical results yielded total petroleum hydrocarbons-gasoline range organics (TPH-GRO), benzene, and methyl-tert butyl ether (MTBE) concentrations of 994 micrograms per liter (µg/L), 2.91 µg/L, and 138 µg/L, respectively. Further, isopropyl ether (DIPE), 1,2-dichloroethane, and 1,2,4-trimethylbenzene concentrations of 8.55 µg/L, 23.1 µg/L, and 9.04 µg/L, respectively, were observed in the water sample collected on June 5, 2017.

Subsequent to receiving the results on June 8, 2017, the State Lead contractor reported the release to the BRRO of the VA DEQ on June 9, 2017. In a letter dated June 12, 2017, the BRRO of the VA DEQ issued the Chamblissburg Supply facility PC #2017-2298 and requested that Release Investigation and Reporting (RIR) be conducted at the site.

3.2 Release Investigation Activities

During the RIR phase of work, the UST system components did not indicate any known compliance issues or an ongoing release at the facility. The cathodic protection system passed testing performed in October 2016. Further, tank release detection data yielded passing tests on all six tanks and tank tightness testing performed on June 28, 2017 was unable to identify leaks from the tanks. However, due to the suspected presence of check valves at the tanks, the product lines were unable to be tightness tested during RIR activities. Historical research performed during the Release Investigation phase of work indicated the VA DEQ noted multiple compliance issues at the site between 1978, the date of tank installation, and 2015. In addition, limited residual phase petroleum contamination was observed during a baseline environmental assessment performed in 2002. However, historical research indicated no prior Pollution Complaint cases were opened at the facility and the compliance issues appear to have been properly addressed. A copy of the Tank Tightness Report dated June 28, 2017 is included in Appendix F of this report.

On June 16, 2017, a ¼-mile radius receptor survey was performed to identify potential receptors to the confirmed petroleum contamination. During RIR activities, 36 drilled, bored, or hand dug supply wells and one pond were observed during the receptor survey. Groundwater samples collected from the onsite supply well (DW01A) and offsite supply wells DW02A, DW03A, DW04A, DW05A, and DW07A yielded evidence of petroleum contamination and carbon filtration units (CFUs) were installed as part of the VA DEQ alternate water supply (AWS) program. Table 8 - Summary of Supply Well Dissolved Phase Analytical Results is included in Appendix A, Page 21. Table 12 - Summary of the Receptor Survey Results is included in Appendix A, Page 33. The locations of the potential receptors are included on the Potential Receptors Location Map provided in Appendix B.

Further, during RIR activities, 15 soil borings (B01-B15) were installed proximal to the UST systems located at the Chamblissburg Supply facility. Soil samples collected from soil borings installed proximal to the gasoline UST system yielded TPH-GRO concentrations above the 8,300 milligrams per kilogram (mg/kg) value recognized by the VA DEQ as indicating gasoline saturation. The locations of soil borings installed during the Release Investigation phase of work are included on the soil boring location maps provided in Appendix B. Soil Boring Logs are provided as Appendix C. Table 3 - Summary of Soil Boring Residual Phase Analytical Results is included in Appendix A, Page 9. Subsequent to completion of the release investigation phase of work, a copy of the RIR dated August 3, 2017 was submitted to the VA DEQ.

3.3 Site Characterization Report Activities

During the SCR phase of work, tank and line tightness testing activities yielded evidence of a leak in the premium gasoline product line proximal to the gasoline dispenser. Subsequent to confirming the leak in the premium gasoline product line on September 22, 2017 this UST system was placed out of use and remains out of use as the date of this report. It should be noted the check valve located on the plus gasoline product line was believed to be an inline check valve installed underground. As a result, the plus gasoline product line was unable to be tested during the SCR phase of investigation. A copy of the Tank Tightness reported dated October 17, 2017 is included in Appendix F of this report.

Further, during SCR activities, 11 soil borings (B16-B26) were installed and converted to shallow groundwater monitoring wells MW01-MW11. In addition, aquifer characterization, geologic and geophysical analysis, and sampling activities were performed. Analytical results of the soil samples submitted from soil borings B17 and B22 yielded Non-Detected at laboratory method detection limits (MDLs), while analytical results of soil samples from borings B16, B20, B21, B23, and B26 yielded evidence of limited residual phase petroleum contamination. However, analytical results of soil samples collected from B18, B19, B24, and B25 yielded evidence of significant petroleum contamination. The locations of the soil borings and monitoring wells are included on the Soil Boring Location Maps and Monitoring Well Location Maps provided in Appendix B. Table 3 - Summary of Soil Boring Residual Phase Analytical Results is included in Appendix A, Page 9. Soil Boring Logs are included on the Soil Boring Logs/Monitoring Well Construction Diagrams provided as Appendix C.

Subsequent to installation of the groundwater monitoring wells, Greene performed aquifer characterization activities. A potentiometric surface map generated from the relative elevations of equilibrated groundwater measured during SCR activities depicted a primarily east-southeast hydraulic gradient. Table 4 - Summary of Groundwater Elevation Data is included in Appendix A, Page 13. Potentiometric surface maps generated from the relative elevations of equilibrated groundwater as measured during SCR activities on October 10,

2017 are included in Appendix B. Additional aquifer characterization included the performance of pump-down rising head tests on monitoring wells MW01 and MW11. The pump-down tests yielded calculated MW01 and MW11 hydraulic conductivity values of 0.6893 feet per day (ft/day) and 0.9199 ft/day, respectively. The tests also yielded a calculated transmissivity value for MW01 of 46.00 gallons per day per foot (gal/day/ft) and 69.98 gal/day/ft for MW11. Further aquifer characterization included the performance of limited fate and transport modeling. BIOSCREEN-AT modeling data estimated the total BTEX, MTBE, and naphthalene plume to be approximately 507 feet in length. SCR Super Slug™ Test Data & Graphical Representations obtained during the SCR phase of investigation are provided as Appendix E. SCR BIOSCREEN-AT Modeling Input Data and Graphical Representations are included in Appendix G.

As requested, a fracture trace analysis and geophysical well logging were performed during SCR activities in an attempt to identify supply well construction details, water-bearing zones, foliations, fractures, and additional subsurface characteristics, which may be influencing the migration of groundwater in the area. Greene contracted Draper Aden Associates (DAA) of Blacksburg, VA to perform a fracture trace analysis in an attempt to identify subsurface characteristics that may be influencing the migration of dissolved phase petroleum contamination to the onsite and offsite petroleum impacted drinking water wells. Results of the analysis yielded three primary sets of fracture trace orientations with the west-east and northeast-southwest sets being closest to the subject site. The study did not identify any direct fracture pathways between the onsite dissolved phase petroleum contamination and the impacted supply wells. A copy of the fracture trace analysis prepared by DAA is provided in Appendix C.

Further, Greene contracted ARM Geophysics (ARM) of Hershey, PA to perform geophysical well logging of impacted supply wells DW01A, DW02A, DW03A, and DW04A. Geologic and geophysical analysis activities performed during the SCR did not yield evidence of any direct fracture pathways between the onsite dissolved phase petroleum contamination and the impacted supply wells. In addition, geophysical borehole logging and discrete sampling of impacted supply wells (DW01A and DW04A) during the SCR phase of investigation did not indicate the well seals at the casing/bedrock interface to be allowing commingling of the shallow and deep water aquifers. Discrete sampling performed at DW01A yielded an increase in dissolved phase petroleum contamination with depth, likely indicating petroleum impact is from a deep aquifer water-bearing zone/fracture. A copy of the geophysical borehole logging report prepared by ARM has been retained in-house and will be provided upon request. In addition, a copy of this report will be included in the final site characterization report. A Geophysical Borehole Logging Summary Map documenting the dip direction and dip of features identified is provided in Appendix B. Table 9 - Summary of Supply Well Discrete Sampling Dissolved Phase Analytical Results is included in Appendix A, Page 29.

During the SCR phase of work, measurable free product was observed in monitoring well MW04. Groundwater samples collected from the onsite monitoring wells (MW01-MW04 and MW09-MW11) during the SCR phase of investigation confirmed the presence of dissolved phase petroleum contamination in the shallow groundwater aquifer. In addition, drinking water samples collected from supply wells DW01A, DW02A, DW03A, DW04A, DW05A, and DW07A continued to yield evidence of petroleum impact. Further, limited petroleum contamination was observed within the unnamed intermittent tributary to East Fork Beaverdam Creek. Table 7 - Summary of Monitoring Well Dissolved Phase Analytical Results is included in Appendix A, Page 19. Table 8 - Summary of Supply Well Dissolved Phase Analytical Results is included in Appendix A, Page 21. The locations of the surface water samples are included on the Surface Water Samples Location Map provided in Appendix B. Copies of the Isoconcentration maps generated during SCR activities are provided in Appendix B.

Subsequent to completion of the site characterization phase of work, a copy of the SCR dated February 2, 2018 was submitted to the VA DEQ.

4.0 Site Characterization Report Addendum Activities

As stated in Section 1.0 of this report, based on review of the SCR, the VA DEQ requested SCRA activities be performed at the Chamblissburg Supply. A copy of the VA DEQ request letter dated April 3, 2018 is included in Appendix F of this report. This phase of work included monthly gauging events to confirm the presence or absence of free product, a vacuum truck free product recovery event, deep water monitoring well installation, soil and groundwater sampling, aquifer characterization, and limited fate and transport modeling. A summary of the activities performed at the Chamblissburg Supply during this phase of investigation is provided in the following sections. Due to the nature of this project, multiple activities were performed over a span of several months. In order to clarify the order of events, a timeline outlining the activities has been provided below:

Timeline of SCRA Events

April 3, 2018:
- VA DEQ Site Characterization Report Addendum Request Letter

May 24, 2018:
- VA DEQ personnel informed Greene that a suspected petroleum sheen was observed on a surface water body on the Farkas property.
- A surface water sample was collected from the suspected petroleum sheen.

May 29, 2018:
- A monitoring well gauging event was performed.
- A maximum free product thickness of 0.45 feet was observed in MW03.

June 5, 2018:
- Laboratory results were obtained for the surface water sample from the Farkas property; results yielded Non-Detected for petroleum contamination.

June 11, 2018:
- A site visit was performed to determine approximate locations for deep water monitoring wells.
- A vacuum truck free product recovery event was performed.

July 5, 2018:
- A site visit was performed with Davidson Drilling, Inc. (DDI) to confirm deep water monitoring well locations and identify any potential access concerns.

July 25, 2018:
- A monitoring well gauging event was performed.
- Free product thicknesses were not observed.
- Tree removal and grading were performed to allow for deep water monitoring well installation on Farkas property.

August 14, 2018:
- DDI initiated installation of B27/MW12 on the Dudley property.
- 6-inch steel casing was installed for MW12 within the boring.

August 15, 2018:
- A monitoring well gauging event was performed.
- A maximum free product thickness of 0.07 feet was observed in MW03.
- DDI grouted steel casing for MW12.
- Greene and DDI determined potential well location on Houck property.

August 16, 2018:
- DDI completed B27/MW12.

August 23, 2018:
- A site meeting with Don Scott was performed to discuss site access for installation of deep water monitoring well on Houck property.
- DDI initiated installation of B28/MW13 on the Dudley property.
- 6-inch steel casing was installed for MW13 within the boring.

August 24, 2018:
- DDI grouted steel casing for MW13.

August 28, 2018:
- DDI initiated installation of B28/MW13 through steel casing.
- Drilling was unable to be completed due to complications with the drill rig.

August 30, 2018:
- DDI continued installation of B28/MW13.
- Drilling was unable to be completed due to complications with the drill rig.
- A monitoring well gauging/sampling event was performed.
- Drinking water well sampling activities were initiated.
- A site access agreement from Don Scott was obtained.
- Tree removal and grading was performed to allow for deep water monitoring well installation on Houck property.

August 31, 2018:
- The drinking water well and surface water sampling event was completed.
- DDI completed B28/MW13.

September 4, 2018:
- DDI initiated installation of B29/MW14 on the Farkas property.
- 6-inch steel casing was unable to be installed due to boring collapse.

September 5, 2018:
- DDI continued installation of B29/MW14 on Farkas property.
- 10-inch steel casing was installed to prevent boring collapse.
- 6-inch steel casing was installed for MW14 through the 10-inch steel casing.
- Silt fencing was installed to prevent cuttings from impacting surface water.

September 6, 2018:
- DDI grouted steel casing for MW14.

September 7, 2018:
- DDI completed B29/MW14.

September 21, 2018:
- A monitoring well gauging event was performed.
- A maximum free product thickness of 0.05 feet was observed in MW03.

October 4, 2018:
- Groundwater sample analytical results were received.
- All drinking water samples and surface water samples yielded ethylene dibromide (EDB) concentrations.
- Greene contacted laboratory to confirm the EDB results.

October 9, 2018:
- The potential EDB impact was reported to the VA DEQ and property owners.

October 10, 2018:
- Confirmation sampling for EDB was performed.

October 19, 2018:
- Confirmation sampling results were received from Pace Analytical indicating Non-Detected for EDB.

October 24, 2018:
- A monitoring well gauging event was performed.
- A maximum free product thickness of 0.04 feet was observed in MW03.
- Confirmation sampling results were received from TestAmerica indicating Non-Detected for EDB.

November 9, 2018:
- A site visit with DDI was performed to discuss access to and installation of a deep water monitoring well on the Houck property during this phase of work.
- A site visit was performed regarding leaking AWS system at the Chamblissburg Supply.

November 27, 2018:
- A monitoring well gauging event was performed.
- A maximum free product thickness of 0.01 feet was observed in MW03.

November 29, 2018
- A deep water monitoring well sampling event was performed.

4.1 Tank & Line Tightness Testing

As previously mentioned, during the SCR phase of work Greene contracted Environmental Solutions (ES) of Cloverdale, Virginia to perform volumetric pressure testing of the six USTs and associated product lines utilizing helium. However, the check valve located on the plus gasoline product line was believed to be an inline check valve installed underground, and the plus gasoline product line was unable to be tested during the SCR phase of investigation. Further, ES, indicated a petroleum contractor would need to excavate around the product line and remove the inline check valve to allow for tightness testing to be performed on the plus gasoline product line.

Based on these results, VA DEQ personnel requested the plus gasoline product be isolated and pressure tested for a leak during this phase of investigation. However, the property owner for the Chamblissburg Supply facility has indicated the current UST system is scheduled to be removed. As a result, VA DEQ and Greene personnel agreed to wait and perform the plus gasoline product line tightness testing during UST closure activities. As of the date of this report, the UST system has not been removed and plus gasoline product line testing has not been performed. However, results of the plus gasoline product line tightness testing will be provided upon receipt.

4.2 Hydrogeology

During this phase of investigation, a Heron Instruments, Inc. or Solinst® electronic interface probe was utilized to measure the depth to groundwater in the onsite and offsite monitoring wells on May 29, June 11, July 25, August 15, August 30, September 21, October, 24, and November 27, 2018. Table 4 - Summary of Groundwater Elevation Data is included in Appendix A, Page 13. Surfer mapping software was employed to generate the potentiometric surface contour array over the base map created in DesignCAD for the May 29, August 30, and September 21, 2018 gauging events. A minimum of pseudo data points were used and these were applied only when the kriging algorithm clearly interpolated the contour lines into certain regions where a paucity of data resulted in an unnatural contour distribution. When pseudo points were used, they were based on nearest neighbors. Suspected groundwater flow at the site was determined from the relative groundwater elevations within monitoring wells MW01-MW11. The potentiometric surface maps generated from the relative elevations of equilibrated groundwater as measured on May 29, August 30, and September 21, 2018 are included in Appendix B. Relative groundwater elevations within the 11 monitoring wells as measured during this phase of investigation primarily depict a general hydraulic gradient to the east-southeast.

On August 30, 2018 pump-down rising head tests were performed in monitoring wells MW02 and MW08 to obtain additional data necessary for the calculation of aquifer characteristics including hydraulic conductivity, transmissivity, and flow velocity. Following the recording of the pre-test static water level, a submersible pump was utilized to slowly lower the water level within monitoring wells MW02 and MW08. Subsequent to purging, a Diver® or a Solinst® submersible data logger was utilized to record the water level at predetermined intervals until at a minimum of 95% recovery was obtained. The data logger measurements were then edited to depict an accurate representation of the rising head recovery. The pump-down test data was used to calculate hydraulic conductivity and transmissivity using Super Slug™ aquifer test software provided by Starpoint Software, Inc. Super Slug™ utilizes several methods for calculating hydraulic conductivity and transmissivity from pump-down test data. For this investigation, the Bouwer and Rice method with a gravel pack porosity correction was selected for determining hydraulic

conductivity. The saturated thickness of the initial water bearing zone is presumed to be the static height of the water column in the tested monitoring wells. An effective porosity of 30% is assumed for pump-down rising head test calculations. SCRA Super Slug™ Test Data & Graphical Representations obtained during this phase of investigation are provided as Appendix E.

The pump-down rising head tests performed on monitoring wells MW02 and MW08 yielded calculated hydraulic conductivity values of 0.4530 ft/day and 0.2988 ft/day, respectively. The tests also yielded a calculated transmissivity value for MW02 of 26.94 gal/day/ft and 15.65 gal/day/ft for MW08. The flow velocity is determined from the hydraulic conductivity (K), the groundwater gradient (dh/dl), and the soil porosity (n) by the following equation:

$$V = \frac{K\,(dh/dl)}{N}$$

The average hydraulic conductivity for monitoring wells MW01, MW11 (obtained during the previous SCR), MW02, and MW08 is 0.5903 ft/day. The estimated hydraulic gradient across the site on August 30, 2018, was 0.009 feet per foot (ft/ft), determined from the potentiometric map included in Appendix B. The porosity or percentage of soil void volume to total volume for soils such as those observed at the site is estimated to be approximately 30%. Based on data obtained during this and the previous phase of investigation the average shallow groundwater velocity at the site is calculated to be approximately 0.0177 ft/day, or 6.46 feet per year (ft/yr).

4.3 Soil Boring & Deep Groundwater Monitoring Well Installation Activities

During this phase of investigation, Davidson Drilling, Inc. (DDI) was contracted to install three borings (B27-B29) in locations anticipated to be outside of the dissolved phase petroleum plume. The borings were installed to allow for the installation of deep groundwater monitoring wells MW12-MW14. The deep groundwater monitoring wells were installed to Virginia Department of Health specifications for a Class IIIB supply well, which would allow for the conversion of the monitoring wells to drinking water supply wells at a later date. Borings B27 and B28 were installed on the Dudley property (P20) and completed as deep groundwater monitoring wells MW12 and MW13, respectively. Boring B29 was installed on the Farkas property (P02) and completed as deep water monitoring well MW14. It should be noted, preparations were made to install a deep water monitoring well on the Houck property (P04); however, this fourth deep groundwater monitoring well was unable to be installed as part of SCRA activities due to significant rainfall creating adverse site conditions, which prevented access the proposed well location. The fourth deep water monitoring well is scheduled to be installed as part of the subsequent phase of investigation. Summaries of

the individual deep water monitoring well installation activities are provided in the following sections. Soil Boring Logs/Monitoring Well Construction Diagrams provided as Appendix C. The deep groundwater monitoring well locations are included on the Deep Groundwater Monitoring Well Location Map provided in Appendix B.

4.3.1 B27/MW12 Installation & Construction Details

Boring B27 was installed on the Dudley property (P20) approximately 680 feet north-northeast of the shared gasoline UST basin located at the Chamblissburg Supply facility. On August 14, 2018, DDI utilized a truck-mounted air rotary drill rig to install a 10-inch boring (B27) approximately 103 feet below the ground surface (bgs) and approximately 28 feet into suspected competent bedrock. During boring installation, soil samples were collected at 10-20 foot intervals to a depth of approximately 60 feet bgs. No evidence of petroleum contamination was observed during soil sampling activities. Evidence of groundwater was observed at a depth of approximately 60 feet bgs, and additional soil samples were not collected from beneath the shallow water table. In addition, weathered bedrock was observed approximately 63 feet bgs and suspected competent bedrock was observed approximately 75 feet bgs during installation of boring B27. Subsequent to removal of the drill rods, 6-inch steel well casing was installed within the boring and set approximately 103 feet bgs to allow for installation of monitoring well MW12.

On August, 15, 2018, DDI utilized cement to grout the casing into competent bedrock. Deep water monitoring well MW12 was grouted via an inside-out grouting method using a concrete pump from approximately 103 feet bgs to approximately 20 feet bgs. Bentonite clay was then utilized to complete grouting of the 6-inch well casing. Subsequent to grouting activities, DDI returned to the site on August 16, 2018 and continued drilling activities through bedrock using a 6-inch air rotary bit to approximately 260 feet bgs. During drilling activities, water-bearing zones within the bedrock were observed approximately 113 feet bgs, 185 feet bgs, and 250 feet bgs. Subsequent to drilling activities, DDI developed the deep water monitoring well utilizing the air rotary drill rig and a minimum of 500-gallons of groundwater were purged from monitoring well MW12. DDI estimated the well yield to be approximately 50-75 gallons per minute (gpm).

4.3.2 B28/MW13 Installation & Construction Details

Boring B28 was installed on the Dudley property (P20) approximately 900 feet northeast of the shared gasoline UST basin located at the Chamblissburg Supply facility. On August 23, 2018, DDI utilized a truck-mounted air rotary drill rig to install a 10-inch boring (B28) approximately 102 feet bgs and approximately 22 feet into suspected competent bedrock. During boring installation, soil samples were collected at 10-20 foot intervals to a depth of approximately 60 feet bgs. No evidence of petroleum contamination was

observed during soil sampling activities. Evidence of groundwater was observed at a depth of approximately 60 feet bgs, and additional soil samples were not collected from beneath the shallow water table. In addition, weathered bedrock was observed approximately 70 feet bgs and suspected competent bedrock was observed approximately 80 feet bgs during installation of boring B28. Subsequent to removal of the drill rods, 6-inch steel well casing was installed within the boring and set approximately 102 feet bgs to allow for installation of monitoring well MW13.

On August, 24, 2018, DDI utilized cement to grout the casing into competent bedrock. Deep water monitoring well MW13 was grouted via an inside-out grouting method using a concrete pump, stinger pipes, and a grout shoe from approximately 102 feet bgs to approximately 70 feet bgs. Bentonite clay was then utilized to complete grouting of the 6-inch well casing. Subsequent to grouting activities, DDI returned to the site on August 28, 2018 and continued drilling activities through bedrock using a 6-inch air rotary bit to approximately 130 feet bgs; however, due to complications with the drill rig the boring was unable to be completed at this time. On August 30, 2018, DDI attempted to complete boring B28; however, due to additional complications with the drill rig the boring was only advanced to approximately 170 feet bgs. Finally, DDI returned to the site on August 31, 2018 and continued drilling activities through bedrock using a 6-inch air rotary bit to approximately 300 feet bgs. During drilling activities, water-bearing zones within the bedrock were observed approximately 135 feet bgs and 270 feet bgs. Subsequent to drilling activities, DDI developed the deep water monitoring well utilizing the air rotary drill rig and a minimum of 500-gallons of groundwater were purged from monitoring well MW13. DDI estimated the well yield to be approximately 50 gpm.

4.3.3 B29/MW14 Installation & Construction Details

Boring B29 was installed on the Farkas property (P02) approximately 1,100 feet south-southwest of the shared gasoline UST basin located at the Chamblissburg Supply facility. On September 4, 2018, DDI utilized a truck-mounted air rotary drill rig to install a 10-inch boring (B29) approximately 102 feet bgs and approximately 32 feet into suspected competent bedrock. During boring installation, soil samples were collected at 10-20 foot intervals to a depth of approximately 40 feet bgs. No evidence of petroleum contamination was observed during soil sampling activities. Evidence of groundwater was observed at a depth of approximately 40 feet bgs, and additional soil samples were not collected from beneath the shallow water table. In addition, weathered bedrock was observed approximately 50 feet bgs and suspected competent bedrock was observed approximately 70 feet bgs during installation of boring B29. In an effort to prevent boring collapse due to the shallow depth to water, approximately 42 feet of 10-inch steel casing was installed during drilling activities. Subsequent to removal of the drill rods, 6-inch steel well casing was installed within the boring; however, due to boring collapse the 6-inch steel casing was installed to only 63

feet bgs. As a result, DDI returned to the site on September 5, 2018, removed the 6-inch casing, and installed a total of approximately 62 feet of 10-inch steel casing within boring B29. The boring was then cleaned and 6-inch steel casing was installed with the boring and set approximately 100 feet bgs to allow for installation of monitoring well MW14. In addition, approximately 30-40 feet of silt fencing was installed to prevent cuttings from impacting Pond-04 located on the Farkas property.

On September 6, 2018, DDI utilized cement to grout the casing into competent bedrock. Deep groundwater monitoring well MW14 was grouted via an inside-out grouting method using a concrete pump, stinger pipes, and a grout shoe from approximately 100 feet bgs to approximately 70 feet bgs. Bentonite clay was then utilized to complete grouting of the 6-inch well casing. Subsequent to grouting activities, DDI returned to the site on September 7, 2018 and continued drilling activities through bedrock using a 6-inch air rotary bit to approximately 200 feet bgs. During drilling activities, water-bearing zones within the bedrock were observed approximately 170 feet bgs and 185 feet bgs. Subsequent to drilling activities, DDI developed the deep water monitoring well utilizing the air rotary drill rig and a minimum of 500-gallons of groundwater were purged from monitoring well MW14. DDI estimated the well yield to be approximately 75 gpm.

4.3.4 Site Work & Preparation for B30/MW15 Installation

As requested, Greene attempted to schedule installation of a deep groundwater monitoring well on the Houck property (P04) during this phase of investigation. On August 15, 2018 Greene and DDI personnel decided on a potential location for the Houck property deep groundwater monitoring well. However, due to site constraints, access to the proposed well location for the drill rig and service trucks will need to be obtained from the Scott property (P07). In addition, DDI personnel indicated grading and tree removal activities would be required prior to well installation.

On August 23, 2018, Greene personnel performed a site visit with Mr. Donald Scott at his property (P07) regarding access to the proposed well location. On August 30, 2018, Greene obtained a Site Access Agreement from Mr. Donald Scott. In addition, a small excavator, chain saw, and hand tools were utilized to perform significant grading and tree removal along the access road through the Scott property (P07) and proximal to the proposed well location. Subsequent to completing site access preparation activities, Greene informed Mr. Scott the deep water monitoring well would be installed following completion of B29/MW14 on the Farkas property. However, subsequent to completing MW14 on September 7, 2018 the Chamblissburg, VA area received significant rainfall associated with Hurricane Florence, Tropical Storm Michael, and additional storm events. In fact, from September 8, 2018 to November 30, 2018 the area received 25-30 inches of rain. As a result of the significant rainfall combined with the site access constraints, DDI was unable to safely access the proposed deep water monitoring well location on the Houck property (P04) during this phase of investigation. The Houck property deep water monitoring well is scheduled to

be installed as part of the subsequent phase of investigation. A copy of the signed Donald Scott property Site Access Agreement is included in Appendix F.

4.4 Contamination Characterization

The following sections describe Greene's delineation of subsurface petroleum constituents detected during this investigation.

4.4.1 Vapor Phase

It should be noted that a true soil gas survey has not been conducted at this site. Any discussion of soil vapors pertains to photoionization detector (PID) readings observed during the screening of soil samples collected during borehole logging. As such, any readings are indicative of a mixture of soil gases and the newly volatized petroleum vapors resulting from the disturbance of residual phase contamination. Nevertheless, vapor phase contamination is expected to exist beneath the site.

During installation of soil borings B27-B29, Greene collected soil samples at approximately 10-20 foot intervals. The soil samples collected during boring activities were collected for visual inspection, lithologic characterization, and headspace screening for the presence of volatile organic compound (VOC) vapors typically associated with petroleum fuels. Portions of each recovered soil sample were retained in plastic Zip-Loc™ bags for headspace analysis. Sample temperature was allowed to equilibrate for approximately fifteen minutes at a minimum temperature of 68 ^{o}F prior to screening. Headspace screening was performed using a Mini-RAE 3000 PID calibrated to a 100 parts per million (ppm) isobutylene standard. This instrument detects VOC vapors within a range of 0.1 ppm to 15,000 ppm. Headspace analysis involved the insertion of the sample probe portion of the PID into the equilibrated sample bag. The maximum reading obtained upon insertion of the probe was recorded for each sample. Headspace analyses revealed no evidence of VOC vapor concentrations at soil borings B27-B29. Headspace readings are included on the Soil Boring Logs/Monitoring Well Construction Diagrams provided as Appendix C. Table 2 – Summary of Field Screening Results is included in Appendix A, Page 2.

4.4.2 Residual Phase

During drilling activities, soil samples were collected using clean, disposable, nitrile gloves, stored on ice, and those selected for analysis were entered onto a chain of custody document and transported via courier to the Pace Analytical (Pace) laboratory in Beaver, WV. The submitted soil samples were analyzed for TPH-GRO and total petroleum hydrocarbons-diesel range organics (TPH-DRO) via EPA method 8015, and benzene, toluene, ethylbenzene, xylenes (BTEX), MTBE, and naphthalene via EPA method 8260. Analytical results of the soil samples submitted from soil borings B27-B29 yielded Non-Detected at

laboratory MDLs. Table 3 - Summary of Soil Boring Residual Phase Analytical Results is included in Appendix A, Page 9. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

4.4.3 Dissolved Phase

4.4.3.1 Shallow Groundwater Monitoring Wells

As part of SCRA activities, groundwater samples were collected from the 11 onsite and offsite shallow groundwater monitoring wells (MW01-MW11) on August 30, 2018. Prior to purging and sampling, the static water level was recorded and the presence of free phase petroleum was investigated using a Heron Instruments, Inc. or Solinst® electronic interface probe. The depth to product/groundwater measurements were recorded from a reference mark placed on the top of each well casing. A measurable free product thickness (~0.09 feet) was observed within monitoring well MW03 during the August 30, 2018 gauging event. A summary of the sampling gauging event is presented in Table 6 – Summary of Calculated Purge Volumes included in Appendix A, Page 18.

Despite the presence of free phase petroleum within monitoring well MW03, Greene collected a groundwater sample from beneath the free product layer. The groundwater sample was collected to obtain dissolved phase analytical data to be utilized to generate Isoconcentration Maps and perform limited fate and transport modeling. The groundwater sample from MW03 was collected using a dedicated, disposable, HDPE bailer and was transferred directly into the appropriate sample containers. The groundwater samples collected from monitoring wells MW01, MW02, and MW04-MW11 were collected using a 12-volt S.S. Monsoon Proactive Environmental Products submersible pump with a low-flow controller. Dedicated, disposable, LDPE tubing was used to purge the wells and transfer the groundwater samples directly into the appropriate sample containers. The wells were purged until dry or a minimum of three well volumes had been displaced. Water samples were collected in the appropriate sample containers, stored on ice, and transported via courier to the Pace laboratory in Beaver, WV. The groundwater samples collected from monitoring wells MW01-MW11 were submitted for TPH-GRO and TPH-DRO analysis via EPA method 8015 and BTEX, MTBE, and naphthalene analysis via EPA method 8260. Copies of the SCRA Isoconcentration maps are provided in Appendix B. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

The water samples collected from monitoring wells MW06-MW07 yielded Non-Detected for petroleum contamination at laboratory MDLs; however, water samples collected from monitoring wells MW01-MW05 and MW08-MW11 yielded measurable levels of petroleum contamination. Selected results were

flagged with J qualifiers and the concentrations are considered estimates due to the reported results being below the practical quantitation limits (PQLs) and equal to or above the MDLs. Further, selected results were flagged with E qualifiers and the concentrations are considered estimates due to the reported concentration exceeding the upper calibration standard. As a result, it is likely the analytes are present in the samples, but the results should be viewed only as qualitative and not quantitative. The groundwater samples collected from monitoring wells MW01, MW02, MW05, and MW08 yielded limited dissolved phase petroleum contamination; however, the water samples collected from monitoring wells MW03, MW04, MW09, MW10, and MW11 yielded significant dissolved phase petroleum contamination. Table 7 - Summary of Monitoring Well Dissolved Phase Analytical Results is included in Appendix A, Page 19. A summary of the monitoring well dissolved phase analytical results is provided below:

The groundwater sample collected from monitoring well MW01 during SCRA activities yielded measurable TPH-GRO, TPH-DRO, ethylbenzene, xylenes, and MTBE contamination. However, the reported ethylbenzene concentration was flagged with a J qualifier.

The groundwater sample collected from monitoring well MW02 during SCRA activities yielded measurable TPH-GRO, TPH-DRO, BTEX, MTBE, and naphthalene contamination. However, the reported ethylbenzene concentration was flagged with a J qualifier.

The groundwater sample collected from monitoring well MW03 during SCRA activities yielded measurable TPH-GRO, TPH-DRO, BTEX, MTBE, and naphthalene contamination. Monitoring well MW03 yielded the highest TPH-GRO concentration (314,000 μg/L), TPH-DRO concentration (15,400 μg/L), toluene concentration (40,300 μg/L), ethylbenzene concentration (3,890 μg/L), and xylenes concentration (19,400 μg/L) observed during SCRA monitoring well sampling activities. However, the reported toluene concentration was flagged with an E qualifier.

The groundwater sample collected from monitoring well MW04 during SCRA activities yielded measurable TPH-GRO, TPH-DRO, BTEX, MTBE, and naphthalene contamination. Monitoring well MW04 yielded the highest benzene concentration (12,100 μg/L) observed during SCRA monitoring well sampling activities.

The groundwater sample collected from monitoring well MW05 during SCRA activities yielded measurable BTEX, MTBE, and naphthalene contamination. Monitoring well MW05 yielded the highest naphthalene concentration (2,130 μg/L) observed during SCRA monitoring well sampling activities. However, the reported MTBE concentration was flagged with a J qualifier.

The groundwater sample collected from monitoring well MW06 during SCRA activities yielded Non-Detected for TPH-GRO, TPH-DRO, BTEX, MTBE, and naphthalene contamination.

The groundwater sample collected from monitoring well MW07 during SCRA activities yielded Non-Detected for TPH-GRO, TPH-DRO, BTEX, MTBE, and naphthalene contamination.

The groundwater sample collected from monitoring well MW08 during SCRA activities yielded measurable TPH-DRO and toluene contamination. However, the reported toluene concentration was flagged with a J qualifier.

The groundwater sample collected from monitoring well MW09 during SCRA activities yielded measurable TPH-GRO, TPH-DRO, BTEX, MTBE, and naphthalene contamination.

The groundwater sample collected from monitoring well MW10 during SCRA activities yielded measurable TPH-GRO, TPH-DRO, benzene, xylenes, MTBE, and naphthalene contamination. However, the reported benzene concentration was flagged with a J qualifier.

The groundwater sample collected from monitoring well MW11 during SCRA activities yielded measurable TPH-GRO, TPH-DRO, BTEX, MTBE, and naphthalene contamination. Monitoring well MW11 yielded the highest MTBE concentration (23,500 µg/L) observed during SCRA monitoring well sampling activities. However, the reported MTBE concentration was flagged with an E qualifier.

4.4.3.2 Deep Groundwater Monitoring Wells

As discussed in Section 4.3, deep groundwater monitoring wells MW12-MW14 were developed with the drill rig subsequent to drilling activities. Following well development activities, Greene returned to the subject site on November 29, 2018 to collect groundwater samples from the deep groundwater monitoring wells. Prior to purging and sampling, the static water level was recorded and the presence of free phase petroleum was investigated using a Heron Instruments, Inc. or Solinst® electronic interface probe. The depth to product/groundwater measurements were recorded from a reference mark placed on the top of each well casing. Free product was not observed within the deep groundwater monitoring wells during the November 29, 2018 gauging event. A summary of the sampling gauging event is presented in Table 6 – Summary of Calculated Purge Volumes included in Appendix A, Page 18.

The groundwater samples from MW12-MW14 were collected using a generator, a three-inch Grundfos submersible pump, and dedicated, disposable, 0.75-inch HDPE tubing. The wells were purged until a minimum of three well volumes had been displaced. Water samples were collected in the appropriate sample containers, stored on ice, and transported via courier to the Pace laboratory in Beaver, WV. The groundwater samples collected from deep groundwater monitoring wells MW12-MW14 were submitted for TPH-GRO analysis via EPA method 8015, VOCs analysis via EPA method 8260, SVOCs analysis via EPA method 8270, EDB and dibromochloropropane (DBCP) analysis via EPA method 8011, and total and dissolved lead analysis via EPA method 200.8. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

The water samples collected from deep groundwater monitoring wells MW12-MW14 yielded Non-Detected for chemicals typically associated with petroleum contamination at laboratory MDLs. However, dimethyl phthalate and total lead concentrations were observed during deep water monitoring well sampling activities. Selected results were flagged with J qualifiers and the concentrations are considered estimates due to the reported results being below the PQLs and equal to or above the laboratory MDLs. As a result, it is likely the analytes are present in the samples, but the results should be viewed only as qualitative and not quantitative. In addition, the dimethyl phthalate results were flagged with B qualifiers indicating the analyte was detected in the associated method blank. As a result, it is likely the concentrations are due to laboratory contamination. Dimethyl phthalate is listed as a known, common laboratory contaminant by the EPA and the limited concentrations combined with the B qualifiers likely indicate the results are due to laboratory contamination. Dimethyl phthalate is primarily utilized in the production of plastics, insect repellants, and pesticides and is generally not associated with petroleum releases. In addition, the result is significantly below the EPA human health water quality criteria standard for dimethyl phthalate of 270,000 μg/L. Lead is a naturally occurring element formerly and/or currently utilized in leaded gasoline, paint, ceramics, pipes, fixtures, solder, etc. Lead is generally observed in tap water due to the corrosion of plumbing fixtures, piping, and/or solder. According to the EPA, the action level for lead in public drinking water systems is 15 μg/L. Table 7 - Summary of Monitoring Well Dissolved Phase Analytical Results is included in Appendix A, Page 19. A summary of the deep groundwater monitoring well dissolved phase analytical results is provided below:

> The groundwater sample collected from deep groundwater monitoring well MW12 during SCRA activities yielded Non-Detected for TPH-GRO, VOCs, SVOCs, EDB, DBCP, and total and dissolved lead.

The groundwater sample collected from deep groundwater monitoring well MW13 during SCRA activities yielded Non-Detected for chemicals typically associated with petroleum contamination. However, a dimethyl phthalate concentration of 9.53 μg/L was observed. The reported dimethyl phthalate concentration was flagged with a J qualifier.

The groundwater sample collected from deep groundwater monitoring well MW14 during SCRA activities yielded Non-Detected for chemicals typically associated with petroleum contamination. However, dimethyl phthalate and total lead concentrations of 10.9 μg/L and 0.309 μg/L were observed, respectively. The reported total lead concentration was flagged with a J qualifier.

4.4.3.3 Supply Wells

As documented in the previously submitted reports, in use supply wells DW01A, DW02A, DW03A, DW04A, DW05A, and DW07A have been impacted with petroleum. In an effort to mitigate concern associated with ingestion of petroleum impacted drinking water, CFU systems have been installed as part of the VA DEQ AWS program. As part of CFU system installation and maintenance activities pre-treatment drinking water samples are routinely collected. Laboratory analytical results collected on behalf of the VA DEQ AWS program have been included in Table 8 - Summary of Supply Well Dissolved Phase Analytical Results, which is included in Appendix A, Page 21. Copies of the laboratory results and chain of custody documentation for the samples collected on behalf of the VA DEQ AWS program are not included in this report and any request for this documentation should be made to the VA DEQ AWS program.

In addition to the sampling performed as part of the VA DEQ AWS program, Greene collected groundwater samples from in use supply wells DW01A, DW02A, DW03A, DW04A, DW05A, DW06B, DW06C, DW07A, DW08A, DW08B, DW09A, DW10A, and DW11A, as well as out of use supply wells DW03B, DW04B, and DW09B during this phase of investigation. The groundwater samples from the in use supply wells were collected from inside or outside fixtures installed prior to any treatment systems subsequent to allowing the water to flow for approximately 10 minutes. The groundwater samples from out of use supply wells DW03B and DW09B were collected using a generator and a three-inch Grundfos submersible pump with 0.75-inch HDPE tubing. The groundwater sample from supply well DW04B was collected using a generator and the existing pump located within the well. Out of use supply wells DW03B, DW04B, and DW09B went dry prior to removing three well volumes, and the samples were collected subsequent to allowing the wells to recharge. It should be noted the property maintaining supply wells DW33A and DW33B was reportedly foreclosed during this phase of investigation. Greene attempted to contact the reported owner of the property; however, attempts were unsuccessful. As a result, groundwater samples were unable to be collected from supply wells DW33A and DW33B during this phase of investigation.

Clean disposable nitrile gloves were used during all phases of sample collection. The supply well water samples were collected in the appropriate sample containers, stored on ice, and transported via courier to the Pace laboratory in Beaver, WV. The groundwater samples collected from the supply wells were submitted for TPH-GRO analysis via EPA method 8015, VOCs analysis via EPA method 8260, SVOCs analysis via EPA method 8270, EDB and DBCP analysis via EPA method 8011, and total and dissolved lead analysis via EPA method 200.8. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

The water samples collected from supply wells DW01A, DW02A, DW03A, DW04A, DW05A, and DW07A continue to yield measurable levels of petroleum contamination. The water samples collected from supply wells DW03B, DW04B, DW06B, DW06C, DW08A, DW08B, DW09A, DW09B, DW10A, and DW11A yielded Non-Detected at method detection limits for chemicals typically associated with petroleum contamination with exception to EDB. In addition, measurable DBCP, total lead, and dissolved lead concentrations were observed during supply well sampling activities. Selected results were flagged with J qualifiers and the concentrations are considered estimates due to the reported results being below the PQLs and equal to or above the laboratory MDLs. As a result, it is likely the analytes are present in the samples, but the results should be viewed only as qualitative and not quantitative.

Due to a suspected laboratory error with the reported EDB and DBCP concentrations, Greene requested that the laboratory re-analyze the August 30/31, 2018 supply well water samples. Results of the supply well samples able to be re-analyzed yielded Non-Detected for EDB and DBCP. However, due to the re-analysis being performed outside of the method holding time, confirmation water samples were collected from DW01A, DW06B, DW06C, DW08A, DW08B, DW09A, DW10A, and DW11A on October 10, 2018. Clean disposable nitrile gloves were used during all phases of sample collection. The supply well water samples were collected in the appropriate sample containers, stored on ice, and shipped overnight to the TestAmerica Laboratories, Inc. (TestAmerica) laboratory in Nashville, TN. In addition, duplicate samples were collected from supply wells DW01A, DW06C, DW08B, and DW09A, labeled S1, S2, S3, and S4, respectively, and submitted to the Pace laboratory in Beaver, WV. The confirmation groundwater samples collected from the supply wells on October 10, 2018 were submitted for EDB and DBCP analysis via EPA method 8011.

Analytical results of the October 10, 2018 water samples confirmed the presence of EDB within DW01A and yielded Non-Detected for EDB within DW06B, DW06C, DW08A, DW08B, DW09A, DW10A, and DW11A. Following extensive review of current and historic analytical data it is believed the August 30/31, 2018 EDB and DBCP analytical results are inaccurate due to a laboratory error and that the October 10,

2018 analytical results portray representative concentrations of EDB and DBCP. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

EDB was formerly utilized as a soil fumigant and as a scavenger in leaded gasoline. DBCP was formerly utilized as a soil fumigant and nematocide and is generally not associated with petroleum releases. Further, lead is a naturally occurring element formerly and/or currently utilized in leaded gasoline, paint, ceramics, pipes, fixtures, solder, etc. Lead is generally observed in tap water due to the corrosion of plumbing fixtures, piping, and/or solder. According to the EPA, the action level for lead in public drinking water systems is 15 µg/L.

Upon receipt of the laboratory analytical results, Greene submitted drinking water results letters to each of the property owners. Additional information regarding the offsite receptors is provided in Sections 4.6.1 and 4.6.2.2 of this report. Table 8 - Summary of Supply Well Dissolved Phase Analytical Results is included in Appendix A, Page 21. Table 11 – Description of Observed Supply Well Analytes is included in Appendix A, Page 30. A summary of the drinking water well dissolved phase analytical results is provided below:

> The pre-treatment groundwater samples collected by Greene from onsite in use supply well DW01A during SCRA activities yielded measurable TPH-GRO, BTEX, MTBE, naphthalene, EDB, and DIPE contamination. The samples also yielded measurable DBCP, total lead, dissolved lead, additional VOC, and additional SVOC concentrations.
>
> The pre-treatment groundwater sample collected by Greene from offsite in use supply well DW02A during SCRA activities yielded measurable benzene, xylenes, MTBE, EDB, and DIPE contamination. The sample also yielded measurable total lead and additional VOC concentrations. However, the reported EDB and total lead concentrations were flagged with J qualifiers.
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> The pre-treatment groundwater sample collected by Greene from offsite in use supply well DW03A during SCRA activities yielded measurable MTBE, EDB, and DIPE contamination. The sample also yielded measurable total lead, dissolved lead, and additional VOC concentrations. However, the reported EDB and dissolved lead concentrations were flagged with J qualifiers.
>
> The groundwater sample collected from offsite out of use supply well DW03B during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample

also yielded measurable DBCP and total lead concentrations. The reported EDB, DBCP, and total lead concentrations were flagged with J qualifiers.

The pre-treatment groundwater sample collected by Greene from offsite in use supply well DW04A during SCRA activities yielded measurable benzene, MTBE, and EDB contamination. The sample also yielded measurable SVOC and additional VOC concentrations. However, the reported EDB concentration was flagged with a J qualifier.

The groundwater sample collected from offsite out of use supply well DW04B during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded measurable DBCP and total lead concentrations. The reported EDB and DBCP concentrations were flagged with J qualifiers.

The pre-treatment groundwater sample collected by Greene from offsite in use supply well DW05A during SCRA activities yielded measurable MTBE and EDB contamination. The sample also yielded a measurable DBCP concentration. However, the reported MTBE and EDB concentrations were flagged with J qualifiers.

The August 30, 2018 groundwater sample collected from offsite in use supply well DW06B during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded measurable DBCP, total lead, and dissolved lead concentrations. The reported EDB and DBCP concentrations were flagged with J qualifiers. In addition, a confirmation sample collected on October 10, 2018 yielded Non-Detected for EDB and DBCP.

The August 30, 2018 groundwater sample collected from offsite in use supply well DW06C during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded measurable DBCP and total lead concentrations. In addition, confirmation samples collected on October 10, 2018 yielded Non-Detected for EDB and DBCP.

The pre-treatment groundwater sample collected by Greene from offsite in use supply well DW07A during SCRA activities yielded measurable MTBE and EDB contamination. The sample also

yielded measurable DBCP, total lead, and dissolved lead concentrations. However, the reported EDB and DBCP concentrations were flagged with J qualifiers.

The August 30, 2018 groundwater sample collected from offsite in use supply well DW08A during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded measurable DBCP, total lead, and dissolved lead concentrations. The reported EDB and DBCP concentrations were flagged with J qualifiers. In addition, a confirmation sample collected on October 10, 2018 yielded Non-Detected for EDB and DBCP.

The August 30, 2018 groundwater sample collected from offsite in use supply well DW08B during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded measurable DBCP, total lead, and dissolved lead concentrations. The reported EDB and DBCP concentrations were flagged with J qualifiers. In addition, confirmation samples collected on October 10, 2018 yielded Non-Detected for EDB and DBCP.

The August 30, 2018 groundwater sample collected from offsite in use supply well DW09A during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded measurable DBCP, total lead, and dissolved lead concentrations. The reported EDB total lead, and dissolved lead concentrations were flagged with J qualifiers. In addition, confirmation samples collected on October 10, 2018 yielded Non-Detected for EDB and DBCP.

The groundwater sample collected from offsite out of use supply well DW09B during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded measurable DBCP and total lead concentrations. The reported EDB, DBCP, and total lead concentrations were flagged with J qualifiers.

The August 30, 2018 groundwater sample collected from offsite in use supply well DW10A during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded measurable DBCP, total lead, and dissolved lead concentrations. The

reported EDB, DBCP, and dissolved lead concentrations were flagged with J qualifiers. In addition, a confirmation sample collected on October 10, 2018 yielded Non-Detected for EDB and DBCP.

The August 30, 2018 groundwater sample collected from offsite in use supply well DW11A during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded measurable DBCP and total lead concentrations. The reported EDB concentration was flagged with a J qualifier. In addition, a confirmation sample collected on October 10, 2018 yielded Non-Detected for EDB and DBCP.

4.4.3.4 Surface Water

On May 24, 2018, VA DEQ personnel informed Greene that a suspected petroleum sheen was observed on a pond (Pond-04) located on properties P04 and P09. As a result, a surface water sample (GS01) was collected from Pond-04 on May 24, 2018. The GS01 surface water sample was collected in the appropriate sample containers, stored on ice, and transported via courier to the Pace laboratory in Beaver, WV. This surface water sample was submitted for TPH-GRO analysis via EPA method 8015. Analytical results of the GS01 surface water sample yielded Non-Detected at the laboratory method detection limit. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

In addition, on August 31, 2018, surface water samples (POND01 and ST01) were collected from the pond (Pond-01) draining to East Fork Beaverdam Creek and from the unnamed intermittent tributary to East Fork Beaverdam Creek, respectively. Clean disposable nitrile gloves were used during all phases of sample collection. The surface water samples were collected in the appropriate sample containers, stored on ice, and transported via courier to the Pace laboratory in Beaver, WV. The surface water samples were submitted for TPH-GRO analysis via EPA method 8015, VOCs analysis via EPA method 8260, and EDB and DBCP analysis via EPA method 8011. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

Analytical results of the surface water samples collected on August 31, 2018 yielded Non-Detected at method detection limits for chemicals typically associated with petroleum contamination with exception to EDB. In addition, measurable DBCP concentrations were observed during surface water sampling activities. Selected results were flagged with J qualifiers and the concentrations are considered estimates due to the reported results being below the PQLs and equal to or above the laboratory MDLs. As a result, it is likely the analytes are present in the samples, but the results should be viewed only as qualitative and not quantitative.

However, due to a suspected laboratory error with the reported EDB and DBCP concentrations, confirmation water samples were collected from Pond-01 and the intermittent tributary to East Fork Beaverdam Creek on October 10, 2018. Clean disposable nitrile gloves were used during all phases of sample collection. The surface water samples were collected in the appropriate sample containers, stored on ice, and shipped overnight to the TestAmerica laboratory in Nashville, TN. In addition, a duplicate sample was collected from Pond-01, labeled S5, and submitted to the Pace laboratory in Beaver, WV. The surface water samples collected on October 10, 2018 were submitted for EDB and DBCP analysis via EPA method 8011.

Analytical results of the October 10, 2018 surface water samples yielded Non-Detected for EDB and DBCP within Pond-01 and the intermittent tributary to East Fork Beaverdam Creek. Following extensive review of current and historic analytical data it is believed the August 31, 2018 EDB and DBCP analytical results are inaccurate due to a laboratory error and that the October 10, 2018 analytical results portray representative concentrations of EDB and DBCP. Additional information regarding the surface water is provided in Section 4.6.1 of this report. Table 10 - Summary of Surface Water Dissolved Phase Analytical Results is included in Appendix A, Page 30. The locations of the surface water samples are included on the Surface Water Samples Location Map provided in Appendix B. Copies of the laboratory results and chain of custody documentation are included in Appendix D. A summary of the surface water dissolved phase analytical results is provided below:

The May 24, 2018 surface water sample (GS01) collected from Pond-04 during SCRA activities yielded Non-Detected for petroleum contamination.

The August 31, 2018 surface sample collected from Pond-01 during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded a measurable DBCP concentration. The reported EDB concentration was flagged with a J qualifier. In addition, confirmation samples collected on October 10, 2018 yielded Non-Detected for EDB and DBCP.

The August 31, 2018 surface sample collected from the unnamed intermittent tributary to East Fork Beaverdam Creek (ST01) during SCRA activities yielded Non-Detected for petroleum contamination with exception to EDB. However, due to a suspected laboratory error, the reported EDB concentration is likely inaccurate. The sample also yielded a measurable DBCP concentration.

The reported EDB and DBCP concentrations were flagged with J qualifiers. In addition, a confirmation sample collected on October 10, 2018 yielded Non-Detected for EDB and DBCP.

4.4.4 Free Phase

During this phase of investigation, monthly gauging events were performed to confirm the presence or absence of free product at the Chamblissburg Supply facility. A maximum free product thickness of 0.45 feet was observed within monitoring well MW03 on May 29, 2018. Further, a free product thickness of 0.35 feet was observed within MW03 on June 11, 2018. However, following a vacuum truck recovery event on June 11, 2018 only limited (<0.10 feet) free product was observed within monitoring well MW03 during this phase of investigation. Only a sheen (≤0.01 feet) of free product was observed within monitoring well MW04, and no evidence of free product was observed within monitoring wells MW01, MW02, or MW05-MW14 during this phase of investigation. Table 5 – Summary of Free Product Thicknesses is included in Appendix A, Page 17.

On June 11, 2018, a vacuum truck recovery event was performed to remove free product observed during the May 2018 gauging event. Prior to performing the recovery event, a gauging event confirmed measurable free product within monitoring well MW03 and a sheen within monitoring well MW04. Subsequent to gauging, a vacuum truck under contract from R.E.M. Specialties, LLC (R.E.M.) of Moneta, VA was utilized to perform free product removal activities. Reinforced tubing, PVC pipe, and associated fittings were utilized to connect the monitoring wells to the vacuum truck. Approximately 385 gallons of liquids were recovered during the vacuum truck free product recovery event. The recovered liquids were retained for disposal by R.E.M. A copy of the Vacuum Truck Material Manifest for the 385 gallons of liquids from R.E.M. is included in Appendix F.

4.5 Plume Characterization

The following sections detail the characterization of the petroleum plume(s) observed at the Chamblissburg Supply facility.

4.5.1 Free Phase Plume Characterization

As previously mentioned, measurable free product thicknesses were observed only within monitoring well MW03 and a free product sheen (~0.01 feet) only was observed within monitoring well MW04 during this phase of investigation. Due to the lack of additional free phase petroleum monitoring points, a free product plume map was not generated during this phase of investigation. Based on the significant residual and dissolved phase petroleum contamination observed, it is likely that a free product plume exists at the subject site; however, significant free phase petroleum has been observed only within monitoring well MW03.

4.5.2 Dissolved Phase Plume Characterization

A dissolved phase petroleum plume has been identified at the Chamblissburg Supply facility. During this phase of investigation dissolved phase petroleum contamination was identified in monitoring wells MW01-MW05 and MW08-MW11. Based on the Potentiometric Surface Maps generated during this phase of investigation, a general hydraulic gradient to the east-southeast was observed in the shallow water aquifer. In addition, the Isoconcentration maps generated during this phase of investigation primarily reflect the shallow groundwater gradient depicted on the Potentiometric Surface Maps. Average rising head pump tests performed during this and the previous phase of investigation and the hydraulic gradient observed during this phase of investigation calculated the average shallow groundwater flow rate to be approximately 6.46 feet per year. The shallow water dissolved phase contaminant plume would be expected to migrate at this rate with pockets of greater rates where conduits permit flow in channels rather than migration through the soil structure.

In addition to the shallow water petroleum contamination identified onsite, dissolved phase petroleum contamination continues to be observed in onsite supply well DW01A and offsite supply wells DW02A, DW03A, DW04A, DW05A, and DW07A. Analytical results of groundwater samples collected from sentinel shallow water monitoring wells MW05 and MW08 yielded evidence of petroleum contamination; however, analytical results of sentinel shallow water monitoring wells MW06 and MW07 and the out of use bored supply well (DW03B) yielded Non Detected for petroleum contamination. The lack of petroleum contamination within sentinel monitoring wells MW06 and MW07 likely indicates: (1) the presence of a shallow water aquifer diving plume, (2) the petroleum contamination is migrating to the impacted supply wells in the deep water aquifer, or (3) a combination of both. A diving plume has potential to migrate along the bedrock interface and enter the drilled drinking water wells though poorly sealed casings within the bedrock. In this situation, the supply well becomes a conduit to the deep water aquifer for the shallow water petroleum contamination, which then allows for both shallow and deep aquifer petroleum contamination migration. In contrast, a series of geologic conduits (fractures, partings, seams, etc.) could allow for communication between the shallow groundwater dissolved phase petroleum plume and the deep aquifer. Further, both circumstances could be present in some capacity at the subject site and in the surrounding area. However, based on the limited site characterization performed to date, the dissolved phase plume characterization is incomplete. Additional subsurface activities are required to sufficiently delineate the petroleum plume(s) associated with the Chamblissburg Supply facility.

Despite the limited characterization completed to date, simple fate and transport modeling was performed during this phase of investigation in an attempt to characterize the dissolved phase plume located in the shallow water aquifer at the subject site. BIOSCREEN-AT modeling software was utilized to characterize

the total and individual BTEX, MTBE, and naphthalene dissolved phase plumes at the Chamblissburg Supply facility. These models were generated based on a continuous source, published degradation rates, and the dissolved phase contamination and hydraulic gradient data obtained during the August 30, 2018 monitoring and sampling event. In addition, the highest observed (historic or current) hydraulic conductivity, the highest observed SCRA concentration, and the highest published solute half-life for each constituent were utilized to demonstrate the worst-case plume migration. Further, in the absence of published or observed data required for modeling, Greene utilized values to represent a worst-case scenario. The shallow water plume size has been estimated based on the presence of dissolved phase petroleum contamination within onsite monitoring wells.

BIOSCREEN-AT modeling data estimates the first order decay MTBE and benzene plumes to be the longest at approximately 304 feet and 285 feet, respectively. It also estimates the toluene, ethylbenzene, xylenes, and naphthalene first order decay plumes to be approximately 128 feet, 106 feet, 176 feet, and 109 feet, respectively. In addition, the total BTEX, MTBE, and naphthalene plume is estimated to be approximately 347 feet. The dissolved phase plume modeled as total BTEX, MTBE, and naphthalene is thought to best depict the actual plume as evidenced by relative distances/concentrations of the impacted dissolved phase receptors observed to date. However, additional subsurface investigation activities will be required to further calibrate the model to observed site conditions. SCRA BIOSCREEN-AT Modeling Input Data and Graphical Representations are included in Appendix G.

4.6 Risk Assessment

Greene performed a risk assessment to evaluate the potential risk to human health and the environment associated with the petroleum compounds detected at the site. The findings of the risk assessment are presented in the following sections.

4.6.1 Identification of Receptors

As part of the previously performed Release Investigation Report, a ¼-mile radius receptor survey was performed to identify potential receptors to the confirmed petroleum contamination. One commercial property, one church property, 32 residential properties, and five agricultural/undeveloped properties were identified during the RIR phase of investigation. Based on the multiple impacted sensitive receptors the survey was expanded to the east (north of Stewartsville Road) during the SCR phase of investigation. An additional two residential properties were identified. At each of the 41 properties/parcels identified during this and the previous phase of investigation the presence of a drinking water well, spring, or additional potential receptor to petroleum contamination was attempted to be confirmed. In situations where no one was able to be located at a property/parcel, a contact letter was left in a conspicuous location and a limited

visual inspection was performed. Results of the initial ¼-mile radius receptor survey, additional follow-up activities, and the expanded survey have identified 45 drilled, bored, or hand dug supply wells, four ponds, and the intermittent tributary to East Fork Beaverdam Creek. In addition, topographic information indicates the nearest identified surface water body is an unnamed intermittent tributary to East Fork Beaverdam Creek located approximately 700 feet to the northeast of the shared gasoline UST basin and approximately 620 feet northeast of the shared diesel fuel and kerosene UST basin. Table 12 - Summary of the Receptor Survey Results is included in Appendix A, Page 33. The locations of the potential receptors are included on the Potential Receptors Location Map provided in Appendix B.

4.6.2 Identification of Exposure Pathways

The identification of potential exposure pathways is necessary to evaluate the risk posed by the extent of the release. An exposure pathway requires that there be some mechanism for any person or population to come into contact with one or more of the media which contain the contaminant of concern. No risk is assumed in the absence of contamination or in the absence of an exposure pathway.

4.6.2.1 Inhalation

The presence of concrete, gravel, and grass surface coverings in the immediate vicinity of the UST systems and the depth to petroleum contamination mitigates concern associated with potential exposure to VOC vapors emanating from the subsurface.

4.6.2.2 Ingestion

The most likely pathway for the ingestion of petroleum contamination would be through consumption of contaminated groundwater within the area. Prior to this phase of investigation, groundwater samples collected from onsite supply well DW01A and offsite supply wells DW02A, DW03A, DW04A, DW05A, and DW07A yielded measurable petroleum contamination. As a result, CFU systems were installed on DW01A-DW05A and DW07A in order to mitigate concern associated with ingestion of petroleum contamination from the in use supply wells.

During this phase of the investigation, Greene collected drinking water samples from multiple offsite receptors. At this time, these offsite receptors do not appear to be impacted by the petroleum release currently under investigation. However, should any additional offsite in use drinking water receptors become impacted, the contamination will be reported to the VA DEQ AWS program and CFUs will likely be installed to mitigate any associated risk. Surface water samples collected during this phase of investigation from the unnamed intermittent tributary to East Fork Beaverdam Creek, Pond-01, and Pond-04 yielded Non-Detected for petroleum contamination.

4.6.2.3 Dermal Contact

The presence of concrete, asphalt, gravel, and grass surface coverings in the immediate vicinity of the former and current UST systems and the depth to petroleum contamination mitigates concern associated with potential contact with adsorbed phase contaminants. In addition, carbon filtration units have been installed on the impacted supply wells mitigating concern associated with potential contact with dissolved phase contaminants.

5.0 Remediation Assessment

The following sections outline applicable remediation technologies that are commonly implemented at petroleum impacted sites that warrant corrective action measures.

5.1 Description of Remediation Alternatives

5.1.1 Soil Vapor Extraction with In Situ Air Sparging

Vapor extraction refers to the technique of removing contaminant vapors from the unsaturated zone by means of active or passive venting. A network of extraction points is installed either vertically or horizontally within the contaminated zone and manifolded to a surface discharge point. Extracted vapors either are vented directly to the atmosphere or to an off-gas treatment unit. The need for off-gas treatment likely is a function of site-specific conditions and local regulatory emission standards. Active vapor extraction has proven to expedite remediation of free- and dissolved-phase contamination as well. The decreased pore pressure within the unsaturated zone created by the induced vacuum increases the volatilization of contaminants within the respective plumes below.

Sparging has been used successfully to expedite remediation through vapor extraction. Sparging involves the injection of air into the subsurface through a series of injection points. The introduction of clean air increases the rate of pore volume exchange between clean air and the subgrade contaminant vapor. A greater percentage of contaminant vapor can then be extracted using a vapor extraction system. Groundwater sparging, the introduction of clean air into the phreatic zone, has been used with great success in expediting the remediation of dissolved-phase contaminant plumes. Greatest efficiency has been documented through the use of groundwater sparging in association with vapor extraction systems. Remedial system design will require modifications to address the presence of voids/fractures. A comprehensive, tabular summary of this remedial approach is presented in Table 13 – In Situ Air Sparging with Soil Vapor Extraction included in Appendix A, Page 40.

5.1.2 Groundwater Pump & Treat

Groundwater pump and treat technology involves extracting contaminated groundwater for treatment at the surface. A network of groundwater recovery wells is installed, depending upon site specific conditions and hydrogeologic considerations. Groundwater is recovered from the extraction points through systematic pumping. Once at the surface, the extracted liquids can be treated on-site using various remedial components or transported off-site for treatment and disposal. On-site treatment methods may include activated carbon filtration, residence in a bioreactor, air stripping, etc. As in the case of vapor extraction, the use of an air stripper may require off-gas permitting. Further permitting may be required by the local regulatory agency for the discharge of the treated waste stream. A comprehensive, tabular summary of this remedial approach is presented in Table 14 – Groundwater Pump & Treat Systems included in Appendix A, Page 40.

5.1.3 In Situ Bioremediation

In situ bioremediation involves a process where oxygen and nutrients are introduced to the unsaturated zone through well points or an infiltration gallery to promote contaminant degradation by naturally-occurring organisms. Commercially available bacteria also may be employed where the indigenous population is insufficient. The effectiveness of bioremediation is a function of various physical properties of the subsurface environment and the contaminants, though it is proven effective in most settings impacted by petroleum hydrocarbons. This process allows for treatment of contaminated groundwater in-place, eliminating the requirement for pumping and the subsequent treatment of extracted groundwater. Costs associated with the implementation and management of a bioremediation system may vary, but have been estimated between $60 and $123 per cubic yard ($40 to $90 per ton). Treatment time may vary significantly, generally ranging from six months to four years. A comprehensive, tabular summary of this remedial approach is presented in Table 15 – In Situ Bioremediation included in Appendix A, Page 41.

5.1.4 Dual-Phase Extraction

Residual- and dissolved-phase petroleum compounds have been demonstrated by industry to effectively be removed using dual-phase extraction technology. A rotary-claw vacuum pump removes liquid- and vapor-phase contaminants from recovery wells or trenches. Aboveground treatment is dependent on the nature of the effluent waste stream, but typically it involves the mechanical separation of vapors, free-phase petroleum, and groundwater, removal of dissolved-phase compounds from groundwater via stripping and carbon filtration, and discharge of treated groundwater under applicable permit authority. Vapors may be emitted to the atmosphere without treatment if calculated emission rates are below permit threshold limits.

Dual-phase systems have proven to be effective in attaining remediation endpoints within one to four years. Capital costs associated with a fixed recovery and treatment system typically ranges from $80,000 to $200,000. Annual operation and maintenance costs typically range from $25,000 to $75,000. A comprehensive, tabular summary of this remedial approach is presented in Table 16 – Dual Phase Extraction included in Appendix A, Page 41.

In some cases, short-term removal using a mobile dual-phase extraction and treatment system can be effective in recovering significant contaminant mass and reducing the long-term impact of petroleum releases. When performed as a feasibility study prior to issuance of a Corrective Action Plan, a 72-hour removal event typically costs approximately $15,000.

5.1.5 Alternate Water Supply

Providing an alternate water supply is a form of corrective action primarily implemented when petroleum contamination is detected within a drinking water well. In some situations, provision of an AWS may eliminate potential downgradient receptors at a site and could reduce or eliminate the corrective actions required. However, additional remediation often is required in conjunction with an AWS to recover free product and/or prevent further migration of petroleum contamination towards additional sensitive receptors. Generally, an AWS is provided by the installation of a new drinking water well or connection to a municipally-provided public water supply.

The installation of an AWS, where possible, is generally a cost-effective portion of corrective action; however, the costs can differ greatly depending on the type of AWS provided and the locality of the property. Costs associated with the installation of a new drinking water well including connection to the residence/building typically range from $8,000-$12,000. Alternatively, costs associated with connection to a public water supply typically range from $2,000-$6,000 and are dependent on if a water main is located proximal to the property. In addition, installation of an AWS generally reduces the cost of long-term corrective action by eliminating the nearest sensitive receptor(s), which normally reduces the dissolved phase remedial endpoints required to eliminate risk of impact to any remaining sensitive receptors.

5.2 Remedial Recommendation

Based on the confirmed petroleum impact to onsite and offsite drinking water wells, Greene recommends the provision of alternate water supplies as a portion of corrective action. Due to the lack of municipally-provided potable water in the area, groundwater will be utilized to provide the alternate water supplies. As the deep water monitoring wells (MW12-MW14) were installed to Virginia Department of Health specifications, Greene recommends converting the deep groundwater monitoring wells to supply wells.

Sufficient groundwater monitoring and sampling confirming the lack of petroleum contamination within the deep water monitoring wells will be required prior to converting the wells into drinking water wells. As mentioned in Section 4.3 of this report, a fourth deep water monitoring well will be installed to Virginia Department of Health specifications during the next phase of investigation.

Based on the presence of free phase petroleum, significant dissolved phase petroleum, greater than saturated residual phase petroleum, and the potential risk to offsite supply wells, additional corrective action measures will likely be required. However, further data is required to determine the appropriate long-term remedial recommendation for the subject site at this time. It should be noted that the property owner for the Chamblissburg Supply facility has indicated the current UST system is scheduled to be removed. Should significant residual phase petroleum contamination be observed during UST closure activities, Greene recommends excavation and disposal of the petroleum impacted material. The removal of a significant portion of the suspected source of petroleum contamination would likely reduce the risk of impact to additional sensitive receptors and the costs associated with long-term corrective action at the subject site.

6.0 Conclusions and Recommendations

Based on the findings of the SCR, the VA DEQ requested SCRA activities be performed at the Chamblissburg Supply facility. As part of SCRA activities three deep water monitoring wells (MW12-MW14) were installed to Virginia Department of Health specifications for a Class IIIB supply well, which would allow for the conversion of the monitoring wells to drinking water supply wells at a later date. Deep water monitoring wells MW12 and MW13 were installed on the Dudley property (P20) and deep water monitoring well MW14 was installed on the Farkas property (P02). It should be noted, preparations were made to install a deep water monitoring well on the Houck property (P04); however, this fourth deep water monitoring well was unable to be installed as part of SCRA activities. In addition, aquifer characterization, a free product recovery event, and sampling activities were performed.

To date, vapor phase, residual phase, dissolved phase, and free phase petroleum contamination have been encountered in the subsurface at the Chamblissburg Supply facility. During this phase of investigation, a maximum free product thickness of 0.45 feet was observed in monitoring well MW03 and a petroleum sheen was observed within monitoring well MW04. However, following a vacuum truck free product recovery event performed during this phase of investigation, only limited free product thicknesses have been observed. Dissolved phase petroleum concentrations were observed to be above the recognized aqueous solubility for TPH-GRO, which likely indicates the presence of further free phase petroleum or the potential for free phase petroleum formation. Groundwater samples collected from the shallow groundwater monitoring wells (MW01-MW04 and MW09-MW11) during this phase of investigation confirmed the

presence of dissolved phase petroleum contamination in the shallow groundwater aquifer. In addition, drinking water samples collected from supply wells DW01A, DW02A, DW03A, DW04A, DW05A, and DW07A continue to yield evidence of petroleum impact.

It should be noted, there appear to have been as many as three (3) separate releases of petroleum at the Chamblissburg Supply facility. The tightness testing performed during the previous SCR yielded evidence of a premium gasoline line leak. In addition, soil and groundwater samples collected proximal to the diesel fuel/kerosene USTs/dispenser island have yielded evidence indicating a historic release from this UST system as the tanks and lines currently tested tight. Finally, the presence of measurable MTBE, DIPE, and 1,2-dichloroethane concentrations within previous and current monitoring well and drinking water well samples likely indicate a historic release of gasoline has impacted the groundwater in the area. MTBE, and most likely DIPE, began being phased out of product available in the state of Virginia in 2006. In addition, 1,2-dichloroethane was used as an anti-knock agent in leaded fuels, which began being phased out of gasoline in the 1970s. It is unlikely MTBE, DIPE, and/or 1,2-dichloroethane would be present in a recent or current release of petroleum at the facility.

Relative groundwater elevations within the 11 shallow groundwater monitoring wells as measured on August 30, 2018 depict a general hydraulic gradient to the east-southeast and Isoconcentration Maps generated during this phase of investigation appear to indicate the shallow water dissolved phase plume also is migrating to the east-southeast. Limited fate and transport modeling of the shallow water contamination indicates the potential for a 347 feet dissolved phase plume, which is less than the distance to impacted supply well DW04A located approximately 525 feet east-southeast. However, previously performed geologic and geophysical analysis did not yield evidence of any direct fracture pathways between the onsite dissolved phase petroleum contamination and the impacted supply wells.

Due to the presence of free phase petroleum, significant dissolved phase contamination onsite, and impact to onsite and offsite sensitive receptors, Greene recommends additional work be performed at the subject site. As previously mentioned, the property owner for the Chamblissburg Supply facility has indicated that the current UST system is scheduled to be removed. Should significant residual phase petroleum contamination be observed during UST closure activities, Greene recommends excavation and disposal of the petroleum impacted material. The removal of a significant portion of the suspected source of petroleum contamination would likely reduce the risk of impact to additional sensitive receptors and the costs associated with long-term corrective action at the subject site.

In addition, Greene recommends the installation of additional onsite soil borings/shallow groundwater monitoring wells to further delineate the observed residual phase, shallow groundwater dissolved phase, and free phase petroleum contamination. It is likely several current groundwater monitoring wells will be damaged/destroyed during the scheduled UST closure activities. As a result, the number and location of the additional monitoring wells to be installed will be discussed with VA DEQ personnel and determined following UST closure activities. It should be noted, Greene will attempt to retain any existing monitoring well(s) installed within the excavation area(s). However, should it be determined a well cannot be salvaged, the monitoring well will be properly abandoned.

Subsequent to the installation of the additional wells, Greene recommends the performance of pump-down rising head testing to include the newly installed shallow groundwater monitoring wells. Data obtained from the groundwater sampling, pump-down tests, and additional aquifer characterization will be utilized to further estimate the approximate limits of the contaminant plume(s), update Isoconcentration Maps and fate and transport modeling, and will aid in the determination of remedial endpoints.

Based on the confirmed petroleum impact to onsite and offsite drinking water wells, Greene recommends the provision of alternate water supplies as a partial corrective action. Due to the lack of municipally-provided potable water in the area, groundwater will be utilized to provide the alternate water supplies. As the deep groundwater monitoring wells (MW12-MW14) were installed to Virginia Department of Health specifications, Greene recommends converting the deep groundwater monitoring wells to supply wells for the Chamblissburg Supply, Dudley Property, and Farkas Residence. In addition, Greene recommends installing a deep water monitoring well on the Houck Property (P04) in the location identified during this phase of investigation. The additional deep water monitoring well also will be installed to Virginia Department of Health specifications, which would allow for conversion of the well to a drinking water supply well at a later date. Sufficient groundwater monitoring and sampling confirming the lack of petroleum contamination within the deep water monitoring wells will be required prior to converting the wells into drinking water wells. A proposed deep water monitoring well location map is included in Appendix B.

Due to the presence of free phase petroleum, significant dissolved phase petroleum, greater than saturated residual phase petroleum, and the potential risk to additional offsite supply wells, corrective action measures in addition to alternate water supplies will likely be required. As a result, Greene also recommends additional work be performed to determine the appropriate remedial technology for the facility. The selected long-term remediation technology will be implemented to obtain corrective action endpoints for (1) free phase petroleum and (2) dissolved phase petroleum due to the risk to additional sensitive receptors from

the significant dissolved phase petroleum plume. To aid in the selection and development of an appropriate long-term remedial technology, Greene recommends the performance of a pilot study event at the subject site.

Finally, Greene recommends ongoing drinking water and surface water sampling be performed. Specifically, Greene recommends collecting water samples from offsite supply wells DW01A, DW02A, DW03A, DW03B, DW04A, DW04B, DW05A, DW06B, DW06C, DW07A, DW08A, DW08B, DW09A, DW09B, DW10A, DW11A, DW33A, DW33B, the unnamed tributary, and Pond-01.

This Executive Summary is an integral part of the Site Characterization Report Addendum. Greene recommends that the report be read in its entirety.

End of the Site Characterization Report Addendum

APPENDIX A

Tables

Page 1. Table 1 - Summary of UST Information
Page 2. Table 2 - Summary of Field Screening Results
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Table 1.

Summary of UST Information[1]

	UST #1	UST #2	UST #3	UST #4	UST #5	UST #6
VA DEQ TANK ID	1	2	3	4	5	6
TYPE	Coated and Cathodically Protected	Coated and Cathodically Protected	Coated and Cathodically Protected	Coated and Cathodically Protected	Coated and Cathodically Protected	Coated and Cathodically Protected
CAPACITY (Gallons)	1,000	1,000	4,000	5,000	6,000	5,000
CONTENTS	Kerosene	Diesel Fuel	Gasoline	Gasoline	Gasoline	Gasoline
PIPING	Cathodically Protected Galvanized Steel (no valve: suction)[2]	Cathodically Protected Galvanized Steel (no valve: suction)[2]	Cathodically Protected Galvanized Steel (no valve: suction)[2]	Cathodically Protected Galvanized Steel (no valve: suction)[2]	Cathodically Protected Galvanized Steel (no valve: suction)[2]	Cathodically Protected Galvanized Steel (no valve: suction)[2])
INSTALLATION DATE	April 22, 1978	April 22, 1978	April 22, 1978	April 22, 1978	April 22, 1978	April 22, 1978
STATUS	Currently In Use	Currently In Use	Currently In Use	Currently In Use	Currently In Use	Currently In Use
SPILL PREVENTION	Yes	Yes	Yes	Yes	Yes	Yes
OVERFILL DEVICE	Yes	Yes	Yes	Yes	Yes	Yes

[1]UST information was obtained from site history research, site inspections, and/or the VA DEQ tank database updated on July 5, 2017.
[2]Tank testing performed during RIR & SCR activities appear to indicate the presence of a check valve.

Table 2.

Summary of Field Screening Results

Sample Identification	Depth (feet bgs)	Olfactory Observation	PID Readings (ppm)	Retained for Analysis
B01-1	0-5	Petroleum Odor	4,737	Yes
B01-2	5-10	Strong Petroleum Odor	4,117	No
B01-3	10-15	Strong Petroleum Odor	3,583	No
B01-4	15-20	Strong Petroleum Odor	3,302	No
B01-5	20-25	Strong Petroleum Odor	2,957	No
B01-6	25-30	Strong Petroleum Odor	2,559	No
B01-7	30-33	Strong Petroleum Odor	2,250	Yes
Soil boring B01 was advanced to rod refusal at 32.5 feet bgs in an attempt to encounter groundwater; however, groundwater was not identified.				
B02-1	0-5	Slight Petroleum Odor	1,818	No
B02-2	5-10	Petroleum Odor	643.9	No
B02-3	10-15	Strong Petroleum Odor	2,757	Yes
B02-4	15-20	Strong Petroleum Odor	2,115	Yes
B03-1	0-5	Slight Petroleum Odor	163.6	No
B03-2	5-10	Slight Petroleum Odor	198.5	No
B03-3	10-15	Slight Petroleum Odor	118.8	No
B03-4	15-20	Slight Petroleum Odor	141.0	No
B04-1	0-5	No Petroleum Odor	57.9	No
B04-2	5-10	No Petroleum Odor	70.9	No
B04-3	10-15	No Petroleum Odor	87.7	No
B04-4	15-20	Slight Petroleum Odor	99.9	Yes
B05-1	0-5	No Petroleum Odor	65.0	No
B05-2	5-10	No Petroleum Odor	89.6	No
B05-3	10-15	No Petroleum Odor	30.2	No
B05-4	15-20	No Petroleum Odor	26.5	Yes
B06-1	0-5	No Petroleum Odor	32.7	No
B06-2	5-10	No Petroleum Odor	28.5	No
B06-3	10-15	No Petroleum Odor	21.8	No
B06-4	15-20	No Petroleum Odor	31.4	No

Table 2 (Cont'd).

Summary of Field Screening Results

Sample Identification	Depth (feet bgs)	Olfactory Observation	PID Readings (ppm)	Retained for Analysis
B07-1	0-5	No Petroleum Odor	19.1	No
B07-2	5-10	No Petroleum Odor	13.9	No
B07-3	10-15	Slight Petroleum Odor	9.3	No
B07-4	15-20	No Petroleum Odor	13.2	Yes
B08-1	0-5	No Petroleum Odor	5.5	No
B08-2	5-10	No Petroleum Odor	7.7	No
B08-3	10-15	Slight Petroleum Odor	5.8	No
B08-4	15-20	Slight Petroleum Odor	0.1	No
B09-1	0-5	No Petroleum Odor	10.9	No
B09-2	5-10	No Petroleum Odor	2.0	No
B09-3	10-15	Slight Petroleum Odor	3.2	No
B09-4	15-20	Slight Petroleum Odor	0.0	No
B10-1	0-5	No Petroleum Odor	0.0	No
B10-2	5-10	Slight Petroleum Odor	0.0	No
B10-3	10-15	Slight Petroleum Odor	2.6	No
B10-4	15-20	Petroleum Odor	334.8	Yes
B11-1	0-5	Strong Petroleum Odor	1,092	Yes
B11-2	5-10	Strong Petroleum Odor	1,408	No
B11-3	10-15	Strong Petroleum Odor	1,173	No
B11-4	15-20	Strong Petroleum Odor	1,043	Yes
B11-5	20-31.75	Soil boring B11 was advanced to rod refusal at 31.75 feet bgs in an attempt to encounter groundwater. Soil samples were not collected during these additional activities and groundwater was not identified.		
B12-1	0-5	Petroleum Odor	1,127	Yes
B12-2	5-10	Petroleum Odor	1,251	No
B12-3	10-15	Strong Petroleum Odor	1,205	No
B12-4	15-20	Strong Petroleum Odor	1,183	Yes

Table 2 (Cont'd).

Summary of Field Screening Results

Sample Identification	Depth (feet bgs)	Olfactory Observation	PID Readings (ppm)	Retained for Analysis
B13-1	0-5	Slight Petroleum Odor	1,234	Yes
B13-2	5-10	Slight Petroleum Odor	1,270	No
B13-3	10-15	Slight Petroleum Odor	515.7	No
B13-4	15-20	Petroleum Odor	367.0	Yes
B14-1	0-5	No Petroleum Odor	104.8	No
B14-2	5-10	No Petroleum Odor	38.6	No
B14-3	10-15	No Petroleum Odor	22.0	No
B14-4	15-20	No Petroleum Odor	16.6	No
B15-1	0-5	No Petroleum Odor	14.3	No
B15-2	5-10	No Petroleum Odor	14.1	No
B15-3	10-15	Slight Petroleum Odor	19.0	No
B15-4	15-20	Petroleum Odor	88.5	Yes
B16-1	0-5	No Petroleum Odor	0.9	No
B16-2	5-10	No Petroleum Odor	0.0	No
B16-3	10-15	No Petroleum Odor	0.0	No
B16-4	15-20	No Petroleum Odor	0.0	No
B16-5	20-25	Slight Petroleum Odor	0.9	No
B16-6	25-30	Slight Petroleum Odor	2.8	No
B16-7	30-32	Slight Petroleum Odor	2.0	No
B16-8	35	Slight Petroleum Odor	0.0	Yes
B16-9	40	Slight Petroleum Odor	0.2	No
B16-10	45	Slight Petroleum Odor	0.0	Yes
B16-11	50	Slight Petroleum Odor	0.0	No
B16-12	55	Slight Petroleum Odor	0.0	No
B17-1	0-5	No Petroleum Odor	0.0	No
B17-2	5-10	No Petroleum Odor	6.4	No
B17-3	10-15	Slight Petroleum Odor	18.0	Yes
B17-4	15-20	Petroleum Odor	33.8	Yes
B17-5	20-25	Petroleum Odor	39.4	Yes

Table 2 (Cont'd).

Summary of Field Screening Results

Sample Identification	Depth (feet bgs)	Olfactory Observation	PID Readings (ppm)	Retained for Analysis
B17-6	25-28	Petroleum Odor	41.6	No
B17-7	30	Petroleum Odor	23.9	Yes
B17-8	35	Strong Petroleum Odor	38.2	Yes
B17-9	40	Strong Petroleum Odor	15.8	Yes
B17-10	45	Strong Petroleum Odor	8.2	Yes
B17-11	50	Strong Petroleum Odor	11.2	No
B17-12	55	Strong Petroleum Odor	10.4	No
B18-1	0-5	Strong Petroleum Odor	3,291	Yes
B18-2	5-10	Strong Petroleum Odor	2,067	Yes
B18-3	10-15	Strong Petroleum Odor	1,951	Yes
B18-4	15-20	Strong Petroleum Odor	1,957	Yes
B18-5	20-25	Strong Petroleum Odor	1,458	Yes
B18-6	25-30	Strong Petroleum Odor	1,631	Yes
B18-7	30-32	Strong Petroleum Odor	1,838	No
B18-8	35	Strong Petroleum Odor	1,185	Yes
B18-9	40	Strong Petroleum Odor	1,372	Yes
B18-10	45	Strong Petroleum Odor	1,320	Yes
B18-11	50	Strong Petroleum Odor	1,257	No
B18-12	55	Strong Petroleum Odor	1,341	No
B19-1	0-5	Strong Petroleum Odor	1,915	Yes
B19-2	5-10	Strong Petroleum Odor	1,858	Yes
B19-3	10-15	Strong Petroleum Odor	1,668	Yes
B19-4	15-20	Strong Petroleum Odor	1,743	Yes
B19-5	20-25	Strong Petroleum Odor	1,682	Yes
B19-6	25-30	Strong Petroleum Odor	1,658	Yes
B19-7	30-34	Strong Petroleum Odor	1,511	No
B19-8	35	Strong Petroleum Odor	1,736	Yes
B19-9	40	Strong Petroleum Odor	1,748	Yes
B19-10	45	Strong Petroleum Odor	1,374	Yes

Table 2 (Cont'd).

Summary of Field Screening Results

Sample Identification	Depth (feet bgs)	Olfactory Observation	PID Readings (ppm)	Retained for Analysis
B19-11	50	Strong Petroleum Odor	1,386	No
B19-12	55	Strong Petroleum Odor	1,563	No
B20-1	0-5	No Petroleum Odor	0.0	No
B20-2	5-10	No Petroleum Odor	0.0	No
B20-3	10-15	No Petroleum Odor	0.0	No
B20-4	15-20	No Petroleum Odor	0.0	No
B20-5	20-25	No Petroleum Odor	0.0	No
B20-6	25-28	No Petroleum Odor	0.0	No
B20-7	30	No Petroleum Odor	0.0	No
B20-8	35	No Petroleum Odor	0.0	Yes
B20-9	40	No Petroleum Odor	0.0	No
B20-10	45	No Petroleum Odor	0.0	Yes
B20-11	50	No Petroleum Odor	0.0	No
B20-12	55	No Petroleum Odor	0.0	No
B21-1	0-5	No Petroleum Odor	0.0	No
B21-2	5-10	No Petroleum Odor	0.0	No
B21-3	10-15	No Petroleum Odor	0.0	No
B21-4	15-20	No Petroleum Odor	0.0	No
B21-5	20-25	No Petroleum Odor	0.0	No
B21-6	30	No Petroleum Odor	0.0	No
B21-7	35	No Petroleum Odor	0.0	Yes
B21-8	40	No Petroleum Odor	0.0	No
B21-9	45	No Petroleum Odor	0.0	Yes
B21-10	50	No Petroleum Odor	0.0	No
B21-11	55	No Petroleum Odor	0.7	No
B22-1	0-5	No Petroleum Odor	0.0	No
B22-2	5-10	No Petroleum Odor	0.0	No
B22-3	10-15	No Petroleum Odor	0.0	No
B22-4	15-20	No Petroleum Odor	0.0	No

Table 2 (Cont'd).

Summary of Field Screening Results

Sample Identification	Depth (feet bgs)	Olfactory Observation	PID Readings (ppm)	Retained for Analysis
B22-5	20-25	No Petroleum Odor	0.0	No
B22-6	25-29	No Petroleum Odor	0.0	No
B22-7	30	No Petroleum Odor	0.0	No
B22-8	35	No Petroleum Odor	0.0	Yes
B22-9	40	No Petroleum Odor	0.0	No
B22-10	45	No Petroleum Odor	0.0	Yes
B22-11	50	No Petroleum Odor	0.0	No
B22-12	55	No Petroleum Odor	0.0	No
B23-1	0-5	No Petroleum Odor	0.0	No
B23-2	5-10	No Petroleum Odor	0.0	No
B23-3	10-15	No Petroleum Odor	0.4	No
B23-4	15-20	No Petroleum Odor	0.1	No
B23-5	20-25	No Petroleum Odor	0.0	No
B23-6	25-30	No Petroleum Odor	0.1	No
B23-7	35	No Petroleum Odor	0.0	Yes
B23-8	40	No Petroleum Odor	0.0	No
B23-9	45	No Petroleum Odor	0.0	Yes
B23-10	50	No Petroleum Odor	0.0	No
B23-11	55	No Petroleum Odor	0.0	No
B24-1	0-5	Slight Petroleum Odor	279.2	Yes
B24-2	5-10	Strong Petroleum Odor	468.5	Yes
B24-3	10-15	Strong Petroleum Odor	492.1	Yes
B24-4	15-20	Strong Petroleum Odor	449.7	Yes
B24-5	20-25	Strong Petroleum Odor	480.6	Yes
B24-6	25-27	Strong Petroleum Odor	508.3	No
B24-7	30	Strong Petroleum Odor	458.7	Yes
B24-8	35	Petroleum Odor	202.6	Yes
B24-9	40	Petroleum Odor	339.7	Yes
B24-10	45	Petroleum Odor	65.6	Yes

Table 2 (Cont'd).

Summary of Field Screening Results

Sample Identification	Depth (feet bgs)	Olfactory Observation	PID Readings (ppm)	Retained for Analysis
B24-11	50	Petroleum Odor	74.4	No
B24-12	55	Strong Petroleum Odor	93.9	No
B25-1	0-5	Slight Petroleum Odor	135.7	Yes
B25-2	5-10	Slight Petroleum Odor	234.2	Yes
B25-3	10-15	Petroleum Odor	270.2	Yes
B25-4	15-20	Petroleum Odor	397.2	Yes
B25-5	20-25	Petroleum Odor	447.9	Yes
B25-6	25-27	Strong Petroleum Odor	651.7	No
B25-7	30	Petroleum Odor	101.4	Yes
B25-8	35	Petroleum Odor	108.3	Yes
B25-9	40	Petroleum Odor	78.2	Yes
B25-10	45	Slight Petroleum Odor	109.1	Yes
B25-11	50	Slight Petroleum Odor	21.8	No
B25-12	55	Slight Petroleum Odor	38.1	No
B26-1	0-5	No Petroleum Odor	0.0	No
B26-2	5-10	Slight Petroleum Odor	16.9	No
B26-3	10-15	Slight Petroleum Odor	25.7	No
B26-4	15-20	Petroleum Odor	138.7	No
B26-5	20-24.5	Petroleum Odor	123.9	No
B26-6	30	Slight Petroleum Odor	16.4	No
B26-7	35	Slight Petroleum Odor	15.2	Yes
B26-8	40	Slight Petroleum Odor	12.1	No
B26-9	45	Slight Petroleum Odor	14.6	Yes
B26-10	50	Slight Petroleum Odor	9.0	No
B26-11	55	Slight Petroleum Odor	12.4	No
B27-1	20	No Petroleum Odor	0.0	No
B27-2	40	No Petroleum Odor	0.0	No
B27-3	50	No Petroleum Odor	0.0	Yes
B27-4	60	No Petroleum Odor	0.0	Yes

Table 2 (Cont'd).

Summary of Field Screening Results

Sample Identification	Depth (feet bgs)	Olfactory Observation	PID Readings (ppm)	Retained for Analysis
B28-1	20	No Petroleum Odor	0.0	No
B28-2	40	No Petroleum Odor	0.0	No
B28-3	50	No Petroleum Odor	0.0	Yes
B28-4	60	No Petroleum Odor	0.0	Yes
B29-1	20	No Petroleum Odor	0.0	No
B29-2	30	No Petroleum Odor	0.0	Yes
B29-3	40	No Petroleum Odor	0.0	Yes

Table 3.

Summary of Soil Boring Residual Phase Analytical Results

Sample Identification	Date	Sample Depth (feet)	TPH-GRO[1]	TPH-DRO	Benzene[2]	Toluene	Ethyl-benzene	Xylenes (total)	MTBE	Naphthalene
B01-1	06/30/16	0-5	**13,200***	1,970	22.9	458	244	1,180	<25.0	48.5
B01-7	06/30/16	30-32.5	4,220	390	7.80[J]	167	64.0	367	<25.0	64.0
B02-3	06/30/16	10-15	6,110	1,240	<5.00	130	72.8	486	<25.0	57.4
B02-4	06/30/16	15-20	4,600	511	7.20[J]	183	80.8	471	<25.0	50.6
B04-4	06/30/16	15-20	<2.50	<3.97	<0.00200	0.00468	<0.00200	<0.00600	<0.0100	<0.00200
B05-4	06/30/16	15-20	<2.38	<3.97	<0.00198	0.00636	<0.00198	<0.00594	<0.00990	<0.00198
B07-4	06/30/16	15-20	<2.48	<3.98	<0.00198	<0.00198	<0.00198	<0.00594	<0.00990	<0.0125
B10-4	06/30/16	15-20	93.6	<3.97	<0.0125	0.0428	0.0138[J]	0.0732[J]	<0.0625	<0.0125
B11-1	06/30/16	0-5	3,400	1,100	<5.00	49.4	17.4	337	<25.0	<5.0
B11-4	06/30/16	15-20	**10,300***	1,030	32.9	601	182	1,360	<25.0	44.3
B12-1	06/30/16	0-5	381	23.9	0.0710[J]	2.12	1.23	13.4	1.03	1.08
B12-4	06/30/16	15-20	**25,900***	6,930	76.3	1,060	419	2,380	<25.0	174
B13-1	06/30/16	0-5	1,840	3,780	<0.500	<0.500	<0.500	2.57[J]	<2.50	4.32
B13-4	06/30/16	15-20	1,420	6,880	<0.500	<0.500	<0.500	252	<2.50	3.75
B15-4	06/30/16	15-20	<2.48	506	<0.00198	0.00550	<0.00198	<0.00594	<0.00990	<0.00198

Table 3 (Cont'd).

Summary of Soil Boring Residual Phase Analytical Results

Sample Identification	Date	Sample Depth (feet)	TPH-GRO[1]	TPH-DRO	Benzene[2]	Toluene	Ethyl-benzene	Xylenes (total)	MTBE	Naphthalene
B16-8	09/18/17	35	1.70[J]	NA[3]	<0.00194	<0.00194	<0.00194	<0.00388	<0.00970	<0.00194
B16-10	09/18/17	45	<1.25	NA	<0.00198	<0.00198	<0.00198	<0.00396	<0.00990	<0.00198
B17-3	09/18/17	10-15	<1.20	NA	<0.00198	<0.00198	<0.00198	<0.00396	<0.00990	<0.00198
B17-4	09/18/17	15-20	<1.25	NA	<0.00198	<0.00198	<0.00198	<0.00396	<0.00990	<0.00198
B17-5	09/18/17	20-25	<1.25	NA	<0.00194	<0.00194	<0.00194	<0.00388	<0.00970	<0.00194
B17-7	09/18/17	30	<1.22	NA	<0.00198	<0.00198	<0.00198	<0.00396	<0.00990	<0.00198
B17-8	09/18/17	35	<1.22	NA	<0.00198	<0.00198	<0.00198	<0.00396	<0.00990	<0.00198
B17-9	09/18/17	40	<1.18	NA	<0.00196	<0.00196	<0.00196	<0.00392	<0.00980	<0.00196
B17-10	09/18/17	45	<1.22	NA	<0.00194	<0.00194	<0.00194	<0.00388	<0.00970	<0.00194
B18-1[4]	09/18/17	0-5	**9,570***	NA	12.1	311[E]	191	1,044[E]	8.22	NA
B18-2	09/18/17	5-10	**15,700***	NA	24.6	984[E]	422	2,189[E]	8.30	154
B18-3	09/18/17	10-15	936	NA	0.740[J]	26.0	16.3	102.8	6.31	78.7
B18-4	09/18/17	15-20	3,170	NA	<0.500	82.0	51.2	362	<2.50	43.0
B18-5	09/18/17	20-25	**8,510***	NA	11.1	555[E]	209	1,204	5.35	71.8
B18-6[4]	09/18/17	25-30	3,910	NA	26.3	610[E]	258[E]	1,306[E]	11.6	NA
B18-8	09/20/17	35	2,830	NA	2.86	309	151	926	<2.50	62.6
B18-9	09/20/17	40	680	NA	<0.500	5.44	4.73	38.6	<2.50	4.92
B18-10	09/20/17	45	3,610	NA	9.17	260	76.8	401.1	3.13[J]	21.3
B19-1	09/18/17	0-5	**9,060***	NA	11.1	427	190	1,160	8.00	115
B19-2	09/18/17	5-10	4,580	NA	0.670[J]	150	96.1	610	<2.50	36.1
B19-3[4]	09/18/17	10-15	**12,600***	NA	23.1	588[E]	260[E]	1,283[E]	7.70	NA
B19-4	09/18/17	15-20	8,100	NA	4.56	433	189	1,068	<2.50	102
B19-5	09/18/17	20-25	5,450	NA	3.79	342	143	822	2.71[J]	94.4
B19-6[4]	09/18/17	25-30	5,830	NA	23.4	318[E]	107	564	20.3	NA
B19-8	09/21/17	35	6,930	NA	18.1	405	132	773	8.92	33.4
B19-9	09/21/17	40	2,630	NA	0.830[J]	209	29.0	182.2	<2.50	14.6
B19-10	09/21/17	45	637	NA	<0.200	0.593	0.678	4.70	<1.00	1.62
B20-8	09/19/17	35	1.34[J]	NA	<0.00194	0.00620	<0.00194	<0.00388	<0.00970	<0.00194
B20-10	09/19/17	45	<1.22	NA	0.00223[J]	0.04170	<0.00190	<0.00380	0.00955[J]	<0.00190

Table 3 (Cont'd).

Summary of Soil Boring Residual Phase Analytical Results

Sample Identification	Date	Sample Depth (feet)	TPH-GRO[1]	TPH-DRO	Benzene[2]	Toluene	Ethyl-benzene	Xylenes (total)	MTBE	Naphthalene
B21-7	09/19/17	35	<1.22	NA	<0.00198	0.00205[J]	<0.00198	<0.00396	<0.00990	<0.00198
B21-9	09/19/17	45	<1.22	NA	<0.00196	0.00251[J]	<0.00196	<0.00392	<0.00980	<0.00196
B22-8	09/19/17	35	<1.18	NA	<0.00196	<0.00196	<0.00196	<0.00392	<0.00980	<0.00196
B22-10	09/19/17	45	<1.20	NA	<0.002	<0.002	<0.002	<0.004	<0.010	<0.002
B23-7	09/20/17	35	<1.15	NA	<0.00198	<0.00198	<0.00198	<0.00396	<0.00990	<0.00198
B23-9	09/20/17	45	<1.12	NA	<0.00198	0.00515	<0.00198	<0.00396	<0.00990	<0.00198
B24-1[4]	09/20/17	0-5	168	6,310	<0.500	<0.500	<0.500	3.12	<0.00250	NA
B24-2	09/20/17	5-10	126	9,130	<0.00198	0.00259[J]	<0.00198	0.00894	<0.00990	<0.00198
B24-3	09/20/17	10-15	88.9	6,690	<0.00198	0.0155	0.00505	0.08284[E]	<0.00990	<0.00198
B24-4	09/20/17	15-20	112	7,910	0.00465	0.0166	0.0473	0.3982	<0.00990	<0.00198
B24-5[4]	09/20/17	20-25	1,740	**18,900***	<0.500	<0.500	1.04	8.53	<2.5	NA
B24-7	09/20/17	30	127	10,500	0.00927	0.0419	0.0840[E]	0.4840[E]	<0.00990	0.212[E]
B24-8	09/20/17	35	41.2	1,280	<0.0500	0.136	0.0790[J]	1.089	0.284[J]	0.837
B24-9	09/20/17	40	23.9	2,360	<0.00198	0.00507	0.01820	0.1267[E]	<0.00990	0.125[E]
B24-10	09/20/17	45	910	153	<0.00184	0.00447	0.00196[J]	0.00917[J]	<0.00920	0.0338
B25-1	09/21/17	0-5	1,280	NA	0.00232[J]	0.0219	0.00837	0.0750	0.180	0.00971
B25-2	09/21/17	5-10	1,090	NA	<0.00198	<0.00198	<0.00198	0.00246[J]	0.0552	0.0521
B25-3	09/21/17	10-15	1,360	NA	<0.00196	<0.00196	<0.00196	0.00230[J]	0.109	0.00964
B25-4	09/21/17	15-20	2,230	NA	<0.00198	<0.00198	<0.00198	0.00839[J]	0.314	0.00700
B25-5	09/21/17	20-25	<2.45	NA	<0.002	0.00250[J]	<0.002	0.00243[J]	0.223	0.0374
B25-7	09/21/17	30	<2.40	NA	<0.002	<0.002	<0.002	0.00236[J]	0.0184[J]	0.0334
B25-8	09/21/17	35	<2.40	NA	<0.00198	0.00486	<0.00198	0.00747[J]	<0.00990	33.6
B25-9	09/21/17	40	<2.40	NA	<0.00198	<0.00198	<0.00198	0.00242[J]	0.0109[J]	0.0169
B25-10	09/21/17	45	<2.45	NA	<0.00198	0.00206[J]	0.00213[J]	0.01167[J]	0.0255	0.166[J]

Table 3 (Cont'd).

Summary of Soil Boring Residual Phase Analytical Results

Sample Identification	Date	Sample Depth (feet)	TPH-GRO[1]	TPH-DRO	Benzene[2]	Toluene	Ethyl-benzene	Xylenes (total)	MTBE	Naphthalene
B26-2	09/21/17	5-10	<2.45	NA	<0.00198	0.00203[J]	<0.00198	0.00242[J]	0.0222	0.00695
B26-3	09/21/17	10-15	<2.50	NA	<0.00198	0.00320[J]	<0.00198	0.00251[J]	0.0572	0.0127
B26-4	09/21/17	15-20	<2.50	NA	<0.00198	0.00642	<0.00198	0.00656[J]	0.0769	0.0243
B26-5	09/21/17	20-24.5	<2.45	NA	<0.00198	<0.00198	<0.00198	0.00234[J]	0.0726	<0.00198
B26-6	09/21/17	30	<2.50	NA	<0.00198	0.00238[J]	<0.00198	0.00248[J]	0.0143[J]	0.00647
B26-7	09/21/17	35	<2.50	NA	<0.00198	<0.00198	<0.00198	0.00224[J]	0.0124[J]	0.00742
B26-8	09/21/17	40	<2.45	NA	<0.00198	0.00331[J]	<0.00198	0.00238[J]	<0.00990	0.00619
B26-9	09/21/17	45	<2.45	NA	<0.00196	<0.00196	<0.00196	<0.00392	0.0209	<0.00196
B27-3	08/14/18	50	<2.50	<3.98	<0.00176	<0.00176	<0.00176	<0.00352	<0.00880	<0.00176
B27-4	08/14/18	60	<2.48	<3.97	<0.00200	<0.00200	<0.00200	<0.00400	<0.0100	<0.00200
B28-3	08/23/18	50	<2.48	<3.97	<0.00194	<0.00194	<0.00194	<0.00388	<0.00970	<0.00194
B28-4	08/23/18	60	<2.48	<3.97	<0.00200	<0.00200	<0.00200	<0.00400	<0.0100	<0.00200
B29-2	09/04/18	30	<2.48	<3.98	<0.00174	<0.00174	<0.00174	<0.00348	<0.00870	<0.00174
B29-3	09/04/18	40	<2.50	<3.97	<0.00198	<0.00198	<0.00198	<0.00396	<0.00990	<0.00198

[1]TPH-GRO and TPH-DRO analysis via U.S. EPA SW-846 method 8015; reported in milligrams per kilogram (mg/kg).
[2]BTEX, MTBE, naphthalene analysis via U.S. EPA SW-846 method 8260; reported in mg/kg.
[3]NA = Not Analyzed.
[4]Soil sample also submitted for VOCSs analysis via EPA SW-846 method 8260. BTEX, MTBE, and naphthalene have been included in table. The full list of VOCs analyzed and the associated concentrations are provided on the laboratory analytical reports included with this report.
[J]The reported result is flagged with a J qualifier and is considered an estimate.
[E]The reported result is flagged with an E qualifier and is considered an estimate.
[*]**BOLD RED** = The reported result is above the value recognized by the VA DEQ as indicating petroleum saturation.

Table 4.

Summary of Groundwater Elevation Data

Location	Date	Relative Top of Casing Elevation[1] (feet)	Depth to Groundwater[2] (feet)	Relative Groundwater Elevation (feet)
MW01	09/27/17	1,059.26	45.45	1,013.81
	10/10/17		45.67	1,013.59
	05/29/18		48.51	1,010.75
	06/11/18		NA[3]	NA
	07/25/18		48.38	1,010.88
	08/15/18		48.32	1,010.94
	08/30/18		48.19	1,011.07
	09/21/18		47.98	1,011.28
	10/24/18		47.27	1,011.99
	11/27/18		46.94	1,012.32
MW02	09/27/17	1,058.47	44.60	1,013.87
	10/10/17		44.83	1,013.64
	05/29/18		47.60	1,010.87
	06/11/18		NA	NA
	07/25/18		NA	NA
	08/15/18		47.36	1,011.11
	08/30/18		47.26	1,011.21
	09/21/18		47.05	1,011.42
	10/24/18		46.91	1,011.56
	11/27/18		45.92	1,012.55
MW03	09/27/17	1,058.66	44.87	1,013.79
	10/10/17		45.07	1,013.59
	05/29/18		47.83	1,010.83
	06/11/18		47.83	1,010.83
	07/25/18		NA	NA
	08/15/18		47.51	1,011.15
	08/30/18		47.41	1,011.25
	09/21/18		47.20	1,011.46
	10/24/18		46.71	1,011.95
	11/27/18		45.98	1,012.68

Table 4 (Cont'd).

Summary of Groundwater Elevation Data

Location	Date	Relative Top of Casing Elevation[1] (feet)	Depth to Groundwater[2] (feet)	Relative Groundwater Elevation (feet)
MW04	09/27/17	1,058.94	45.22	1,013.72
	10/10/17		45.44	1,013.50
	05/29/18		48.25	1,010.69
	06/11/18		48.21	1,010.73
	07/25/18		48.10	1,010.84
	08/15/18		47.90	1,011.04
	08/30/18		47.88	1,011.06
	09/21/18		47.81	1,011.13
	10/24/18		47.12	1,011.82
	11/27/18		46.39	1,012.55
MW05	09/27/17	1,046.56	40.60	1,005.96
	10/10/17		40.93	1,005.63
	05/29/18		43.21	1,003.35
	06/11/18		NA	NA
	07/25/18		42.51	1,004.05
	08/15/18		42.17	1,004.39
	08/30/18		42.17	1,004.39
	09/21/18		40.36	1,006.20
	10/24/18		40.30	1,006.26
	11/27/18		40.55	1,006.01
MW06	09/27/17	1,053.66	41.27	1,012.39
	10/10/17		41.61	1,012.05
	05/29/18		41.22	1,012.44
	06/11/18		NA	NA
	07/25/18		43.68	1,009.98
	08/15/18		43.56	1,010.10
	08/30/18		43.47	1,010.19
	09/21/18		40.93	1,012.73
	10/24/18		40.76	1,012.90
	11/27/18		41.84	1,011.82

Table 4 (Cont'd).

Summary of Groundwater Elevation Data

Location	Date	Relative Top of Casing Elevation[1] (feet)	Depth to Groundwater[2] (feet)	Relative Groundwater Elevation (feet)
MW07	09/27/17	1,056.61	44.70	1,011.91
	10/10/17		45.03	1,011.58
	05/29/18		48.34	1,008.27
	06/11/18		NA	NA
	07/25/18		47.25	1,009.36
	08/15/18		47.20	1,009.41
	08/30/18		47.19	1,009.42
	09/21/18		46.92	1,009.69
	10/24/18		46.67	1,009.94
	11/27/18		46.36	1,010.25
MW08	09/27/17	1,057.72	45.57	1,012.15
	10/10/17		45.92	1,011.80
	05/29/18		49.06	1,008.66
	06/11/18		NA	NA
	07/25/18		48.26	1,009.46
	08/15/18		48.09	1,009.63
	08/30/18		48.04	1,009.68
	09/21/18		47.83	1,009.89
	10/24/18		47.78	1,009.94
	11/27/18		46.23	1,011.49
MW09	09/27/17	1,059.41	47.61	1,011.80
	10/10/17		46.88	1,012.53
	05/29/18		49.90	1,009.51
	06/11/18		NA	NA
	07/25/18		49.29	1,010.12
	08/15/18		49.21	1,010.20
	08/30/18		48.13	1,011.28
	09/21/18		48.97	1,010.44
	10/24/18		48.42	1,010.99
	11/27/18		47.47	1,011.94

Table 4 (Cont'd).

Summary of Groundwater Elevation Data

Location	Date	Relative Top of Casing Elevation[1] (feet)	Depth to Groundwater[2] (feet)	Relative Groundwater Elevation (feet)
MW10	09/27/17	1,058.29	46.14	1,012.15
	10/10/17		45.59	1,012.70
	05/29/18		48.59	1,009.70
	06/11/18		NA	NA
	07/25/18		48.05	1,010.24
	08/15/18		47.95	1,010.34
	08/30/18		47.87	1,010.42
	09/21/18		47.69	1,010.60
	10/24/18		47.34	1,010.95
	11/27/18		46.39	1,011.90
MW11	09/27/17	1,057.86	45.19	1,012.67
	10/10/17		45.05	1,012.81
	05/29/18		48.06	1,009.80
	06/11/18		NA	NA
	07/25/18		47.49	1,010.37
	08/15/18		47.40	1,010.46
	08/30/18		47.36	1,010.50
	09/21/18		47.12	1,010.74
	10/24/18		46.88	1,010.98
	11/27/18		45.82	1,012.04

[1]Elevations measured by Greene relative to an approximate site elevation of 479 feet.
[2]If free phase petroleum was observed, depth to groundwater was calculated using an assumed gasoline density of 0.729 g/ml.
[3]NA = Not Applicable.

Table 5.

Summary of Free Product Thicknesses

Well Identification	Date	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)
MW03	09/27/17	NA[1]	44.87	NA
	10/10/17	NA	45.07	NA
	05/29/18	47.71	48.16	0.45
	06/11/18	47.74	48.09	0.35
	07/25/18	NA	NA	NA
	08/15/18	47.49	47.56	0.07
	08/30/18	47.39	47.48	0.09
	09/21/18	47.19	47.24	0.05
	10/24/18	46.70	46.74	0.04
	11/27/18	45.98	45.99	0.01
MW04	09/27/17	NA[1]	45.22	NA
	10/10/17	45.44	45.45	0.01
	05/29/18	48.25	48.26	0.01
	06/11/18	NA	48.21	NA
	07/25/18	NA	48.10	NA
	08/15/18	NA	47.90	NA
	08/30/18	NA	47.88	NA
	09/21/18	NA	47.81	NA
	10/24/18	NA	47.12	NA
	11/27/18	NA	46.39	NA

[1]NA = Not Applicable.

Table 6.

Summary of Calculated Purge Volumes

Well Identification	Date	Depth to Product (feet)	Depth to Water (feet)	Amount of Product (feet)	Total Well Depth (feet)	Water Column[1] (feet)	Well Diameter (inches)	Conversion Factor (gallons/feet)	Purge Volume (gallons)
MW01	08/30/18	NA	48.19	0.00	54.59	6.40	2.0	0.163	3.13
MW02	08/30/18	NA	47.26	0.00	55.21	7.95	2.0	0.163	3.89
MW03	08/30/18	47.39	47.48	0.09	55.02	7.61	2.0	0.163	3.72
MW04	08/30/18	NA	47.88	0.00	54.96	7.08	2.0	0.163	3.46
MW05	08/30/18	NA	42.17	0.00	55.22	13.05	2.0	0.163	6.38
MW06	08/30/18	NA	43.47	0.00	55.03	11.56	2.0	0.163	5.65
MW07	08/30/18	NA	47.19	0.00	54.92	7.73	2.0	0.163	3.78
MW08	08/30/18	NA	48.04	0.00	55.04	7.00	2.0	0.163	3.42
MW09	08/30/18	NA	48.13	0.00	55.27	7.14	2.0	0.163	3.49
MW10	08/30/18	NA	47.87	0.00	55.13	7.26	2.0	0.163	3.55
MW11	08/30/18	NA	47.36	0.00	55.22	7.86	2.0	0.163	3.84
MW12	11/29/18	NA	63.78	0.00	257.69	193.91	6.0	1.47	855.14
MW13	11/29/18	NA	42.26	0.00	293.20	250.94	6.0	1.47	1,106.65
MW14	11/29/18	NA	36.51	0.00	206.34	169.83	6.0	1.47	748.95

[1]If free phase petroleum was observed, actual water column was calculated using an assumed gasoline density of 0.729 g/ml.
[2]NA = Not applicable.

Table 7.

Summary of Monitoring Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	TPH-DRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane	Ethylene Dibromide	Tert-Amyl Alcohol	Tert-Amyl Ethyl Ether	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Tert-Butyl Ethyl Ether	Di-Isopropyl Ether	Ethanol	Total Lead	Dissolved Lead
MW01	10/10/17	1,620	NA[2]	<0.5	0.900[J]	0.820[J]	5.19	58.2	<0.5	<0.00751	2.32	<0.5	<0.5	<0.5	2,180	<0.5	4.53[J]	<100	20.3	<0.2
	08/30/18	1,140	1,070	<0.500	<0.500	0.520[J]	0.770	45.7	<0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW02	10/10/17	7,920	NA	25.8	157	20.1	534.5	553	74.9	<0.394	50.7	<5.0	<5.0	<5.0	2,030	<5.0	<25.0	<1,000	220	<0.2
	08/30/18	10,200	1,680	104	141	98.0[J]	2,650	1,950	352	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW03	10/11/17	302,000	NA	6,950	29,900[E]	3,790	18,400	7,510	999	<3.93	161	<5.0	<5.0	<5.0	8,790	<5.0	136	<1,000	333	13.9
	08/30/18	314,000	15,400	9,650	40,300[E]	3,890	19,400	14,400	1,200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW04	10/11/17	356,000	NA	18,500	53,700[E]	3,880	18,300	12,700	1,730	<3.76	656	<5.0	<5.0	<5.0	10,900	<5.0	273	<1,000	594	502
	08/30/18	297,000	3,160	12,100	1,150	3,320	16,100	20,200	2,120	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW05	10/10/17	<250	NA	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.00754	<496	<0.5	<0.5	<0.5	<100	<0.5	<2.5	<100	19.2	<0.2
	08/30/18	<250	<122	190	816	118	704	177[J]	2,130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW06	10/10/17	<250	NA	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.00747	<492	<0.5	<0.5	<0.5	<100	<0.5	<2.5	<100	1.96	0.553[J]
	08/30/18	<250	<121	<0.500	<0.500	<0.500	ND[3]	<1.00	<0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW07	10/10/17	<250	NA	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.00753	<495	<0.5	<0.5	<0.5	<100	<0.5	<2.5	<100	19.5	0.233[J]
	08/30/18	<250	<122	<0.500	<0.500	<0.500	ND	<1.00	<0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7 (Cont'd).

Summary of Monitoring Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	TPH-DRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane	Ethylene Dibromide	Tert-Amyl Alcohol	Tert-Amyl Ethyl Ether	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Tert-Butyl Ethyl Ether	Di-Isopropyl Ether	Ethanol	Total Lead	Dissolved Lead
MW08	10/10/17	<250	NA	<0.5	<0.5	<0.5	<0.5	<1.0	<0.5	<0.00758	<499	<0.5	<0.5	<0.5	<100	<0.5	<2.5	<100	148	<0.2
	08/30/18	<250	2,790	<0.500	0.870[J]	<0.500	ND	<1.00	<0.500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW09	10/11/17	8,750	NA	293	711	150	455	3,700	78.0	<0.00744	<490	<5.0	<5.0	<5.0	3,670	<5.0	151	<1,000	35.3	3.79
	08/30/18	24,600	1,420	1,200	4,000	709	3,450	10,400	1,450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW10	10/11/17	78,800	NA	3,860[E]	2,490	441	6,470	29,400[E]	1,060	<0.0800	9.37	<5.0	<5.0	330[E]	20,300	<5.0	449	<1,000	289	<0.2
	08/30/18	59,200	2,520	710[J]	<500	<500	810	9,870	1,310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW11	10/10/17	16,500	NA	2,370	1,060	425	1,998.6	15,600[E]	253	<0.00754	<496	<5.0	<5.0	121	10,900	<5.0	166	<1,000	13.4	<0.2
	08/30/18	13,100	2,500	1,840	938	419	2,680	23,500[E]	1,950	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW12	11/29/18	<250	NA	<0.500	<0.500	<0.500	NA	<1.00	<0.500	<0.00762	<0.00391	<0.5	<0.5	<0.5	<100	<0.5	<2.5	<100	<0.2	<0.2
MW13	11/29/18	<250	NA	<0.500	<0.500	<0.500	NA	<1.00	<0.500	<0.00744	<0.00382	<0.5	<0.5	<0.5	<100	<0.5	<2.5	<100	<0.2	<0.2
MW14	11/29/18	<250	NA	<0.500	<0.500	<0.500	NA	<1.00	<0.500	<0.00762	<0.00391	<0.5	<0.5	<0.5	<100	<0.5	<2.5	<100	0.309[J]	<0.2

[1]Monitoring well samples were submitted for TPH-GRO & TPH-DRO analysis via EPA method 8015, VOCs analysis via EPA method 8260, SVOCs analysis via EPA method 8270, EDB/DBCP analysis via EPA method 8011, and total/dissolved lead analysis via EPA method 200.8; reported in micrograms per liter (µg/L). Only select analytes have been included in the table. The full list of VOCs and SVOCs analyzed and the associated concentrations are provided on the laboratory analytical reports.
[2]NA = Not Applicable.
[3]ND = Non Detected.
[J]The reported result is flagged with a J qualifier and is considered an estimate.
[E]The reported result is flagged with an E qualifier and is considered an estimate.

Table 8.

Summary of Supply Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane (DBCP)	Ethylene Dibromide (EDB)	Tert-Amyl Alcohol	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Di-Isopropyl Ether (DIPE)	Total Lead	Dissolved Lead	1,2-Dichloroethane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichloropropane	Isopropylbenzene	4-Methyl-2-pentanone	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methylene Chloride	Tertrachloroethene	Phenol	Dimethyl phthalate
DW01A	06/16/17	NA[2]	751	0.590[J]	18.9	ND[3]	604	NA	NA	NA	NA	NA	NA	NA	NA	NA	80.0	ND	5.76	1.31	2.01	4.86	26.1	4.15	ND	ND	ND	ND	NA	NA
	06/26/17[4]	NA	749	ND	56.4	540	797	44.7	ND	0.400	2,320	ND	388	52.4	NA	NA	83.3	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	10/11/17	7,020	1,070	2.02	68.6	725.2	603	18.5	ND	ND	ND	ND	ND	58.2	5.68	0.285[J]	ND	ND	ND	ND	2.20	12.6	ND	13.1	272	90.1	ND	ND	7.86[J]	ND
	11/13/17[4]	NA	724	ND	59.3	630	751	42.4	ND	ND	2,270	ND	440	48.3	NA	NA	72.1	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	03/12/18[4]	NA	541	ND	43.0	490	559	34.3	ND	ND	1,480	ND	199	40.0	NA	NA	50.8	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	08/30/18	5,060	310	1.16	11.1	120	622	63.0	0.0193	0.401	ND	ND	ND	46.1	3.04	1.34	ND	ND	ND	ND	1.93	11.2	ND	12.2	ND	ND	ND	ND	16.4	ND
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	0.791	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	0.530	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DW02A	06/05/17[5]	994	2.91	ND	ND	ND	138	ND	ND	ND	ND	ND	ND	8.55	NA	NA	23.1	ND	ND	ND	ND	ND	ND	ND	9.04	ND	ND	ND	NA	NA
	10/06/17[4]	NA	3.0	ND	ND	1.1[J]	176	ND	ND	ND	544	0.8[J]	113	10.4	NA	NA	29.4	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	10/10/17	ND	3.11	ND	ND	0.760[J]	170	ND	ND	ND	ND	ND	ND	13.2	ND	ND	ND	ND	ND	ND	1.01	ND	ND	ND	14.8	ND	ND	ND	ND	ND
	02/07/18[4]	NA	2.8	ND	ND	1.0[J]	184	ND	ND	ND	643	0.8[J]	148	10.4	NA	NA	30.0	165	NA	NA	0.5[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND
	07/18/18[4]	NA	2.0[J]	ND	ND	0.7[J]	142	ND	ND	ND	466	0.7[J]	89.3	8.7	NA	NA	19.2	ND	NA	NA	0.6[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/30/18	ND	2.69	ND	ND	1.23	148	ND	ND	0.00901[J]	ND	ND	ND	10.1	0.324[J]	ND	22.8	ND	ND	ND	0.640[J]	ND	ND	ND	15.0	ND	ND	ND	ND	ND
	12/07/18[4]	NA	1.6[J]	ND	ND	0.7[J]	121	ND	ND	ND	293	0.6[J]	51.1	7.1	NA	NA	14.9	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA

Table 8 (Cont'd).

Summary of Supply Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane (DBCP)	Ethylene Dibromide (EDB)	Tert-Amyl Alcohol	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Di-Isopropyl Ether (DIPE)	Total Lead	Dissolved Lead	1,2-Dichloroethane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichloropropane	Isopropylbenzene	4-Methyl-2-pentanone	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methylene Chloride	Tertrachloroethene	Phenol	Dimethyl phthalate
DW03A	06/16/17	NA	ND	ND	ND	ND	10.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	06/28/17[4]	NA	ND	ND	ND	ND	19.7	ND	ND	ND	ND	ND	ND	2.0[J]	NA	NA	ND	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	09/11/17[4]	NA	ND	ND	ND	ND	87.4	ND	ND	ND	118	ND	22.4	8.1	NA	NA	5.6	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	10/10/17	ND	ND	ND	ND	ND	36.8	ND	ND	ND	ND	ND	ND	4.06[J]	13.2	0.649[J]	ND	ND	ND	ND	ND	ND	ND	ND	2.92	1.01	ND	ND	ND	ND
	12/15/17[4]	NA	ND	ND	ND	ND	17.4	ND	ND	ND	22.1	ND	ND	1.4[J]	NA	NA	0.7[J]	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	05/31/18	NA	ND	ND	ND	ND	42.8	ND	ND	ND	44.7	ND	ND	4.2	NA	NA	2.1	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	08/30/18	ND	ND	ND	ND	ND	80.8	ND	ND	0.00796[J]	ND	ND	ND	5.23	1.95	0.449[J]	7.40	ND	ND	ND	ND	ND	ND	ND	18.7	4.85	ND	ND	ND	ND
DW03B	09/18/17	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	08/30/18	ND	ND	ND	ND	ND	ND	ND	0.0186[J,6]	0.0124[J,6]	ND	ND	ND	ND	2.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW04A	06/16/17	NA	3.56	ND	ND	ND	10.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	07/06/17[4]	NA	3.0	ND	ND	ND	13.5	ND	ND	ND	68.8	ND	ND	1.6[J]	NA	NA	2.7	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	10/06/17[4]	NA	2.9	ND	ND	ND	13.1	ND	ND	ND	57.7	ND	ND	1.7[J]	NA	NA	2.5	10.3	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	10/10/17	ND	3.56	ND	ND	ND	15.3	ND	ND	ND	ND	ND	ND	ND	0.515[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	02/16/18[4]	NA	3.1	ND	ND	ND	17.0	ND	ND	ND	73.6	ND	ND	2.0	NA	NA	3.0	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA

Table 8 (Cont'd).

Summary of Supply Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane (DBCP)	Ethylene Dibromide (EDB)	Tert-Amyl Alcohol	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Di-Isopropyl Ether (DIPE)	Total Lead	Dissolved Lead	1,2-Dichloroethane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichloropropane	Isopropylbenzene	4-Methyl-2-pentanone	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methylene Chloride	Tertrachloroethene	Phenol	Dimethyl phthalate
DW04A (Cont'd)	08/31/18	ND	3.66	ND	ND	ND	19.3	ND	ND	0.00602[J]	ND	ND	ND	ND	ND	ND	3.43	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/27/18[4]	NA	2.8	ND	ND	ND	19.7	ND	ND	ND	92.3	ND	ND	2.1	NA	NA	3.1	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
DW04B	11/28/17	ND	ND	ND	ND	ND	1.48[J]	0.950[J]	ND	ND	ND	ND	ND	ND	79.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.99	ND	ND	ND
	08/31/18	ND	ND	ND	ND	ND	ND	ND	0.0147[J,6]	0.0138[J,6]	ND	ND	ND	ND	7.18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW05A	06/20/17	NA	ND	ND	ND	ND	1.61[J]	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	06/27/17[4]	NA	ND	ND	ND	ND	1.9[J]	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	10/11/17[4]	NA	ND	ND	ND	ND	1.9[J]	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	10/11/17	ND	ND	ND	ND	ND	4.77[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/30/18	ND	ND	ND	ND	ND	2.85[J]	ND	0.0200	0.0170[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW06B	06/20/17	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	10/10/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.72	3.69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/30/18	ND	ND	ND	ND	ND	ND	ND	0.0142[J,6]	0.0112[J,6]	ND	ND	ND	ND	33.8	1.64	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8 (Cont'd).

Summary of Supply Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane (DBCP)	Ethylene Dibromide (EDB)	Tert-Amyl Alcohol	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Di-Isopropyl Ether (DIPE)	Total Lead	Dissolved Lead	1,2-Dichloroethane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichloropropane	Isopropylbenzene	4-Methyl-2-pentanone	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methylene Chloride	Tertrachloroethene	Phenol	Dimethyl phthalate
DW06C	10/10/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.0	0.423[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/30/18	ND	ND	ND	ND	ND	ND	ND	0.0314[6]	0.0264[6]	ND	ND	ND	ND	80.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DW07A	06/20/17	NA	ND	ND	ND	ND	2.33[J]	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	06/28/17[4]	NA	ND	ND	ND	ND	3.7	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	10/10/17	ND	ND	ND	ND	ND	5.40	ND	ND	ND	ND	ND	ND	ND	5.06	0.513[J]	0.6[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/11/17[4]	NA	ND	ND	ND	ND	3.8	ND	ND	ND	ND	ND	ND	ND	NA	NA	0.8[J]	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	08/16/18[4]	NA	ND	ND	ND	ND	4.5	ND	ND	ND	ND	ND	ND	0.6[J]	NA	NA	ND	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	08/22/18[4]	NA	ND	ND	ND	ND	5.2	ND	ND	ND	41.6	ND	ND	ND	NA	NA	0.8[J]	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA
	08/30/18	ND	ND	ND	ND	ND	5.55	ND	0.0138[J]	0.0108[J]	ND	ND	ND	ND	17.5	1.53	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/08/18	NA	ND	ND	ND	ND	6.9	ND	ND	ND	20.3	ND	ND	0.8[J]	NA	NA	0.9[J]	ND	NA	NA	ND	NA	ND	NA	NA	NA	ND	ND	NA	NA

Table 8 (Cont'd).

Summary of Supply Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane (DBCP)	Ethylene Dibromide (EDB)	Tert-Amyl Alcohol	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Di-Isopropyl Ether (DIPE)	Total Lead	Dissolved Lead	1,2-Dichloroethane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichloropropane	Isopropylbenzene	4-Methyl-2-pentanone	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methylene Chloride	Tertrachloroethene	Phenol	Dimethyl phthalate
DW08A	07/03/17	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	77.8	4.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/31/18	ND	ND	ND	ND	ND	ND	ND	0.0135[J,6]	0.00729[J,6]	ND	ND	ND	ND	3.08	1.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DW08B	07/03/17	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	66.6	10.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.32	ND	ND
	08/31/18	ND	ND	ND	ND	ND	ND	ND	0.0176[J,6]	0.0124[J,6]	ND	ND	ND	ND	5.90	2.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DW09A	06/16/17	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	06/20/17	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	10/10/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.407[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/31/18	ND	ND	ND	ND	ND	ND	ND	0.0225[6]	0.0123[J,6]	ND	ND	ND	ND	0.402[J]	0.243[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 8 (Cont'd).

Summary of Supply Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane (DBCP)	Ethylene Dibromide (EDB)	Tert-Amyl Alcohol	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Di-Isopropyl Ether (DIPE)	Total Lead	Dissolved Lead	1,2-Dichloroethane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichloropropane	Isopropylbenzene	4-Methyl-2-pentanone	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methylene Chloride	Tertrachloroethene	Phenol	Dimethyl phthalate
DW09B	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/31/18	ND	ND	ND	ND	ND	ND	ND	0.0201[J,6]	0.0191[J,6]	ND	ND	ND	ND	0.282[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW10A	10/02/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/30/18	ND	ND	ND	ND	ND	ND	ND	0.0163[J,6]	0.0132[J,6]	ND	ND	ND	ND	4.31	0.606[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DW11A	06/20/17	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.30	0.471[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	08/30/18	ND	ND	ND	ND	ND	ND	ND	0.0232[6]	0.0151[J,6]	ND	ND	ND	ND	1.39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/10/18	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DW12A	06/20/17	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.29	0.703[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW13A	11/01/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW13B	11/28/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.29[3]

Table 8 (Cont'd).

Summary of Supply Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane (DBCP)	Ethylene Dibromide (EDB)	Tert-Amyl Alcohol	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Di-Isopropyl Ether (DIPE)	Total Lead	Dissolved Lead	1,2-Dichloroethane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichloropropane	Isopropylbenzene	4-Methyl-2-pentanone	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methylene Chloride	Tertrachloroethene	Phenol	Dimethyl phthalate
DW14A	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	113	14.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW15A	10/02/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.18	1.62	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.30[3]	ND
DW16A	10/10/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.638[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW17A	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	46.3	0.529[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW17B	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.90	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW18A	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.753[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW19A	06/16/17	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	06/28/17	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA

Table 8 (Cont'd).

Summary of Supply Well Dissolved Phase Analytical Results[1]

Sample ID	Date	TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Dibromochloropropane (DBCP)	Ethylene Dibromide (EDB)	Tert-Amyl Alcohol	Tert-Amyl Methyl Ether	Tert-Butyl Alcohol	Di-Isopropyl Ether (DIPE)	Total Lead	Dissolved Lead	1,2-Dichloroethane	2-Butanone (MEK)	2-Chlorotoluene	4-Chlorotoluene	1,2-Dichloropropane	Isopropylbenzene	4-Methyl-2-pentanone	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methylene Chloride	Tertrachloroethene	Phenol	Dimethyl phthalate
DW31A	06/16/17	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	06/28/17	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
DW32A	06/16/17	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	06/28/17	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
DW33A	06/16/17	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	06/28/17	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA
	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.78	0.345[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW40A	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.758[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DW41A	10/11/17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.00	0.628[J]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

[1]Supply well samples were submitted for TPH-GRO analysis via EPA method 8015, VOCs analysis via EPA method 8021/8260, SVOCs analysis via EPA method 8270, EDB/DBCP analysis via EPA method 8011/504.1, and total/dissolved lead analysis via EPA method 200.8; reported in micrograms per liter (µg/L). Only select analytes have been included in the table. The full list of VOCs and SVOCs analyzed and the associated concentrations are provided on the laboratory analytical reports.
[2]NA = Not Analyzed.
[3]ND = Non Detected.
[4]Sampling performed by VA DEQ AWS contractor.
[5]Sampling performed by VA DEQ State Lead contractor.
[6]The reported result is likely inaccurate due to a suspected laboratory error.
[J]The reported result is flagged with a J qualifier and is considered an estimate.

Table 9.

Summary of Supply Well Discrete Sampling Dissolved Phase Analytical Results[1]

Sample ID	Date	Depth (feet)	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	Naphthalene	Di-Isopropyl Ether	Sec-Butylbenzene	Acetone	Chloroform	1,2-Dichloroethane	1,2-Dichloropropane	Isopropylbenzene	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	2-Butanone (MEK)	1,2-Dibromoethane (EDB)
DW01A	11/29/17	88	36.4	ND[2]	11.8	270	209	30.3	26.6	0.540[3]	ND	6.58	10.1	ND	2.16	2.07	88.8	24.4	1.78	ND	ND
		108	95.7	0.610[3]	20.4	289	217	34.6	26.4	0.670[3]	ND	5.82	16.4	0.510[3]	3.35	2.96	106	28.5	1.88	ND	ND
		143	549	2.03	55.5	408	528	54.9	50.4	1.63	ND	7.44	ND	1.74	9.75	9.46	220	59.9	3.76	ND	ND
		159	538	2.16	57.3	398	637	55.1	53.2	1.60	ND	8.03	ND	1.84	9.79	9.18	216	59.4	3.53	ND	ND
		179	725	2.80	66.6	429	671	57.4	63.0	1.97	ND	8.05	ND	2.33	12.0	11.6	242	66.4	4.19	ND	ND
		211	774	2.95	54.3	366	719	45.0	61.9	1.29	ND	7.76	ND	2.30	8.69	7.70	175	47.3	2.73	ND	ND
		256	775	3.24	58.3	393	765	47.1	64.3	1.65	ND	7.60	ND	2.35	10.4	9.75	196	52.6	3.48	ND	0.6[3]
DW04A	11/28/17	86	2.07	0.660[3]	ND	ND	16.2	1.01	6.63	ND	1,120	ND	2.34	ND	ND	ND	ND	ND	ND	1,050	ND
		105	2.72	0.600[3]	ND	ND	18.9	1.08	6.92	ND	300	ND	2.57	ND	ND	ND	ND	ND	ND	334	ND
		134	4.79	ND	ND	ND	21.9	1.14	7.48	ND	ND	ND	3.61	ND	ND	ND	ND	ND	ND	51.2	ND
		147	3.89	0.640[3]	ND	ND	19.8	1.43	7.18	ND	ND	ND	3.09	ND	ND	ND	ND	ND	ND	55.3	ND
		162	3.97	0.600[3]	ND	ND	18.8	ND	7.40	ND	ND	ND	3.16	ND	ND	ND	ND	ND	ND	33.6	ND

[1]Supply well samples were submitted for VOCs analysis via EPA method 8260; reported in micrograms per liter (µg/L).
[2]ND = Non Detected.
[3]The reported result is an estimate due to the reported results being below the practical quantitation limit (PQL) and equal to or above the method detection limit (MDL).

Table 10.

Summary of Surface Water Dissolved Phase Analytical Results

Sample ID	Sample Date	TPH-GRO[1] (µg/L)	VOCs[2] (µg/L)	EDB/DBCP[3] (µg/L)
POND01 (Pond Outfall)	09/18/17	ND	ND for all analyzed VOCs via 8260	ND for EDB and DBCP via 8011
POND01 (Pond)	09/18/17	ND[4]	ND for all analyzed VOCs via 8260	ND for EDB and DBCP via 8011
	08/31/18	ND	ND for all analyzed VOCs via 8260	EDB = 0.0124[J] DBCP = 0.0206
	10/10/18	NA[5]	NA	ND for EDB and DBCP via 8011
	10/10/18	NA	NA	ND for EDB and DBCP via 8011
ST01 (Intermittent Tributary)	09/18/17	ND	Toluene = 6.20[J] ND for all other analyzed VOCs via 8260	ND for EDB and DBCP via 8011
	08/31/18	ND	ND for all analyzed VOCs via 8260	EDB = 0.0111[J] DBCP = 0.0182[J]
	10/10/18	NA	NA	ND for EDB and DBCP via 8011
POND04	05/24/18	ND	NA	NA

[1]TPH-GRO analysis via U.S. EPA SW-846 method 8015; reported in micrograms per liter (µg/L).
[2]VOCs analysis via U.S. EPA SW-846 method 8260; reported in µg/L.
[3]EDB/DBCP analysis via U.S. EPA SW-846 method 8011; reported in µg/L.
[4]ND = Non Detected at laboratory method detection limits.
[5]NA = Not Applicable.
[J]The reported result is flagged with a J qualifier and is considered an estimate.

Table 11.

Description of Observed Supply Well Analytes

Analyte	MCL[1] (µg/L)	VA DEQ RML[2] (µg/L)	Analyte Uses
Benzene	5	0.39	Multiple industrial uses. Benzene is a component of motor fuels.
Toluene	1,000	86	Multiple industrial uses. Toluene is added to gasoline to improve octane ratings and is utilized in the production of benzene.
Ethylbenzene	700	1.3	Multiple industrial uses. Ethylbenzene is a component of motor fuels.
Xylenes	10,000	19	Multiple industrial uses. Xylenes are utilized in the production of ethylbenzene and are blended into gasoline

Table 11 (Cont'd).

Description of Observed Supply Well Analytes

Analyte	MCL[1] (µg/L)	VA DEQ RML[2] (µg/L)	Analyte Uses
MTBE	NA[3]	12	MTBE is primarily utilized as a fuel additive in gasoline to improve octane ratings.
Naphthalene	NA	0.14	Multiple industrial uses. Naphthalene is a component of motor fuels.
Ethylene Dibromide (EDB)	0.05	0.0065	EDB was formerly utilized as an additive to leaded gasoline
1,2-Dichloroethane	5	0.15	Multiple industrial uses. 1,2-Dichloroethane was formerly added to leaded gasoline as a lead scavenger.
Isopropyl Ether (DIPE)	NA	150	DIPE is a fuel oxygenate utilized to improve octane ratings.
Tert-Amyl Alcohol (TAA)	NA	10	TAA is a fuel oxygenate utilized to improve octane ratings.
Tert-Butanol (TBA)	NA	10	TBA is a fuel oxygenate utilized to improve octane ratings.
Tert-Amyl Methyl Ether (TAME)	NA	12	TAME is a fuel oxygenate utilized to improve octane ratings.
Lead	15[4]	NA	Lead is a naturally occurring element formerly and/or currently utilized in leaded gasoline, paint, ceramics, pipes, fixtures, solder, etc. Lead is generally observed in tap water due to the corrosion of plumbing fixtures, piping, and/or solder.
Bromodichloromethane	80	NA	Bromodichloromethane is not typically associated with petroleum products and its presence is likely a byproduct of the reaction of chlorine with naturally occurring organic compounds.
sec-Butylbenzene	NA	NA	Volatile organic compound with multiple industrial uses.
Chlorobenzene	100	NA	Multiple industrial uses. Chlorobenzene is primarily utilized as a solvent for pesticides and degreasing automobile parts.
Chloroform	80	NA	Chloroform is not typically associated with petroleum products and its presence is likely a byproduct of the reaction of chlorine with naturally occurring organic compounds.
2-Chlorotoluene	NA	NA	2-Chlorotoluene is primarily utilized as a solvent in multiple industrial products.
4-Chlorotoluene	NA	NA	4-Chlorotoluene is primarily utilized as a solvent in multiple industrial products.
Dibromochloromethane	80	NA	Dibromochloromethane is not typically associated with petroleum products and its presence is likely a byproduct of the reaction of chlorine with naturally occurring organic compounds.

Table 11 (Cont'd).

Description of Observed Supply Well Analytes

Analyte	MCL[1] (µg/L)	VA DEQ RML[2] (µg/L)	Analyte Uses
1,2-Dichloropropane	5	NA	Multiple industrial uses. Primarily utilized as an industrial solvent.
Isopropylbenzene	NA	NA	Primarily utilized as a paint thinner. Isopropylbenzene is a component of high octane fuels.
4-Methyl-2-pentanone	NA	NA	Primarily utilized as a solvent in industrial products.
n-Propylbenzene	NA	NA	Multiple industrial uses. n-Propylbenzene is a component of petroleum and coal.
1,2,4-Trimethylbenzene	NA	NA	Multiple industrial uses. 1,2,4-Trimethylbenzene is a component of petroleum and coal.
1,3,5-Trimethylbenzene	NA	NA	Multiple industrial uses. 1,3,5-Trimethylbenzene is a volatile chemical in gasoline and utilized as a solvent.
4-Isopropyltoluene	NA	NA	4-Isopropyltoluene is a naturally occurring aromatic organic compound classified as a hydrocarbon.
2-Butanone (MEK)	NA	490	2-Butanone (MEK) is primarily utilized as a solvent and is also a component of PVC glue.
Methylene Chloride	5	NA	Multiple industrial uses. Methylene chloride is primarily utilized as a solvent.
Tetrachlroethene	5	NA	Tetrachloroethene (also known as tetrachloroethylene or perchloroethylene) is primarily utilized as a solvent for dry cleaning, metal degreasing, and textile processing.
Dimethyl Phthalate	NA	NA	Dimethyl phthalate is primarily utilized in the production of plastics, insect repellants, and pesticides.
Phenol	NA	NA	Phenol is primarily utilized in the production of plastics, insect repellants, and pesticides.

[1]MCL (EPA Maximum Contaminant Level) = Enforceable federal standard denoting the highest level of a contaminant allowed in drinking water.
[2]Virginia Department of Environmental Quality Risk Management Level.
[3]NA = Not Applicable.
[4]Lead maintains an EPA action level of 15 µg/L where public water systems must take actions if more than 10% of tap water samples exceed action level.

Table 12.

Summary of the Receptor Survey Results

Property ID	Name/Address[1]	Receptor ID	Location From Gasoline UST System	Potential Receptor Information, Current Use, Installation Date, & Construction Details
P01	Chamblissburg Supply (dba Elei's) 10625 Stewartsville Road Stewartsville – Chamblissburg Volunteer Fire Department Station 2	DW01A	~135 feet East	The property maintains the Chamblissburg Supply (dba Elei's) and the Stewartsville – Chamblissburg Volunteer Fire Department. One supply well (DW01A) is known to be located on the property. DW01A is a drilled supply well installed to approximately 292 feet bgs with 6-inch steel casing installed to approximately 87.75 feet bgs. The well pump is hung on 1.25-inch threaded PVC piping approximately 260 feet bgs. DW01A has been impacted with petroleum and a carbon filtration system has reportedly been installed as part of the VA DEQ AWS program.
P02	Farkas Residence 10590 Stewartsville Road	DW02A	~235 feet Southeast	Supply well DW02A provides potable water to a residence located on the property. DW02A is a drilled well installed to approximately 261 feet bgs with 6-inch PVC casing installed to approximately 88.50 feet bgs. The well pump is hung on 1-inch HDPE piping approximately 205 feet bgs. DW02A has been impacted with petroleum and a carbon filtration system has reportedly been installed as part of the VA DEQ AWS program. No additional construction details are known.
		DW02B	Unknown	Supply well DW02B is a reportedly out of use bored/hand dug supply well. The exact location and any construction details are unknown and the well may have been closed/abandoned.
		Pond-04	~1,025 feet South-Southwest	A spring-fed pond appears to be located on both property P02 and property P04. A surface water sample collected from Pond-04 yielded Non Detected for petroleum contamination.
P03	Dudley Property 10605 Stewartsville Road	DW03A	~170 feet East-Southeast	Supply well DW03A provides potable water to the onsite residential rental property. DW03A is a drilled supply well installed to approximately 197.5 feet bgs with 6-inch steel casing installed to approximately 99 feet bgs. The well pump is hung on 1-inch HDPE piping approximately 165 feet bgs. DW03A has been impacted with petroleum and a carbon filtration system has reportedly been installed as part of the VA DEQ AWS program. No additional construction details are known.
		DW03B	~140 feet East-Southeast	DW03B is an out of use hand dug well located beneath onsite carport. Groundwater sampling has yielded Non Detected for petroleum contamination.

Table 12 (Cont'd).

Summary of the Receptor Survey Results

Property ID	Name/Address[1]	Receptor ID	Location From Gasoline UST System	Potential Receptor Information, Current Use, Installation Date, & Construction Details
P04	Houck Residence 10555 Stewartsville Road	DW04A	~525 feet East-Southeast	Supply well DW04A provides potable water to the onsite residence. DW04A is a drilled supply well installed to approximately 165 feet bgs with 6-inch steel casing installed to approximately 87 feet bgs. The well pump is hung on 1-inch HDPE piping approximately 150 feet bgs. DW04A has been impacted with petroleum and a carbon filtration system has reportedly been installed as part of the VA DEQ AWS program. No additional construction details are known.
		DW04B	~480 feet East-Southeast	DW04B is an out of use drilled supply well installed to approximately 82 feet bgs with 5-inch steel casing installed to approximately 69 feet bgs. The well pump is hung on 1-inch HDPE piping approximately 75 feed bgs. Groundwater sampling yielded chemicals typically associated with petroleum contamination.
P05	Thomas Residence 10465 Stewartsville Road	DW05A	~840 feet Southeast	Supply well DW05A provides potable water to the onsite residence. DW05A is a drilled supply well installed in 1971 by Richard Simmons Well Drilling. DW05A is approximately 180 feet deep and is installed with steel casing. DW05A has been impacted with petroleum and a carbon filtration system has reportedly been installed as part of the VA DEQ AWS program. No additional construction details are known.
P06	Franklin Residence 10431 Stewartsville Road	DW06B	~1,000 feet Southeast	Supply well DW06B is a bored well, which is connected only to the outside spigots of the onsite residence. No additional construction details are known. Analytical results of a water sample collected from DW06B yielded Non Detected for petroleum contamination.
		DW06C	~1,020 feet Southeast	Supply well DW06C currently provides potable water to the onsite residence. No additional construction details are known. Analytical results of water samples collected from DW06C have yielded Non Detected for petroleum contamination.
P07	Scott Residence 10433 Stewartsville Road	DW07A	~990 feet East-Southeast	Supply well DW07A is a drilled well, which provides potable water to the onsite residence and the offsite residence (P06). DW07A has been impacted with petroleum and carbon filtration systems have been installed at P06 and P07 as part of the VA DEQ AWS programs. No additional construction details are known.
P08	Kidd Residence 10375 Stewartsville Road	DW08A	~1,330 feet Southeast	Supply well DW08A provides potable water to the onsite residence. DW08A is a drilled supply well reportedly installed to approximately 300 feet. No additional construction details are known. Analytical results of water samples collected from DW08A yielded Non Detected for petroleum contamination.
		DW08B	~1,330 feet Southeast	Supply well DW08B also provides potable water to the onsite residence. DW08B is a bored supply well reportedly installed to approximately 60 feet. No additional construction details are known. Analytical results of water samples collected from DW08B yielded Non Detected for petroleum contamination.

Table 12 (Cont'd).

Summary of the Receptor Survey Results

Property ID	Name/Address[1]	Receptor ID	Location From Gasoline UST System	Potential Receptor Information, Current Use, Installation Date, & Construction Details
P09	Brillhart Property 10570 Stewartsville Road	DW09A	~460 feet Southeast	Supply well DW09A provides potable water to the onsite residence. DW09A is a drilled supply well reportedly installed in 2001 to approximately 260 feet. No additional construction details are known. Analytical results of water samples collected from DW09A yielded Non Detected for petroleum contamination.
		DW09B	~460 feet Southeast	Supply well DW09B is reportedly an out of use hand dug well. No additional construction details are known. Analytical results of a water sample collected from DW09B yielded Non Detected for petroleum contamination.
P10	Wilson Residence 1020 Cannon Lane	DW10A	~565 feet Southeast	Supply well DW10A provides potable water to the onsite residence and three rental properties located on the property. DW10A is a drilled supply well reportedly installed to approximately 185 feet bgs. No additional construction details are known. Analytical results of a water sample collected from DW10A yielded Non Detected for petroleum contamination.
	Wilson Property 1060 Cannon Lane			
	Wilson Property 1090 Cannon Lane			
	Wilson Property 1130 Cannon Lane			
P11	Bolden Residence 10520 Stewartsville Road	DW11A	~690 feet Southeast	Supply well DW11A provides potable water to the onsite residence. DW11A is a reportedly drilled supply. No additional construction details are known. Analytical results of water samples collected from DW11A yielded Non Detected for petroleum contamination.
P12	Simmons Property 10480 Stewartsville Road	DW12A	~835 feet Southeast	Supply well DW12A provides potable water to the two onsite residences. The top of casing for DW12A is buried and as a result, the exact location is unknown. No additional construction details are known. Analytical results of water samples collected from DW12A yielded Non Detected for petroleum contamination.
	Simmons Property 1055 Castle Lane			
P13	Cottle Residence 1075 Castle Lane	DW13A	~1,025 feet Southeast	Supply well DW13A provides potable water to the onsite residence. The top of casing for DW13A is buried and as a result, the exact location is unknown. No additional construction details are known. Analytical results of a water sample collected from DW13A yielded Non Detected for petroleum contamination.
		DW13B	~1,025 feet Southeast	DW13B is an out of use bored well installed to approximately 39 feet bgs. Analytical results of a water sample collected from DW13B yielded Non Detected for petroleum contamination.
P14	Ellis Residence 1030 Castle Lane	DW14A	~905 feet Southeast	Supply well DW14A provides potable water to the onsite residence. DW14A is reportedly a drilled well installed to approximately 100 feet. No additional construction details are known. Analytical results of a water sample collected from DW14A yielded Non Detected for petroleum contamination.

Table 12 (Cont'd).

Summary of the Receptor Survey Results

Property ID	Name/Address[1]	Receptor ID	Location From Gasoline UST System	Potential Receptor Information, Current Use, Installation Date, & Construction Details
P15	LeDoux Residence 1080 Castle Lane	DW15A	~1,055 feet Southeast	Supply well DW15A provides potable water to the onsite residence. Construction details and the exact location of supply well DW15A are unknown. Analytical results of a water sample collected from DW15A yielded Non Detected for petroleum contamination.
P16	Palmer Residence 10440 Stewartsville Road	DW16A	~1,005 feet Southeast	Supply well DW16A provides potable water to the onsite residence. DW16A is reportedly a drilled well, however, no additional construction details are known. Analytical results of a water sample collected from DW16A yielded Non Detected for petroleum contamination.
P17	Hicks Residence 10420 Stewartsville Road	DW17A	~1,180 feet Southeast	Supply well DW17A provides potable water to the onsite residence. DW17A is a drilled well, however, no additional construction details are known. Analytical results of a water sample collected from DW17A yielded Non Detected for petroleum contamination.
		DW17B	~1,232 feet Southeast	DW17B is an out of use bored well installed to approximately 31 feet bgs. Analytical results of a water sample collected from DW17B yielded Non Detected for petroleum contamination.
P18	Lozano Residence 10340 Stewartsville Road	DW18A	~1,490 feet Southeast	Supply well DW18A provides potable water to the onsite residence. DW18A is a drilled supply well with PVC casing. No additional construction details are known. Analytical results of a water sample collected from DW18A yielded Non Detected for petroleum contamination.
P19	Beaverdam Baptist Church 10665 Stewartsville Road	DW19A	~315 feet Northwest	Supply well DW19A provides potable water to the Beaverdam Baptist Church. DW19A is a drilled well installed in approximately 2010 to greater than 200 feet. No additional construction details are known. Analytical results of water samples collected from DW19A yielded Non Detected for petroleum contamination.
	Beaverdam Baptist Church - Parsonage 10729 Stewartsville Road	DW19B	Unknown	Supply well DW19B provides potable water to the parsonage. The parsonage is vacant and the water has reportedly been turned off. No construction details are known.
P20	Dudley Property Undeveloped – No Address	Pond-01	~930 feet Northeast	The property is an undeveloped property owned by the Estate of Lacy Dudley. The property reportedly does not maintain any supply wells; however an unnamed intermittent tributary draining to a pond is located on the property. The pond appears to drain to the East Fork of Beaverdam Creek. Analytical results of water samples collected from the pond yielded Non Detected for petroleum contamination; however, analytical results of a water samples collected from the intermittent tributary yielded limited petroleum contamination.
		Intermittent Tributary	~700 feet Northeast	
P21	Thomas Residence 10765 Stewartsville Road	DW21A	~620 feet Northwest	Supply well DW21A provides potable water to the onsite residence. DW21A is a drilled well installed in 1984 to approximately 230 feet. No additional construction details are known.

Table 12 (Cont'd).

Summary of the Receptor Survey Results

Property ID	Name/Address[1]	Receptor ID	Location From Gasoline UST System	Potential Receptor Information, Current Use, Installation Date, & Construction Details
P22	Unknown Residence 10739 Stewartsville Road	Unknown	Unknown	Property P22 maintains one residential property. Information regarding the onsite water supply is unknown. A letter was left at the residence during the receptor survey. No obvious supply well was observed.
P23	Cunningham Residence 10769 Stewartsville Road	DW23A	~800 feet Northwest	Supply well DW23A provides potable water to the onsite residence. DW23A is a drilled well reportedly installed between 1984 and 1993 with PVC casing. No additional construction details are known.
P24	Agricultural Property Undeveloped – No Address	NA[2]	NA	The property is an agricultural property reportedly owned by Eugene Blount. The property reportedly does not maintain any supply wells.
P25	Rental Property 10825 Stewartsville Road	DW25A	Unknown	Supply well DW25A provides potable water to the onsite residence addressed as 10825 Stewartsville Road. No information regarding the supply well construction or location is known.
	Rental Property 10827 Stewartsville Road	DW25B	Unknown	Supply well DW25B provides potable water to the onsite residence addressed as 10827 Stewartsville Road. No information regarding the supply well construction or location is known.
P26	St Clair Residence 10840 Stewartsville Road	DW26A	~1,120 feet West	Supply well DW26A provides potable water to the onsite residence. DW26A is a drilled supply well installed in May 2011 to approximately 260 feet. Ty Davidson Well Drilling, Inc. plate on the well cover. Installed this well due to DW26B staining clothes after a rainfall event.
		DW26B	~1,130 feet West	Supply well DW26B is an out of use drilled well installed to approximately 70 feet.
P27	Townsend Residence 10806 Stewartsville Road	DW27A	~970 feet West	Supply well DW27A provides potable water to the onsite residence. DW27A is a drilled supply well installed in 2005 to approximately 205 feet.
P28	Blount Residence 10780 Stewartsville Road	DW28A	~720 feet Northwest	Supply well DW28A provides potable water to the onsite residence and the offsite residence addressed as 10770 Stewartsville Road (P29). DW28A is reportedly a drilled supply well installed in 2012. No additional construction details are known.
P29	Blount Property 10770 Stewartsville Road	NA	NA	The residence located at P29 obtains potable water from supply well DW28A located at 10780 Stewartsville Road.
P30	Unknown Residence 10690 Stewartsville Road	Unknown	Unknown	Property P30 maintains one residential property. Information regarding the onsite water supply is unknown. A letter was left at the residence during the receptor survey.
P31	Whorley Residence 10688 Stewartsville Road	DW31A	~350 feet West	Supply well DW31A provides potable water to the onsite residence. DW31A is a drilled supply well with PVC casing. No additional construction details are known. Analytical results of water samples collected from DW31A yielded Non Detected for petroleum contamination.

Table 12 (Cont'd).

Summary of the Receptor Survey Results

Property ID	Name/Address[1]	Receptor ID	Location From Gasoline UST System	Potential Receptor Information, Current Use, Installation Date, & Construction Details
P32	Booze Residence 10684 Stewartsville Road	DW32A	~280 feet West	Supply well DW32A provides potable water to the onsite residence. DW32A is reportedly a drilled supply installed in the 1970s. No additional construction details are known. Analytical results of water samples collected from DW32A yielded Non Detected for petroleum contamination.
P33	Cardwell Residence 10640 Stewartsville Road	DW33A	~175 feet Southwest	Supply well DW33A provides potable water to the onsite residence. DW33A is a drilled supply installed in with PVC casing. No additional construction details are known. Analytical results of water samples collected from DW33A yielded Non Detected for petroleum contamination.
		DW33B	~175 feet Southwest	Supply well DW33B is an out of use drilled well located on the P33 property. Due to the pump not functioning a groundwater sample has not been collected from DW33B.
P34	Undeveloped Property No Known Address	NA	NA	The property is an undeveloped property reportedly owned by Angela Cardwell. The property reportedly does not maintain any supply wells.
P35	Wilkes Residence 1222 Catfish Court	DW35A	~1,300 feet Southwest	Supply well DW35A provides potable water to the onsite residence. DW35A is a drilled supply well installed in 1975 to approximately 155 feet.
P36	Unknown Residence 1224 Catfish Court	Unknown	Unknown	Property P36 maintains one residential property. The residence appeared vacant and the property is for sale. Information regarding the onsite water supply is unknown. No obvious supply well was observed.
P37	Petrie Residence 1221 Catfish Court	DW37A	~1,400 feet Southwest	Supply well DW37A provides potable water to the onsite residence. DW37A is a drilled supply well installed in 1975 to approximately 125 feet.
P38	Undeveloped Property No Known Address	Pond-02	~1,925 feet South-Southwest	The property is an undeveloped property reportedly owned by Steven Brillhart. The property reportedly does not maintain any supply wells. One pond (Pond-02) was observed on the property.
P39	Undeveloped Property No Known Address	DW39A	~1,645 feet South-Southeast	The property appears to be an undeveloped property. However, a drilled supply well, DW39A, is a drilled well installed on the property. No additional construction details are known.
		Pond-03	~1,565 feet South-Southeast	Pond-03 appears to be a drainage pond located on the property. No additional details are known.
P40	Simmons Residence 10247 Stewartsville Road Simmons Property 10249 Stewartsville Road	DW40A	~1,770 feet East-Southeast	Supply well DW40A provides potable water to the two onsite residences. DW40A is reportedly a drilled supply installed in with PVC casing. No additional construction details are known. Analytical results of a water sample collected from DW40A yielded Non Detected for petroleum contamination.

Table 12 (Cont'd).

Summary of the Receptor Survey Results

Property ID	Name/Address[1]	Receptor ID	Location From Gasoline UST System	Potential Receptor Information, Current Use, Installation Date, & Construction Details
P41	Simmons Property 10245 Stewartsville Road	DW41A	~1,865 feet Southeast	Supply well DW41A provides potable water to the two onsite residences. DW41A is reportedly a drilled supply. No additional construction details are known. Analytical results of a water sample collected from DW41A yielded Non Detected for petroleum contamination.
	Simmons Property 10265 Stewartsville Road			

[1]Addresses are located in Vinton, VA 24179.
[2]NA = Not applicable.

Table 13. In Situ Air Sparging with Soil Vapor Extraction[1]	
Advantages	• reduction in VOC vapors below water bearing horizon • enhance vapor extraction and downgradient pumping effectiveness
Limitations	• effectiveness is limited in low permeability or heterogeneous media • removal of primarily volatile constituents • ability to facilitate vapor- and adsorbed-phase migration • maintenance of air distribution in groundwater; availability of performance data is limited
Cleanup Levels & Timing[2]	• generally, achieves maximum contaminant levels for VOCs • notable reduction in contaminant mass in ~6 months to 1 year [assuming no delays in corrective action and a relatively homogenous, permeable subsurface] • notable reduction in contaminant mass in ~6 months to 2 years [assuming minimal delays in corrective actions and a moderately heterogeneous, permeable subsurface]
Costs[3]	• ~$100,000 to $300,000 [assuming no delays in corrective action and a relatively homogenous, permeable subsurface] • ~$200,000 to $330,000 [assuming minimal delays in corrective action and a moderately heterogeneous, permeable subsurface]

[1]Source: U.S. Environmental Protection Agency, An Overview of Underground Storage Tank Options, Solid Waste and Emergency Response 5403W; EPA 510 F-93-029, October 1993.
[2]Site specific cleanup standards are determined by the state regulatory agency.
[3]Costs include necessary equipment and system operation and maintenance for the timeframe specified; adjusted to reflect 2015 pricing.

Table 14. Groundwater Pump & Treat Systems[1]	
Advantages	• reduction in contaminant concentrations and maintenance of areal extent of plume(s)
Limitations	• effectiveness is limited in aquifers with low permeability potential • may require extensive duration periods to achieve maximum efficiency • groundwater with a high iron content may affect treatment quality • monitoring of water table fluctuations throughout system operation
Cleanup Levels & Timing[2]	• ~1 to 3 years [assuming no delays in corrective action and a relatively homogenous, permeable subsurface, and minimal source contaminants] • ~2 to 5 years [assuming minimal delays in corrective actions and a moderately heterogeneous, permeable subsurface, and generous source contaminants]
Costs[3]	• ~$250,000 to $330,000 [assuming no delays in corrective action and a relatively homogenous, permeable subsurface, and minimal source contaminants] • ~$410,000 to $500,000 [assuming minimal delays in corrective action and a moderately heterogeneous, permeable subsurface, and generous source contaminants]

[1]Source: U.S. Environmental Protection Agency, An Overview of Underground Storage Tank Options, Solid Waste and Emergency Response 5403W; EPA 510-F-93-029, October 1993.
[2]Site specific cleanup standards are determined by the state regulatory agency.
[3]Costs include necessary equipment and system operation and maintenance for the timeframe specified; adjusted to reflect 2015 pricing.

Table 15. In Situ Bioremediation[1]	
Advantages	• in-place degradation of contaminants • achieves lower concentrations than pump & treat
Limitations	• effectiveness is limited in low permeability or heterogeneous media • ability to transport nutrients and oxygen may be limited by soil and groundwater mineral content or pH • targets biodegradable constituents only
Cleanup Levels & Timing[2]	• generally, achieves maximum contaminant levels • achieves > or = 90% reduction of biodegradable constituents • ~90% reduction in 6 months to 1 year [assuming no delays in corrective action and a relatively homogenous, permeable subsurface] • ~90% reduction in 6 months to 4 years [assuming minimal delays in corrective actions and a moderately heterogeneous, permeable subsurface] • additional system operation time required for hydrocarbons maintaining a composition with a greater density
Costs[3]	• ~$250,000 to $410,000 [assuming no delays in corrective action and a relatively homogenous, permeable subsurface] • ~$330,000 to $820,000 [assuming minimal delays in corrective action and a moderately heterogeneous, permeable subsurface]

[1]Source: U.S. Environmental Protection Agency, An Overview of Underground Storage Tank Options, Solid Waste and Emergency Response 5403W; EPA 510-F-93-029, October 1993.
[2]Site specific Acleanup standards@ are determined by the state regulatory agency.
[3]Costs include necessary equipment and system operation and maintenance for the timeframe specified; adjusted to reflect 2015 pricing.

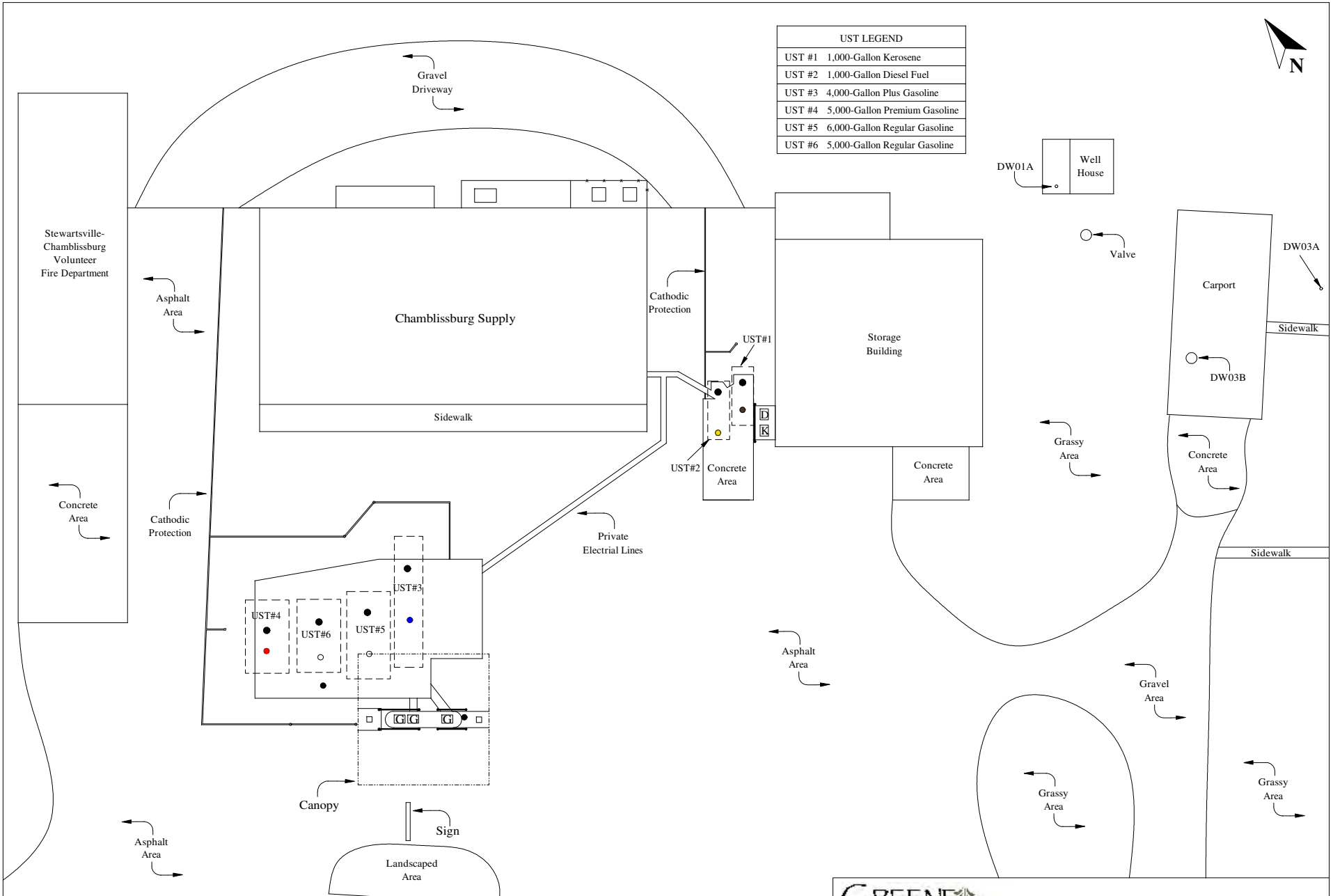
Table 16. Dual-Phase Extraction[1]	
Advantages	• reduction in contaminant concentrations and maintenance of areal extent of plume(s) • ability to remove VOCs from soils • ability to dewater an area facilitating additional recovery of VOCs from soils • effective in low permeability or heterogeneous media
Limitations	• potential for treatment of vapor recovery stream • groundwater with a high iron content may affect treatment quality • monitoring of water table fluctuations throughout system operation
Cleanup Levels & Timing[2]	• notable reduction in contaminant mass in ~6 months to 1 year [assuming no delays in corrective action and a relatively homogenous, permeable subsurface] • notable reduction in contaminant mass in ~6 months to 2 years [assuming minimal delays in corrective actions and a moderately heterogeneous, permeable subsurface]
Costs[3]	• ~$130,000 to $300,000 [assuming no delays in corrective action and a relatively homogenous, permeable subsurface] • ~$200,000 to $320,000 [assuming minimal delays in corrective action and a moderately heterogeneous, permeable subsurface]

[1]Source: U.S. Environmental Protection Agency, An Overview of Underground Storage Tank Options, Solid Waste and Emergency Response 5403W; EPA 510 F-93-029, October 1993.
[2]Site specific cleanup standards are determined by the state regulatory agency.
[3]Costs include necessary equipment and system operation and maintenance for the timeframe specified; adjusted to reflect 2015 pricing.

APPENDIX B

Maps

Site Map
Aerial Map
Topographic Map
Potential Receptors Location Map
Soil Boring Location Map - Site
Soil Boring Location Map - Aerial
Monitoring Well Location Map - Site
Monitoring Well Location Map – Aerial
Deep Groundwater Monitoring Well Location Map
Surface Water Samples Location Map
SCR Potentiometric Surface Map (10/10/2017) - Site
SCR Potentiometric Surface Map (10/10/2017) – Aerial
SCRA Potentiometric Surface Map (05/29/2018) - Site
SCRA Potentiometric Surface Map (05/29/2018) – Aerial
SCRA Potentiometric Surface Map (08/30/2018) - Site
SCRA Potentiometric Surface Map (08/30/2018) – Aerial
SCRA Potentiometric Surface Map (09/21/2018) - Site
SCRA Potentiometric Surface Map (09/21/2018) – Aerial
SCR TPH-GRO Isoconcentration Map (10/10/2017) - Site
SCR Benzene Isoconcentration Map (10/10/2017) - Site
SCR Toluene Isoconcentration Map (10/10/2017) - Site
SCR Ethylbenzene Isoconcentration Map (10/10/2017) - Site
SCR Xylenes Isoconcentration Map (10/10/2017) - Site
SCR Total BTEX Isoconcentration Map (10/10/2017) - Site
SCR MTBE Isoconcentration Map (10/10/2017) – Site
SCR MTBE Isoconcentration Map (10/10/2017) – Aerial
SCR Naphthalene Isoconcentration Map (10/10/2017) – Site
SCR Naphthalene Isoconcentration Map (10/10/2017) – Aerial
SCR EDB Isoconcentration Map (10/10/2017) -Site
SCR DIPE Isoconcentration Map (10/10/2017) – Site
SCR DIPE Isoconcentration Map (10/10/2017) – Aerial
SCR TAME Isoconcentration Map (10/10/2017) – Site
SCR TAME Isoconcentration Map (10/10/2017) – Aerial
SCR TBA Isoconcentration Map (10/10/2017) – Site
SCR TBA Isoconcentration Map (10/10/2017) – Aerial
SCR Total Lead Isoconcentration Map (10/10/2017) – Site
SCR Total Lead Isoconcentration Map (10/10/2017) – Aerial
SCRA TPH-GRO Isoconcentration Map (10/10/2017) - Site
SCRA TPH-DRO Isoconcentration Map (10/10/2017) - Site
SCRA Benzene Isoconcentration Map (10/10/2017) - Site
SCRA Toluene Isoconcentration Map (10/10/2017) - Site
SCRA Ethylbenzene Isoconcentration Map (10/10/2017) - Site
SCRA Xylenes Isoconcentration Map (10/10/2017) - Site
SCRA Total BTEX Isoconcentration Map (10/10/2017) - Site
SCRA MTBE Isoconcentration Map (10/10/2017) – Site
SCRA MTBE Isoconcentration Map (10/10/2017) – Aerial
SCRA Naphthalene Isoconcentration Map (10/10/2017) – Site
SCRA Naphthalene Isoconcentration Map (10/10/2017) – Aerial
SCR Geophysical Borehole Logging Summary
Proposed Deep Water Monitoring Well Location Map



GREENE ENVIRONMENTAL SERVICES INC

TITLE:	SITE MAP		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1003A
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	10/24/18
COMMENTS:		DRAWN BY:	MAF

Aerial Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179

GREENE ENVIRONMENTAL SERVICES INC
570 Redbud Hill Road, Rocky Mount, Virginia 24151
Office: 540-483-3311 or 800-215-2596
Fax: 540-483-3381
www.greene-environmental.com

BEDFORD COUNTY, VIRGINIA

Source: Google Earth

Scale: Not to Scale

Project: SCRA

Client: Estate of Lacy Dudley

Greene Job #: CSVI1003

Date: December 13, 2018

N
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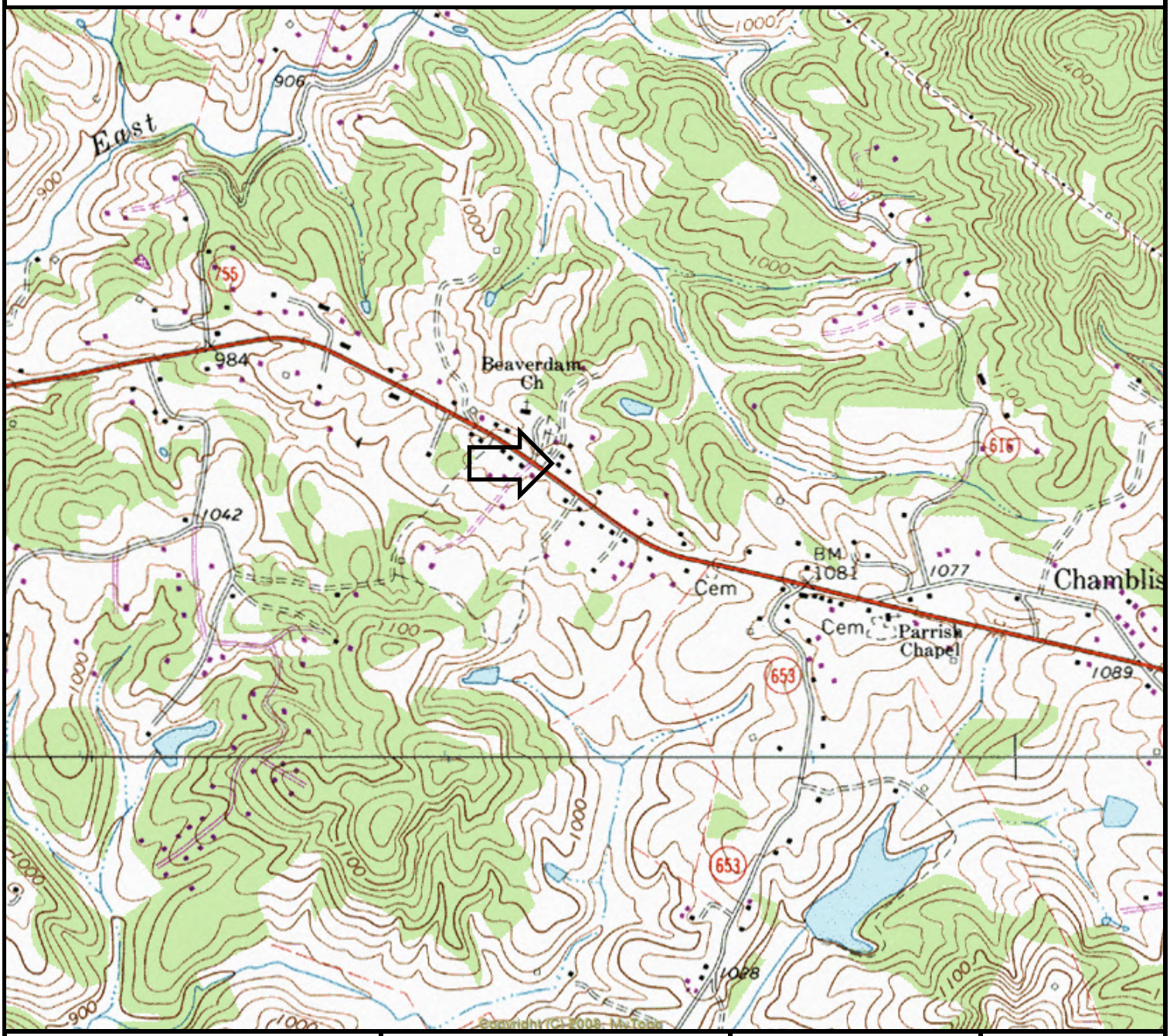
Latitude:
037.257362°N
Longitude:
079.722368° W

Topographic Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179



GREENE ENVIRONMENTAL SERVICES INC
570 Redbud Hill Road, Rocky Mount, Virginia 24151
Office: 540-483-3311 or 800-215-2596
Fax: 540-483-3381
www.greene-environmental.com

IRVING, VIRGINIA

Source: U.S.G.S. Topographic Map of the Irving Quadrangle, Virginia, 7.5 Minute Series (1967, revised 1985)
Scale: Not to Scale Contour Interval: 20 Feet
Vertical Datum: National Geodetic Vertical Datum 1929
Horizontal Datum: North American Datum 1927

Project: SCRA

Client: Estate of Lacy Dudley

Greene Job #: CSVI1003

Date: December 13, 2018

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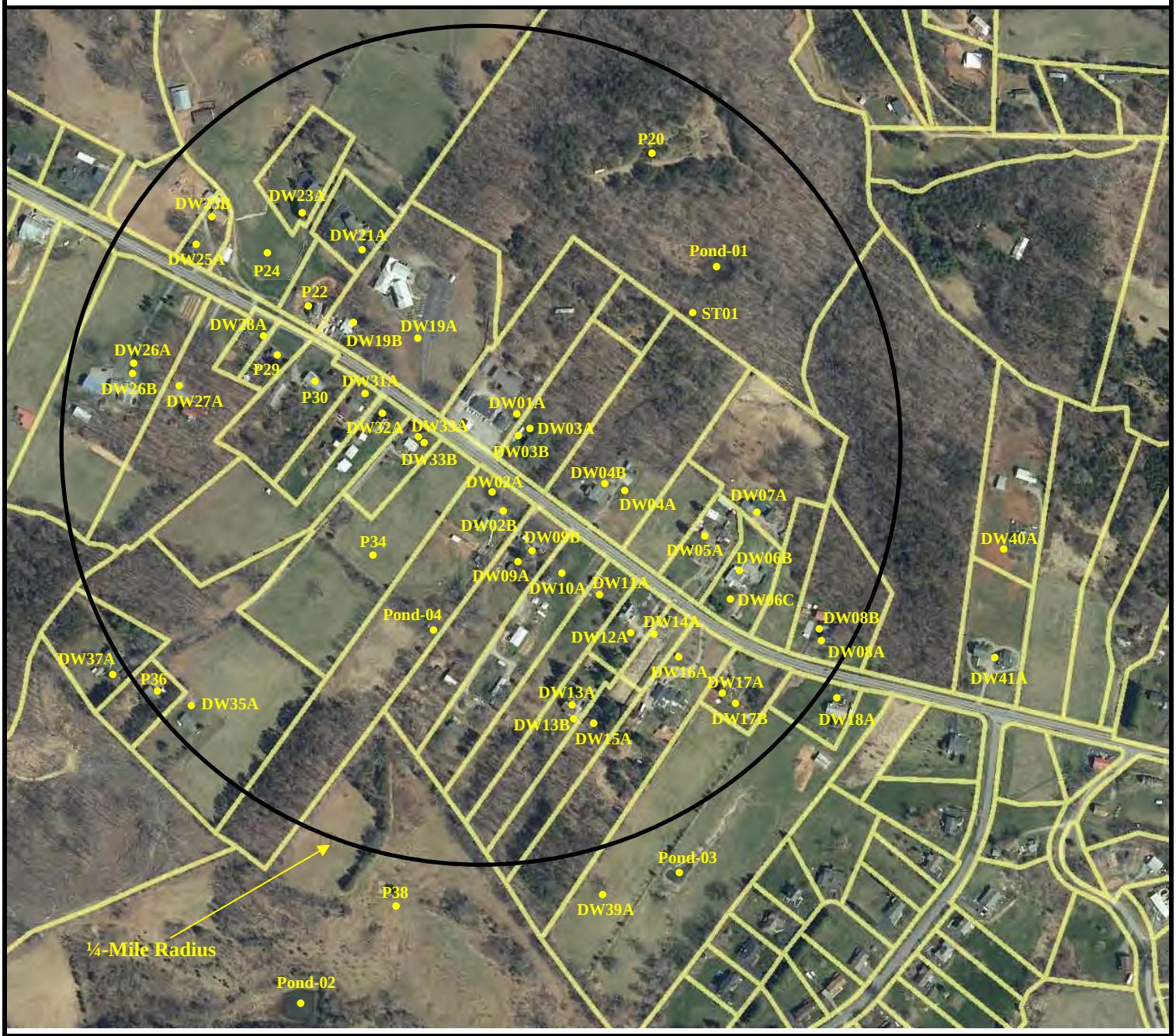
Latitude:
037.257362°N
Longitude:
079.722368° W

Potential Receptors Location Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179



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BEDFORD COUNTY, VIRGINIA

Source: Google Earth

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Latitude:
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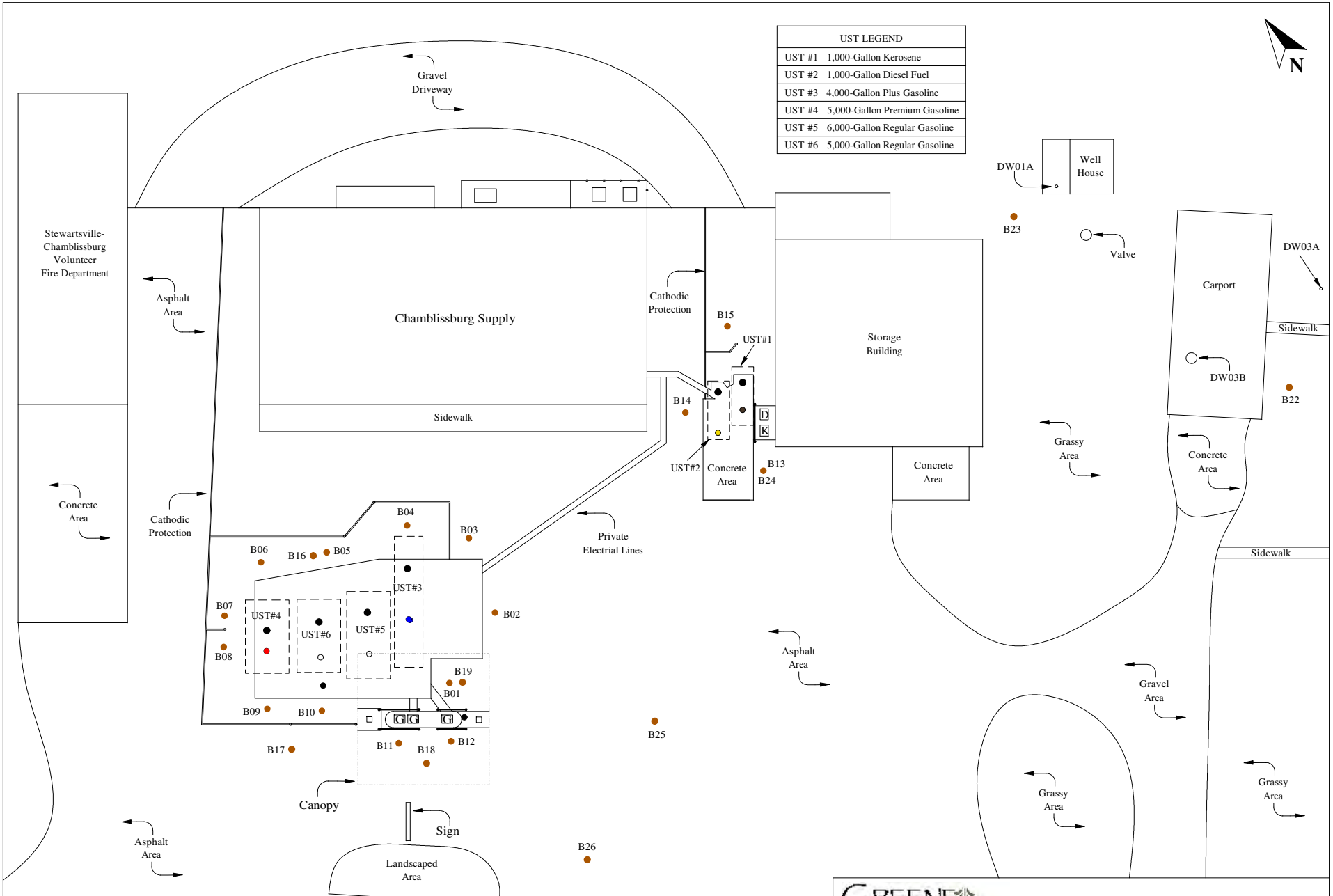

GREENE ENVIRONMENTAL SERVICES INC

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CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/19/17
COMMENTS:		DRAWN BY:	MAF

0 26.5 53 79.5 106 Feet

GREENE ENVIRONMENTAL SERVICES Inc.

TITLE:	SOIL BORING LOCATION MAP - AERIAL		
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CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/19/17
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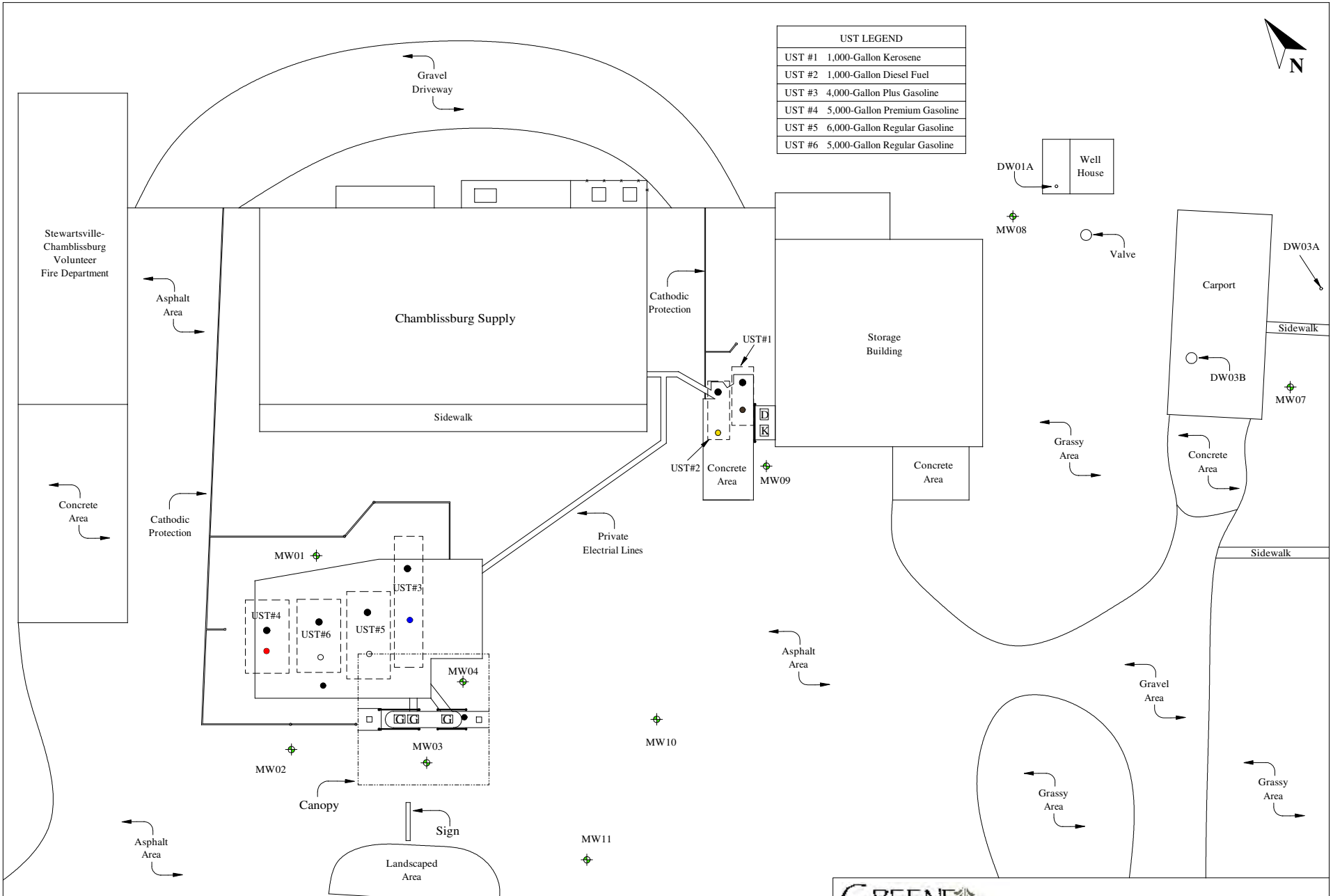

GREENE ENVIRONMENTAL SERVICES INC

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CLIENT:	ESTATE OF LACY DUDLEY	DATE:	10/24/18
COMMENTS:		DRAWN BY:	MAF

0 26.5 53 79.5 106 Feet

GREENE ENVIRONMENTAL SERVICES INC

TITLE:	MONITORING WELL LOCATION MAP - AERIAL		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1003E
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	10/24/18
COMMENTS:		DRAWN BY:	MAF

Deep Groundwater Monitoring Well Location Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179

GREENE ENVIRONMENTAL SERVICES INC
570 Redbud Hill Road, Rocky Mount, Virginia 24151

Office: 540-483-3311 or 800-215-2596
Fax: 540-483-3381

www.greene-environmental.com

BEDFORD COUNTY, VIRGINIA

Source: Google Earth

Scale: Not to Scale

Project: SCRA

Client: Estate of Lacy Dudley

Greene Job #: CSVI1003

Date: December 13, 2018

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W E
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Latitude:
037.257362°N
Longitude:
079.722368° W

Surface Water Samples Location Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179

GREENE ENVIRONMENTAL SERVICES INC
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Office: 540-483-3311 or 800-215-2596
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BEDFORD COUNTY, VIRGINIA

Source: Google Earth

Scale: Not to Scale

Project: SCRA

Client: Estate of Lacy Dudley

Greene Job #: CSVI1003

Date: December 13, 2018

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Latitude:
037.257362°N
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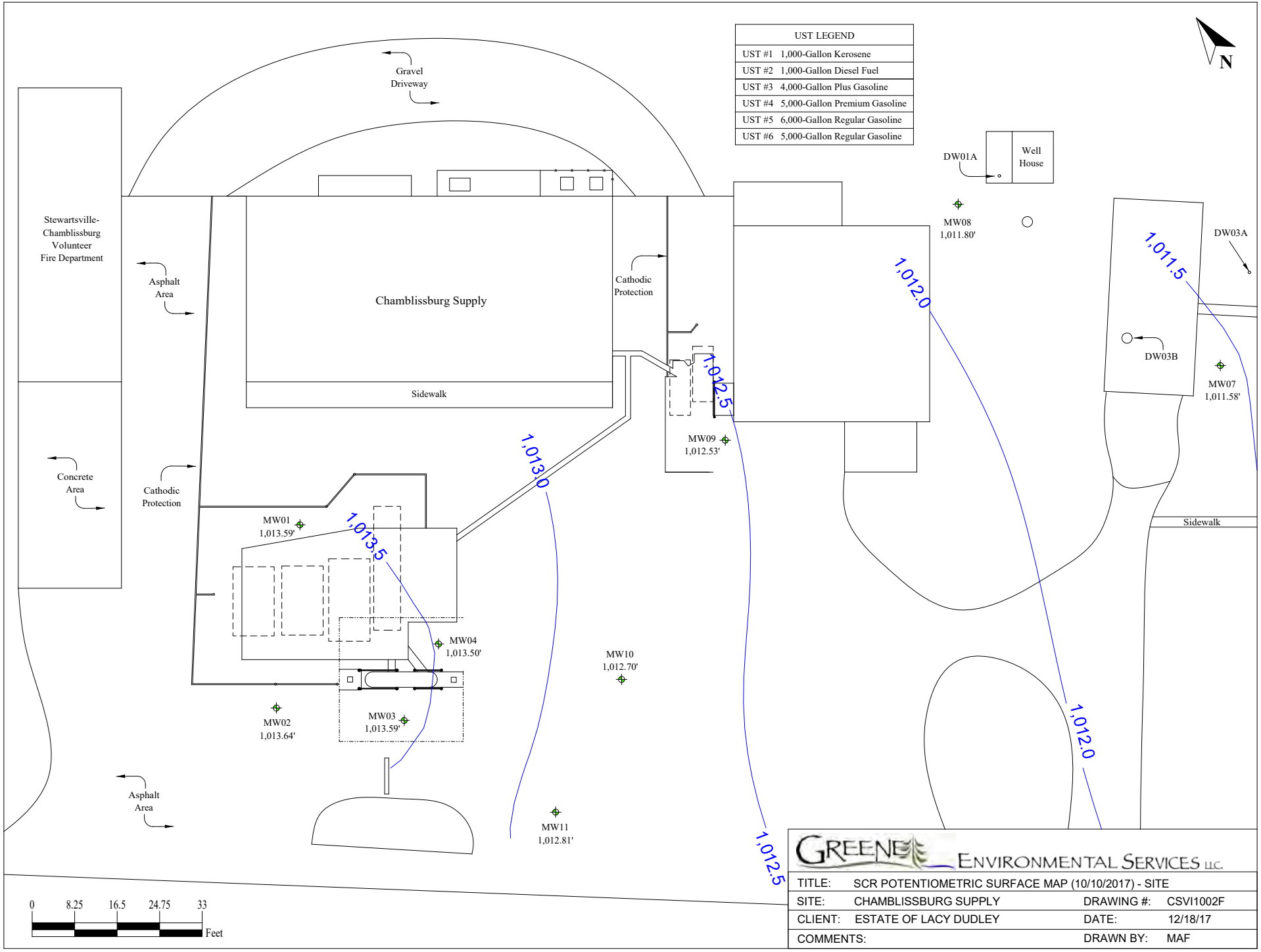
079.722368° W



GREENE ENVIRONMENTAL SERVICES LLC.

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CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
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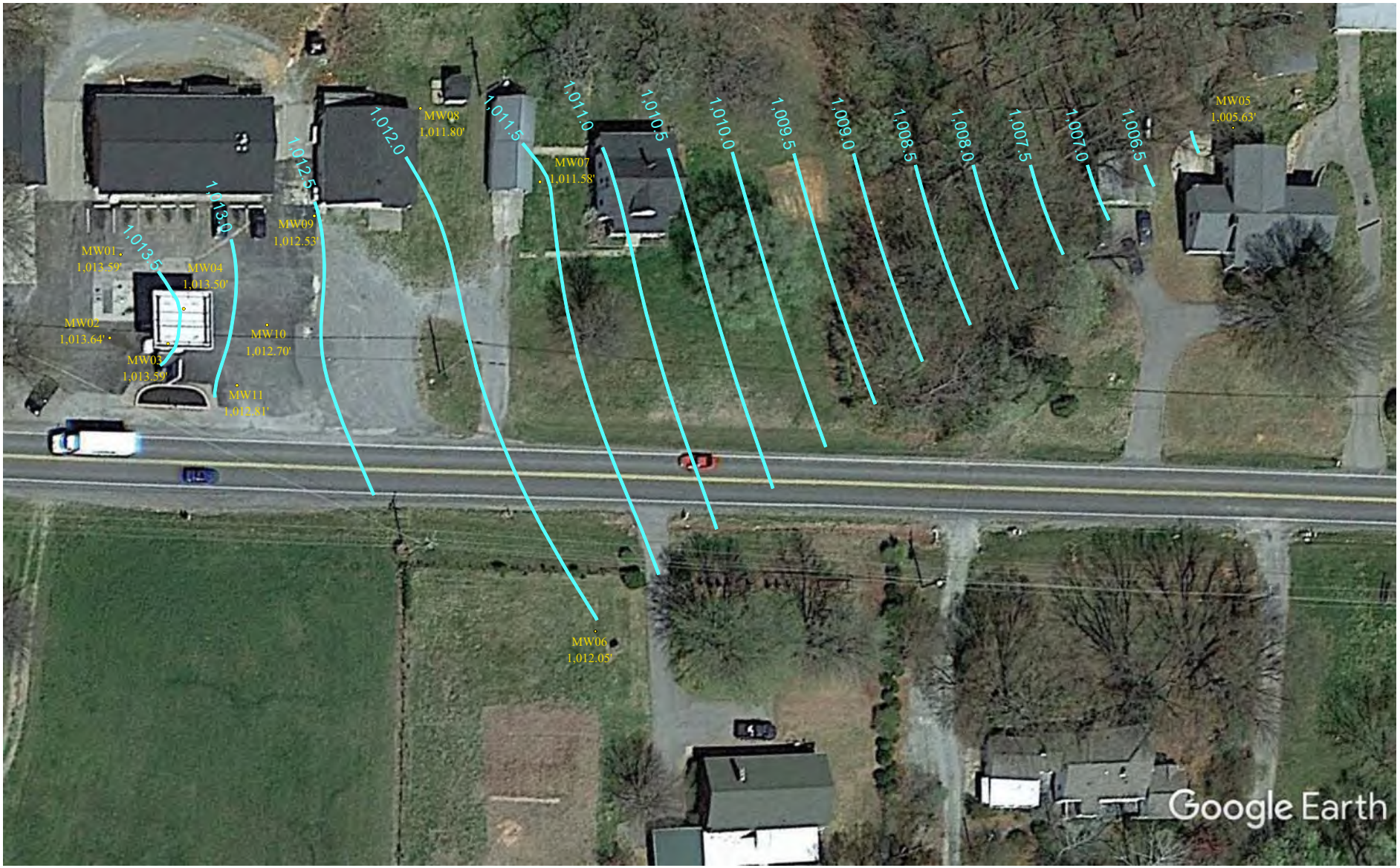

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GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SCR POTENTIOMETRIC SURFACE MAP (10/10/2017) - AERIAL		
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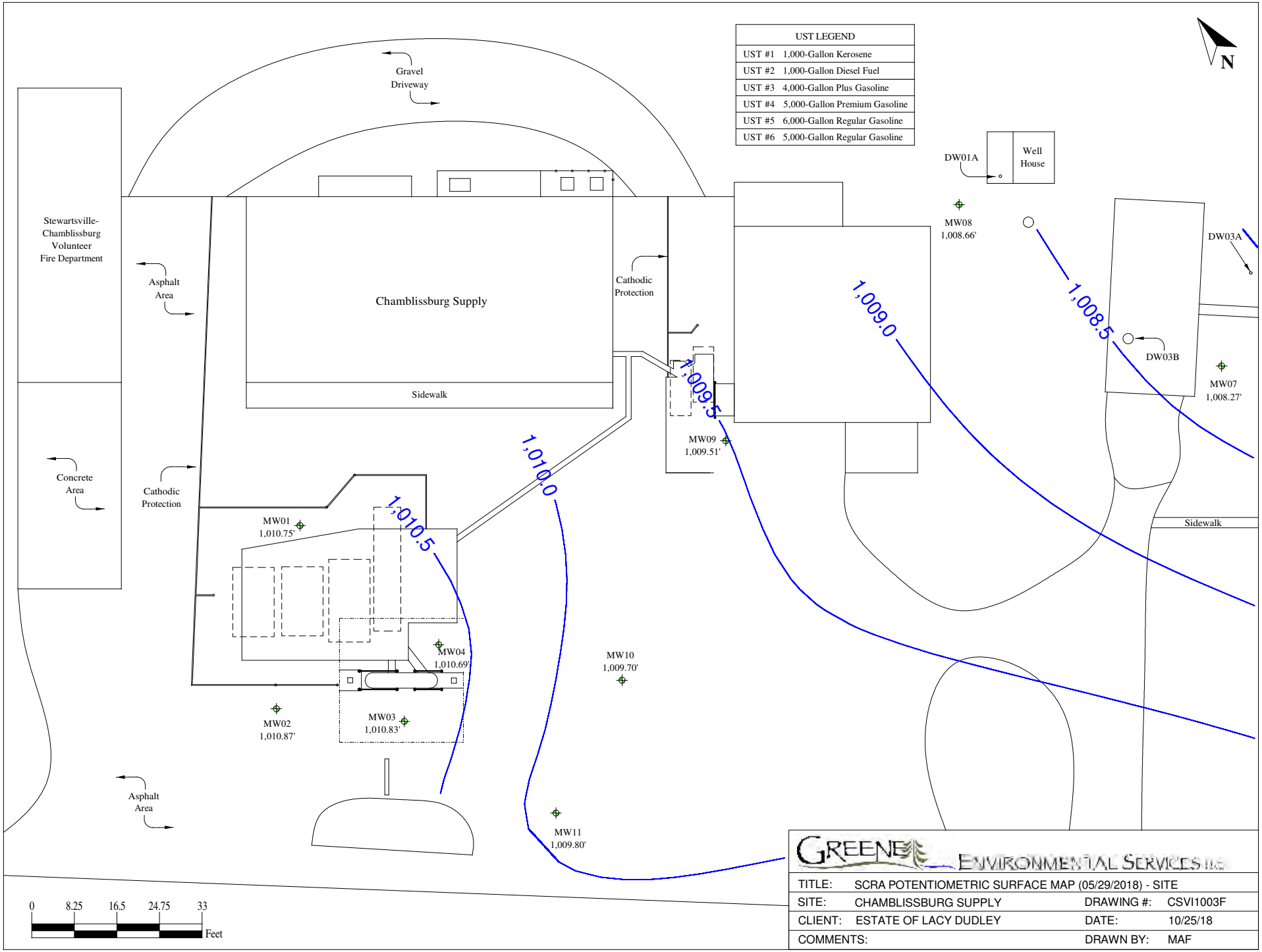

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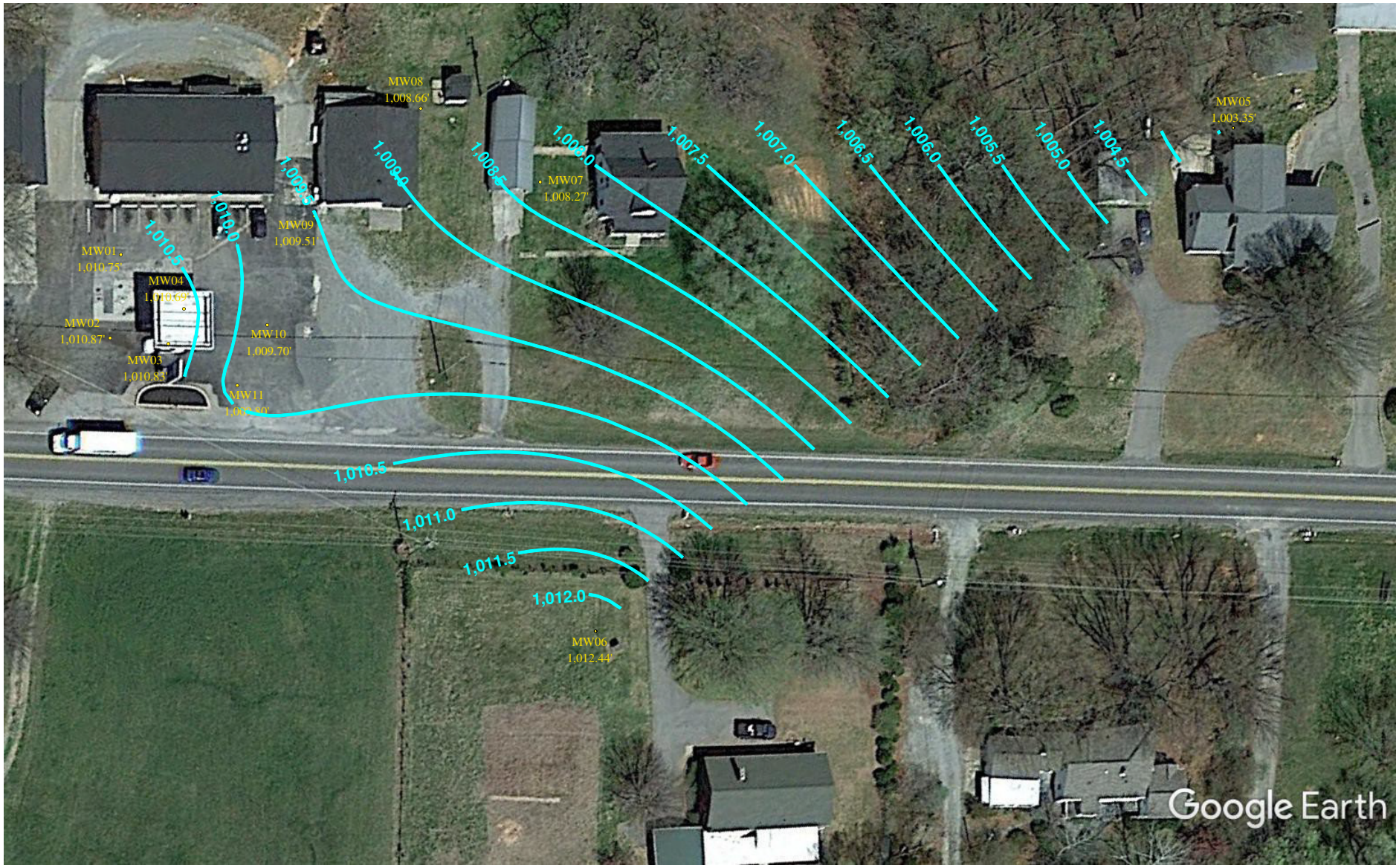

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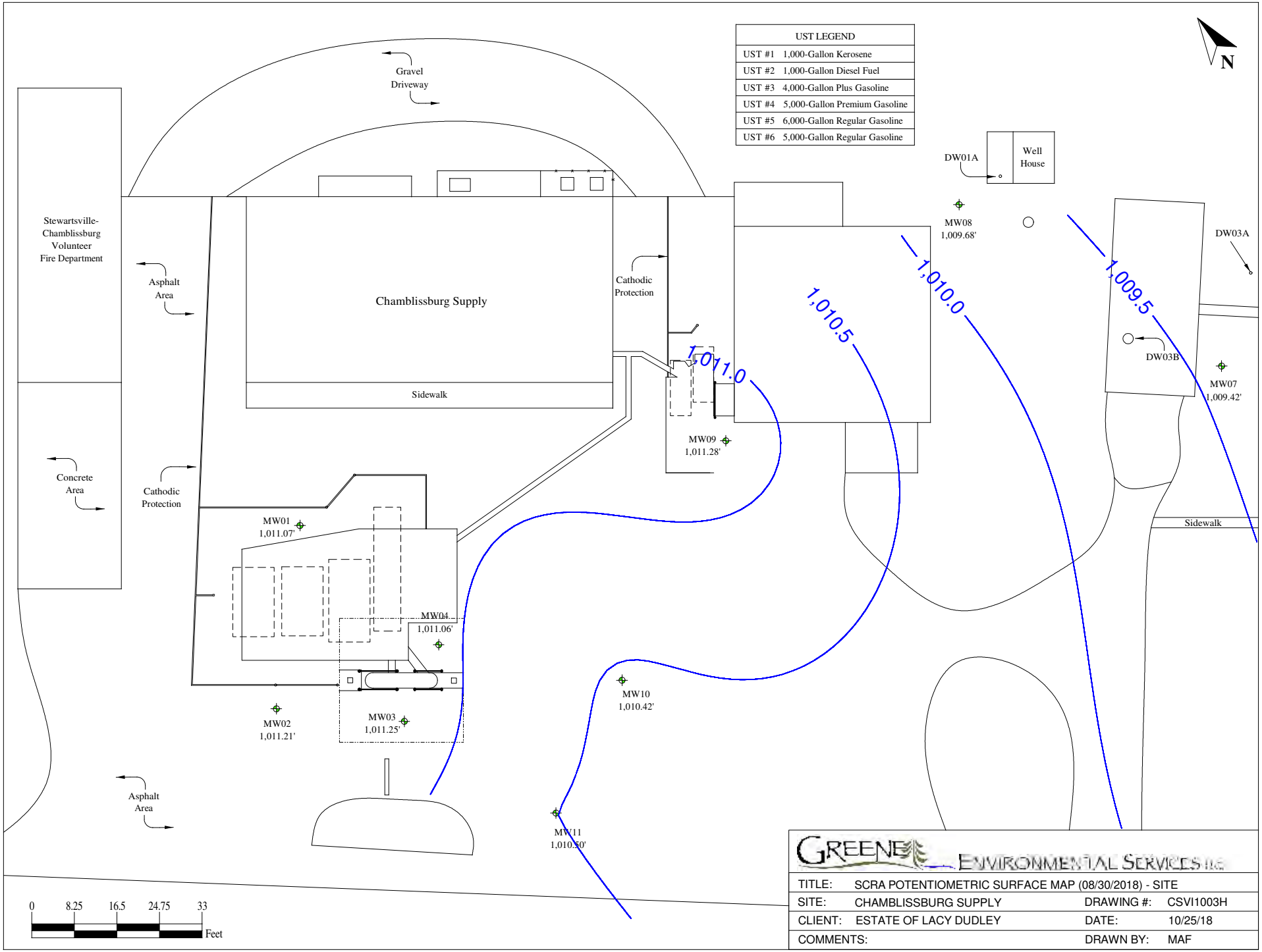
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UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
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UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Sidewalk
Concrete Area
Cathodic Protection
Asphalt Area
DW01A
Well House
MW08 1,009.68'
DW03A
DW03B
MW07 1,009.42'
1,011.0
1,010.5
1,010.0
1,009.5
MW09 1,011.28'
MW01 1,011.07'
MW04 1,011.06'
MW02 1,011.21'
MW03 1,011.25'
MW10 1,010.42'
MW11 1,010.50'
Sidewalk
0 8.25 16.5 24.75 33
Feet
GREENE ENVIRONMENTAL SERVICES INC
TITLE: SCRA POTENTIOMETRIC SURFACE MAP (08/30/2018) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1003H
CLIENT: ESTATE OF LACY DUDLEY
DATE: 10/25/18
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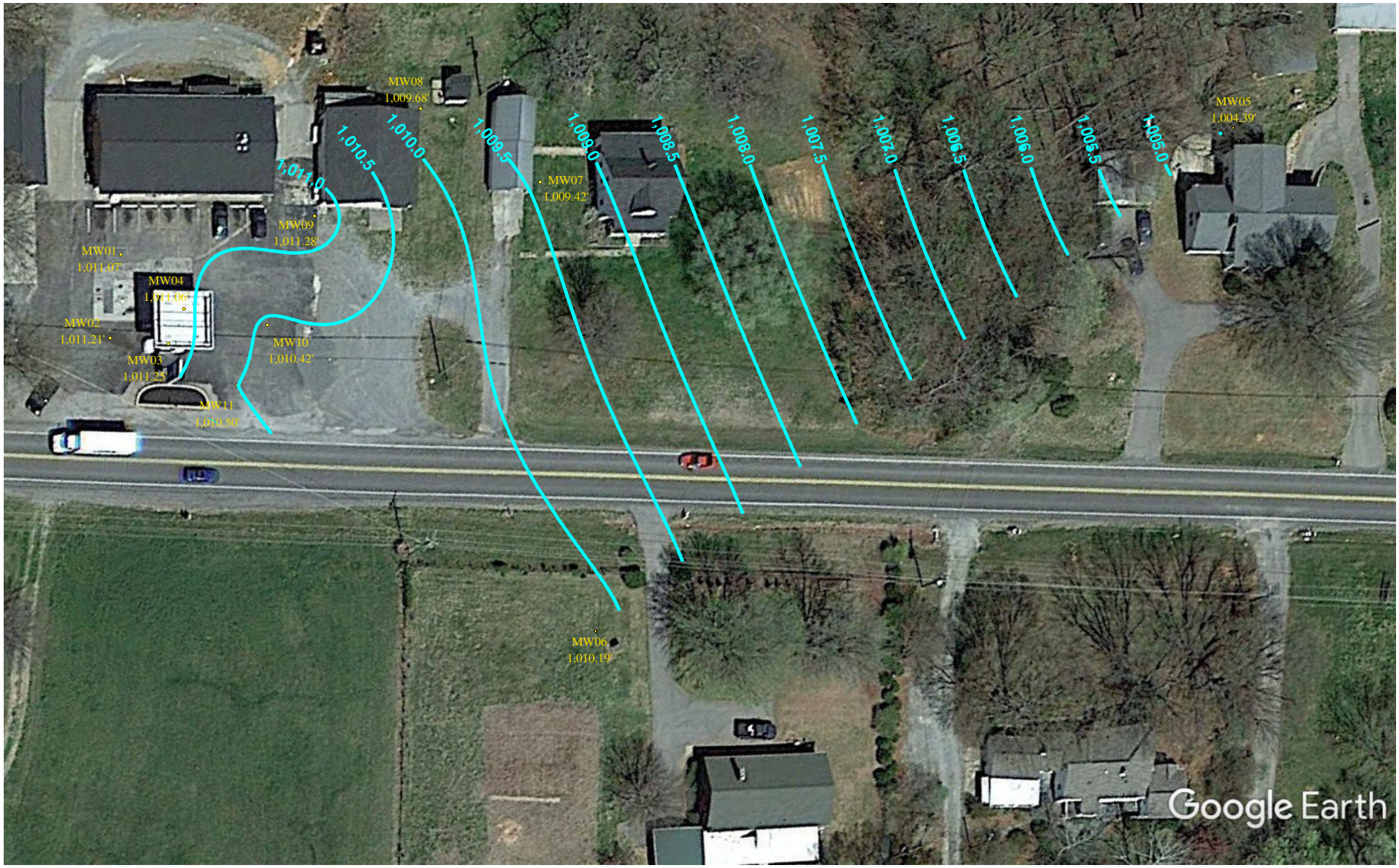

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GREENE ENVIRONMENTAL SERVICES INC

TITLE:	SCRA POTENTIOMETRIC SURFACE MAP (08/30/2018) - AERIAL		
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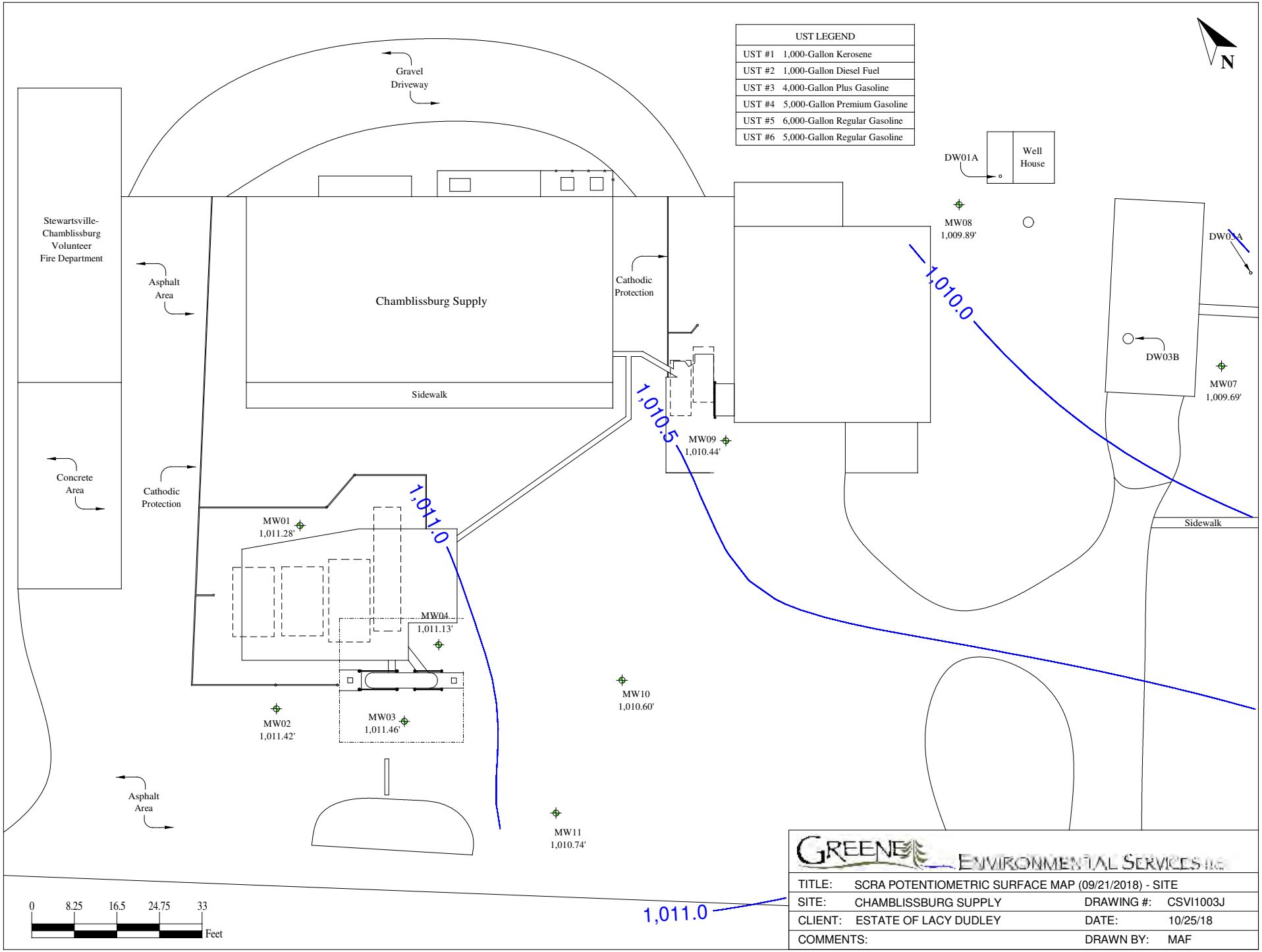

GREENE ENVIRONMENTAL SERVICES INC

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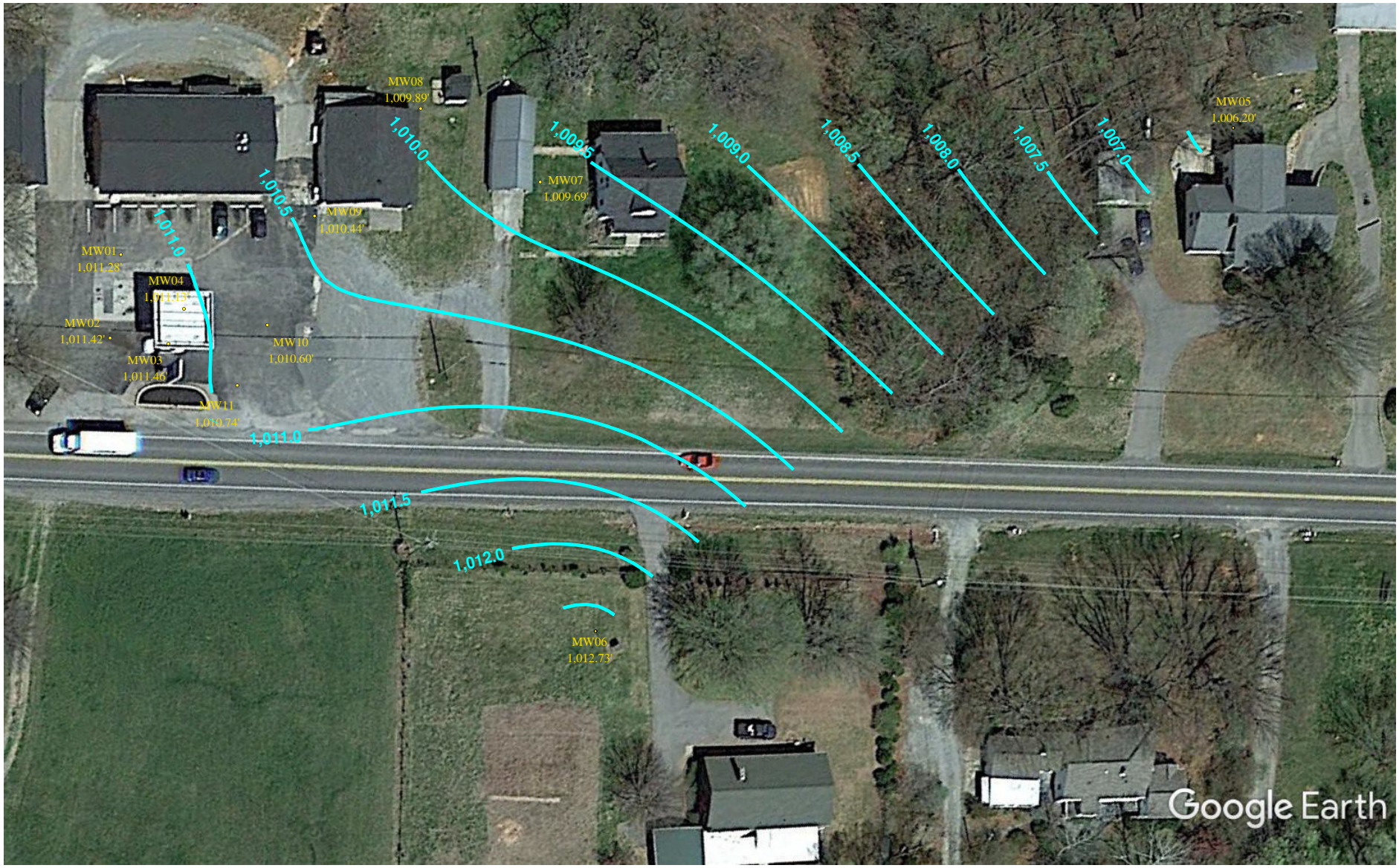

0 26.5 53 79.5 106 Feet

GREENE ENVIRONMENTAL SERVICES INC

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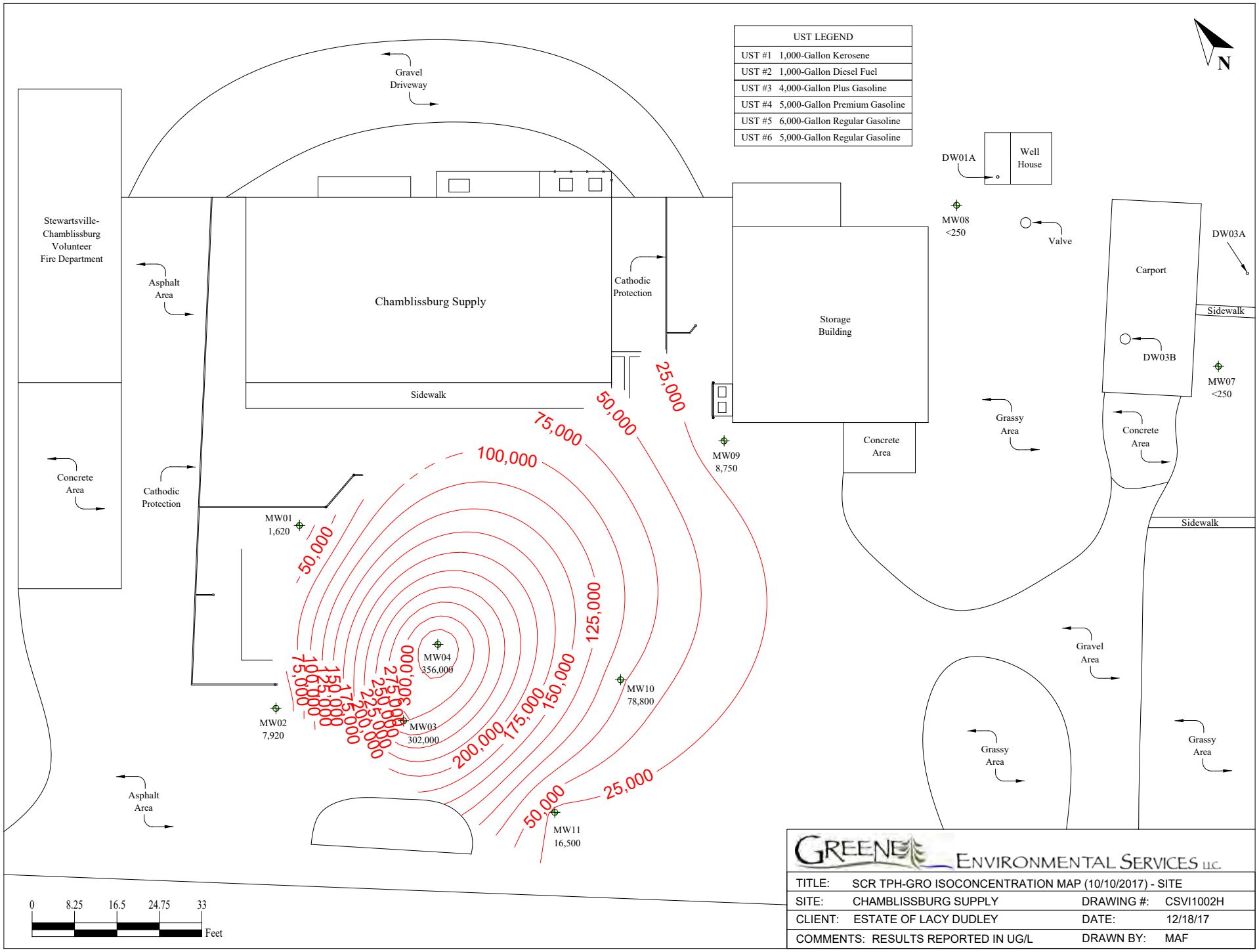
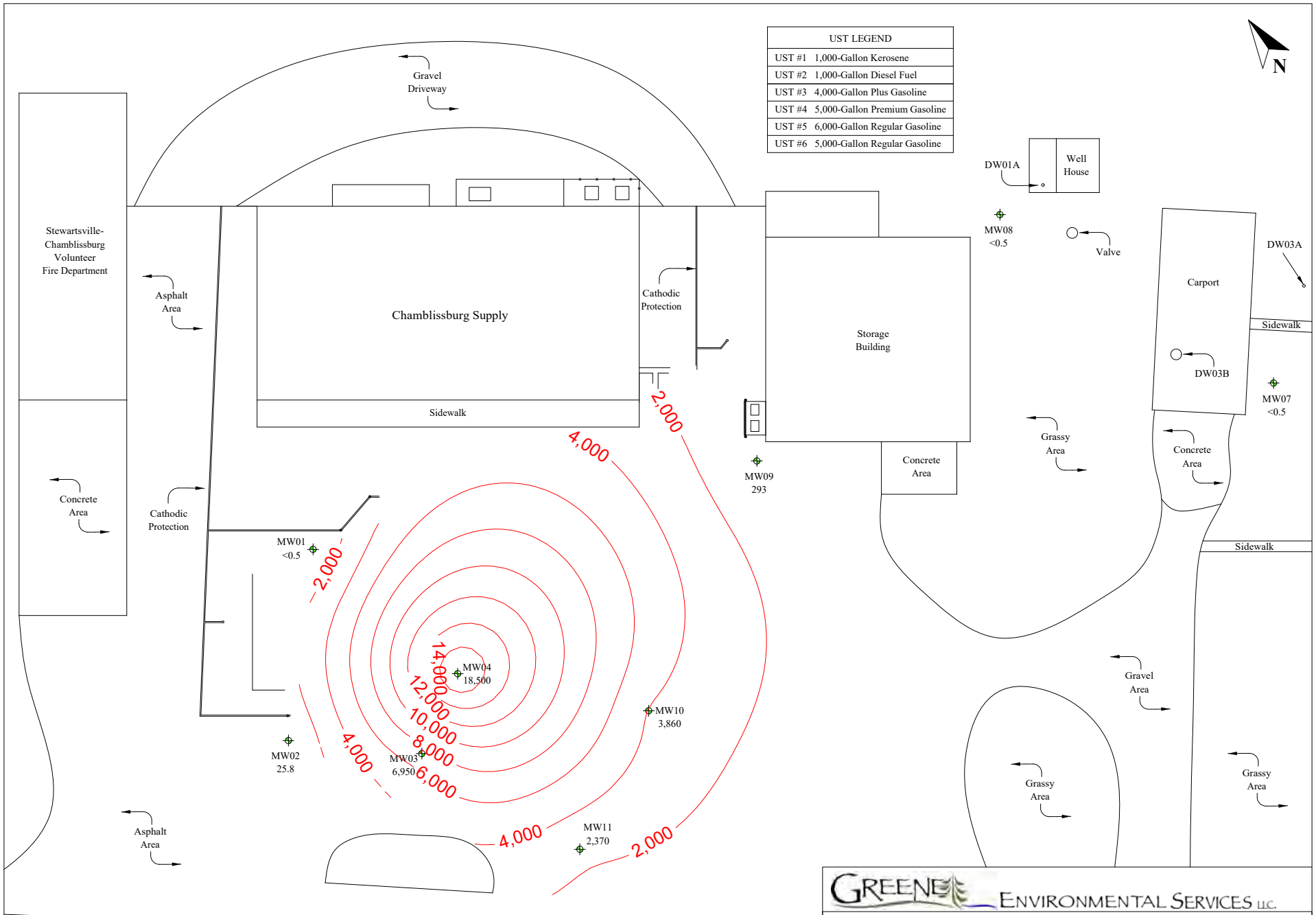
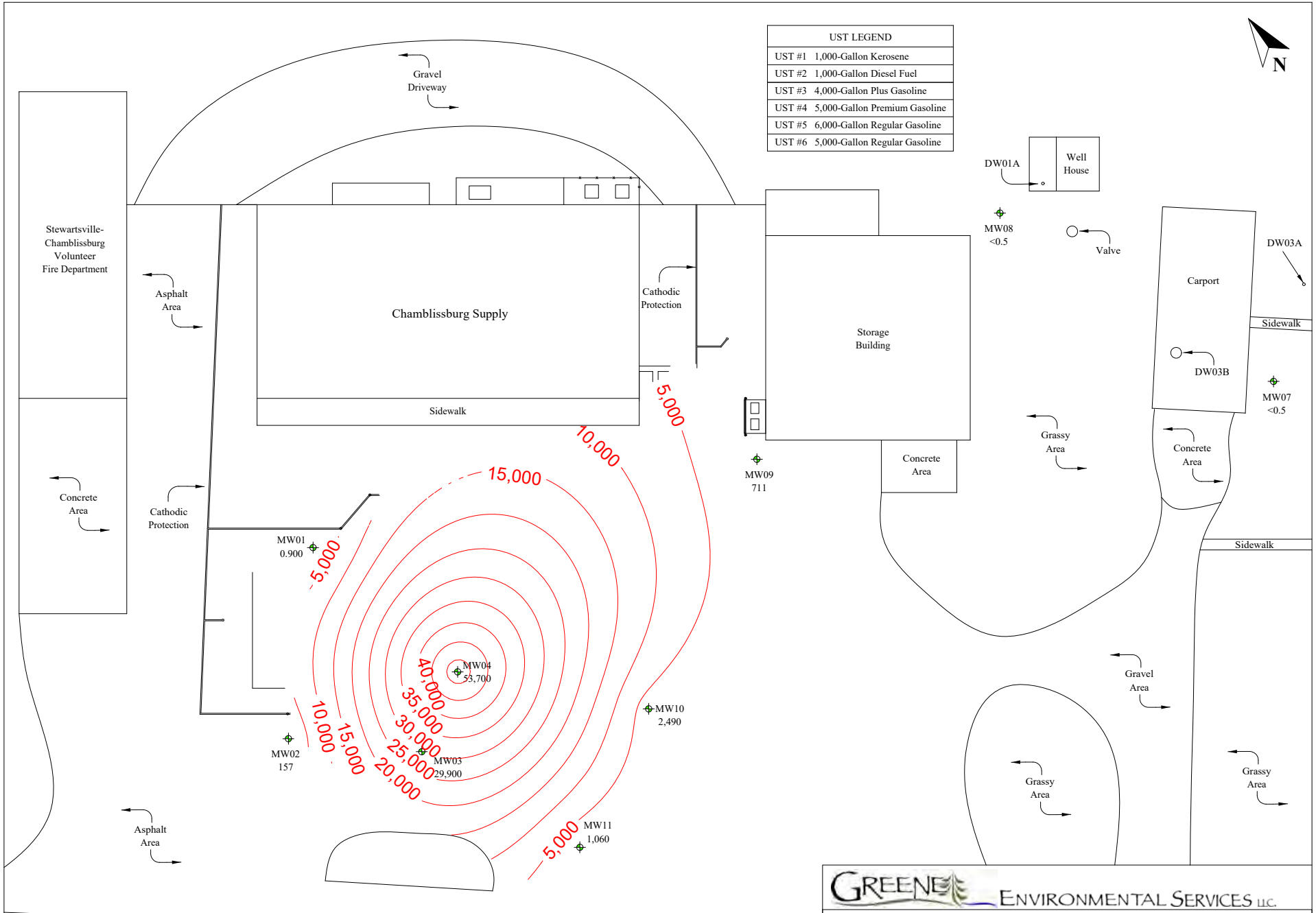
COMMENTS:		DRAWN BY:	MAF


UST LEGEND
UST #1 1,000-Gallon Kerosene
UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
UST #5 6,000-Gallon Regular Gasoline
UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Sidewalk
Storage Building
Concrete Area
Grassy Area
Well House
DW01A
MW08 <250
Valve
Carport
DW03A
DW03B
MW07 <250
Concrete Area
Sidewalk
Gravel Area
Grassy Area
Grassy Area
Concrete Area
Cathodic Protection
MW01 1,620
MW02 7,920
MW03 302,000
MW04 356,000
MW09 8,750
MW10 78,800
MW11 16,500
25,000
50,000
75,000
100,000
125,000
150,000
175,000
200,000
0 8.25 16.5 24.75 33
Feet
GREENE ENVIRONMENTAL SERVICES LLC.
TITLE: SCR TPH-GRO ISOCONCENTRATION MAP (10/10/2017) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1002H
CLIENT: ESTATE OF LACY DUDLEY
DATE: 12/18/17
COMMENTS: RESULTS REPORTED IN UG/L
DRAWN BY: MAF



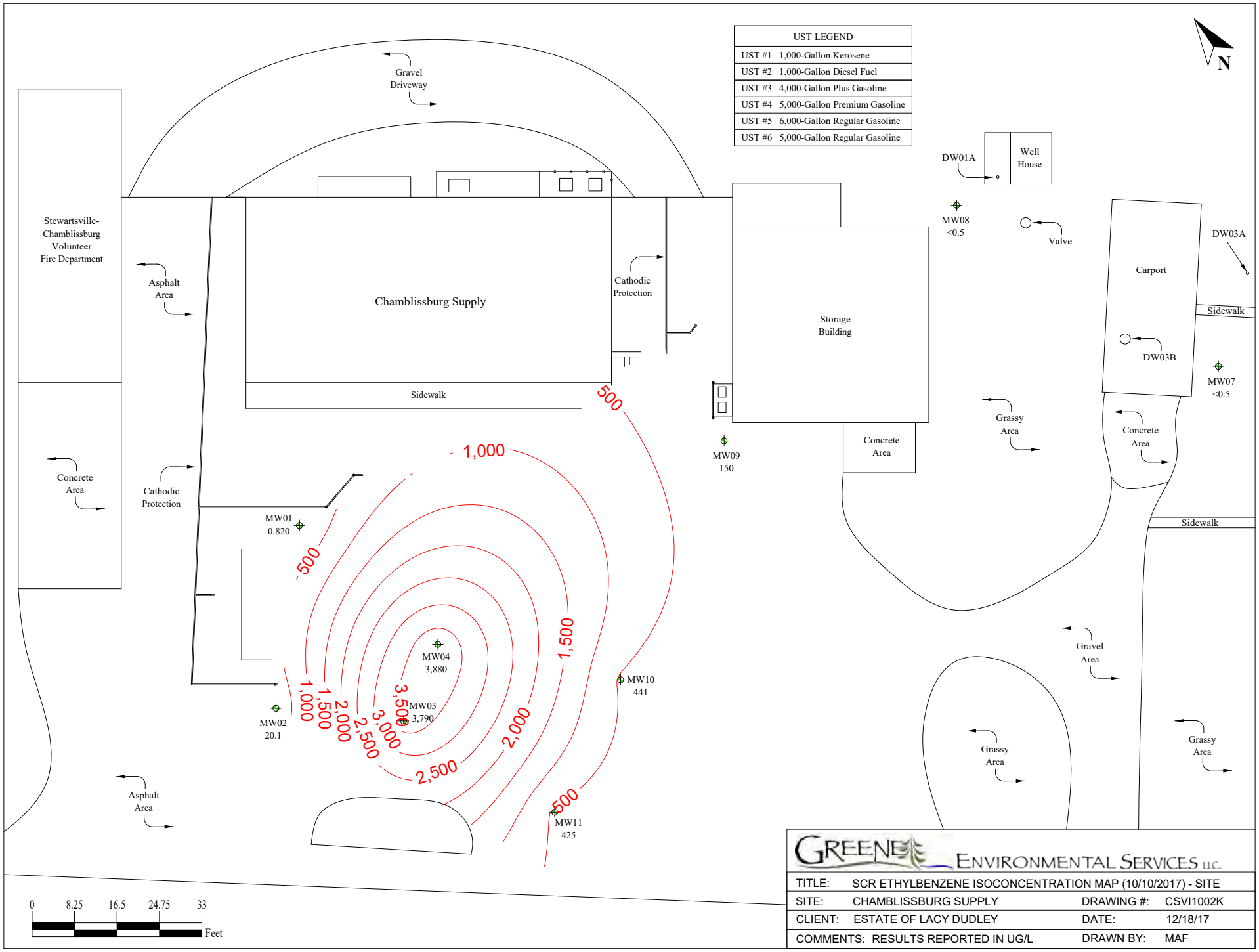
GREENE ENVIRONMENTAL SERVICES LLC.

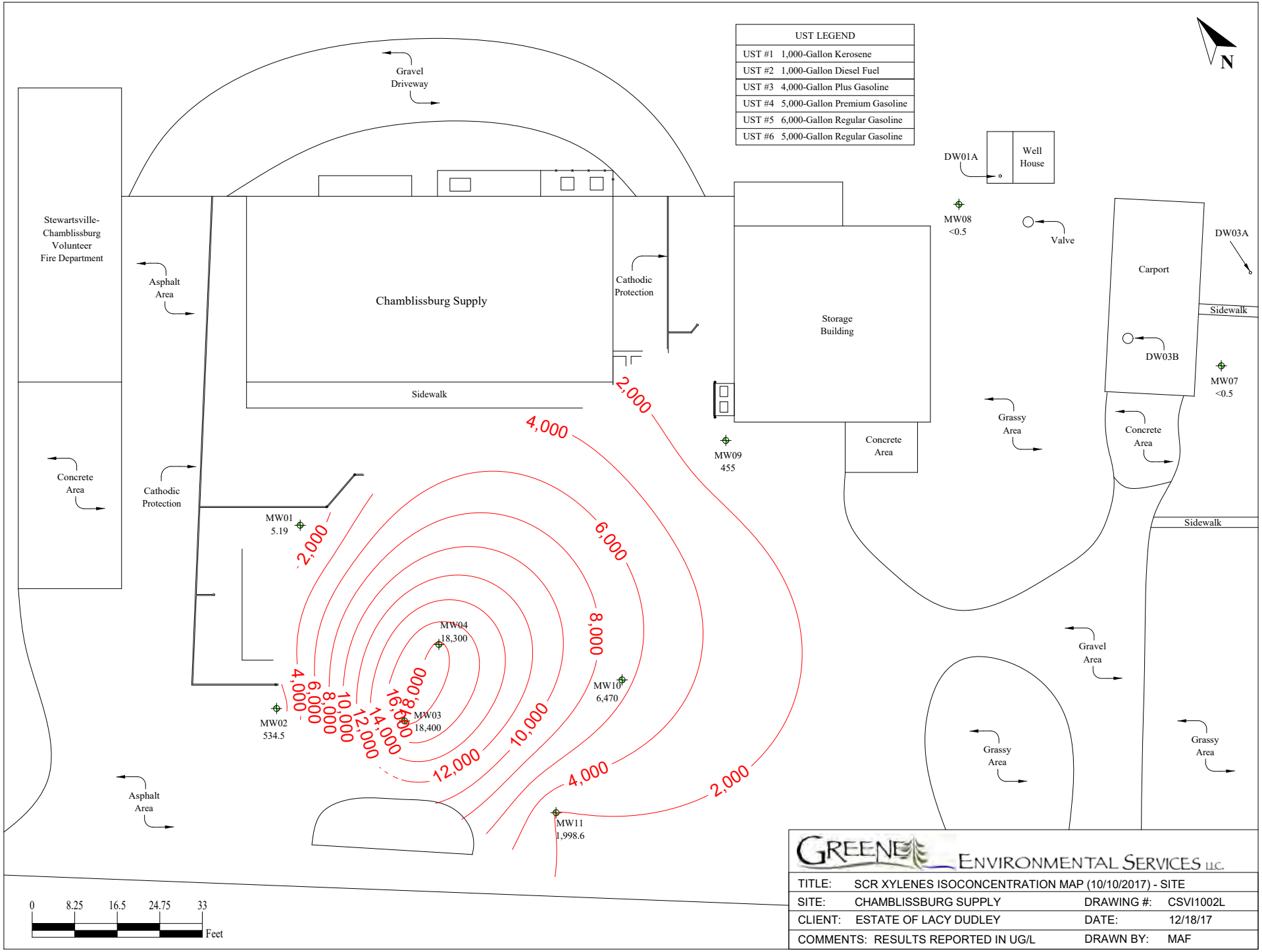
TITLE:	SCR BENZENE ISOCONCENTRATION MAP (10/10/2017) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002I
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF



GREENE ENVIRONMENTAL SERVICES LLC.

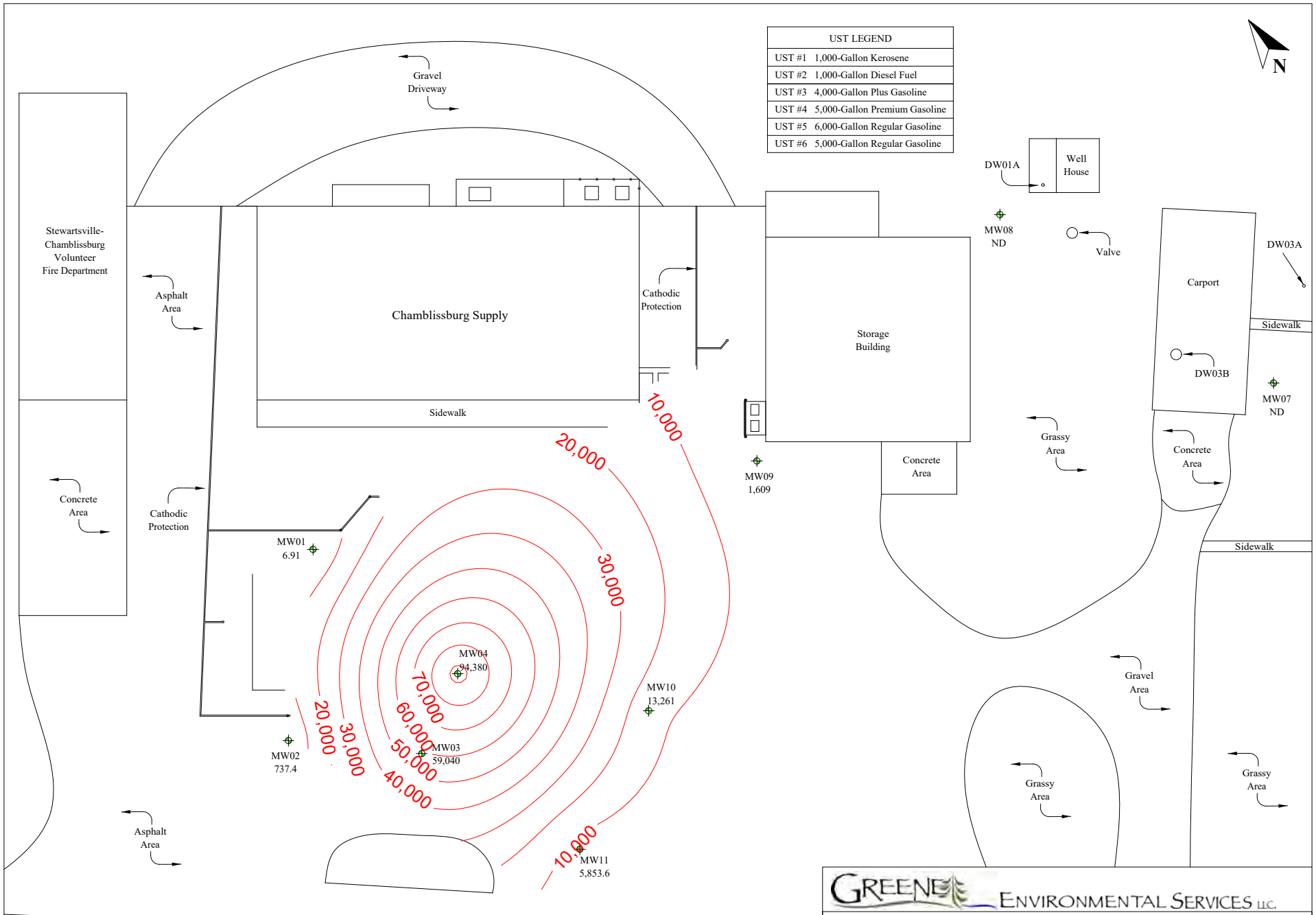
TITLE:	SCR TOLUENE ISOCONCENTRATION MAP (10/10/2017) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002J
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF


UST LEGEND
UST #1 1,000-Gallon Kerosene
UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
UST #5 6,000-Gallon Regular Gasoline
UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Sidewalk
Storage Building
Concrete Area
Grassy Area
Carport
Well House
DW01A
DW03A
DW03B
MW08 <0.5
Valve
MW07 <0.5
MW09 150
Concrete Area
Cathodic Protection
MW01 0.820
MW02 20.1
MW03 3,790
MW04 3,880
MW10 441
MW11 425
500
1,000
1,500
2,000
2,500
3,000
3,500
Gravel Area
Grassy Area
Asphalt Area
0 8.25 16.5 24.75 33 Feet
GREENE ENVIRONMENTAL SERVICES LLC.
TITLE: SCR ETHYLBENZENE ISOCONCENTRATION MAP (10/10/2017) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1002K
CLIENT: ESTATE OF LACY DUDLEY
DATE: 12/18/17
COMMENTS: RESULTS REPORTED IN UG/L
DRAWN BY: MAF



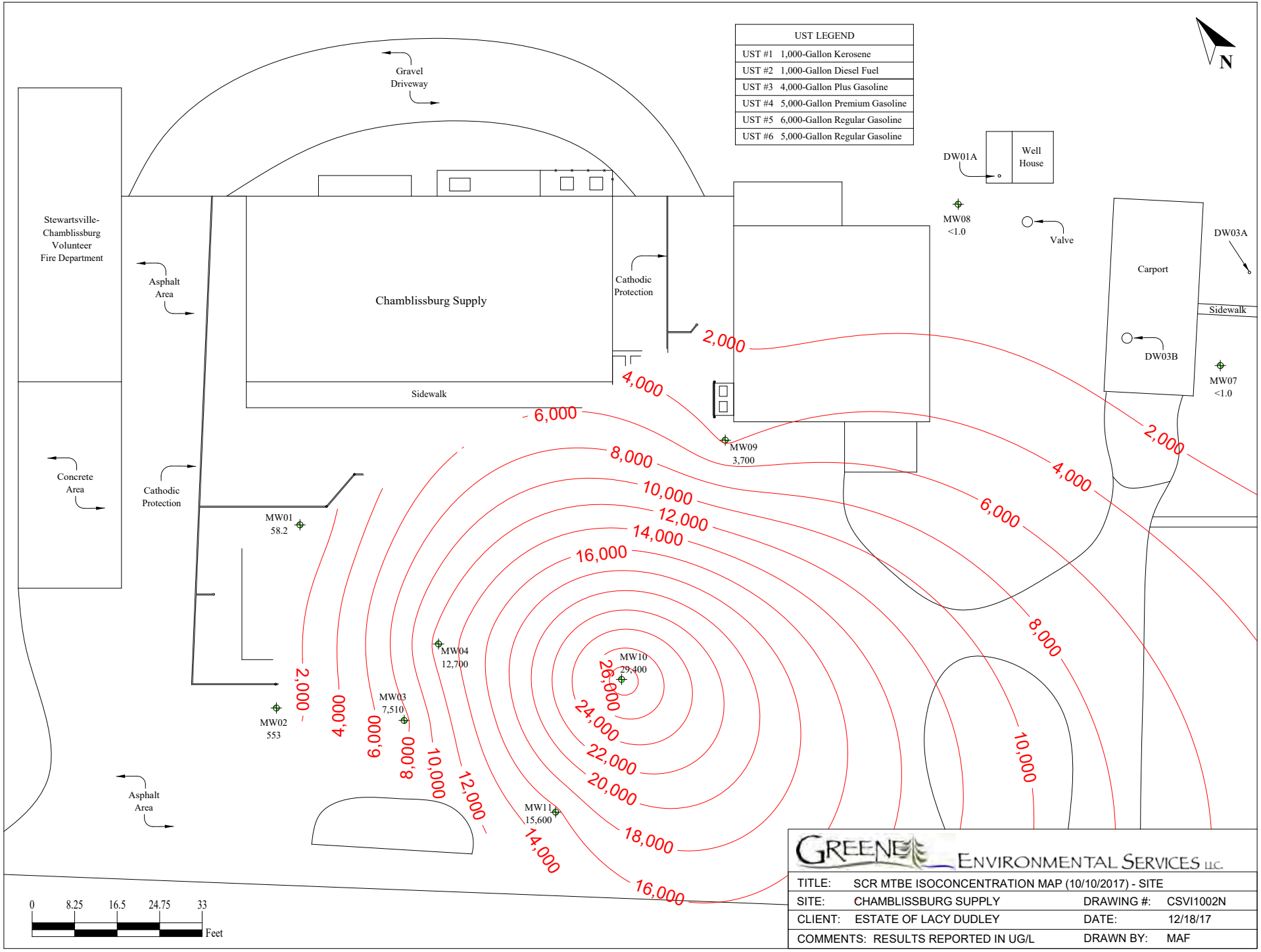
GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SCR XYLENES ISOCONCENTRATION MAP (10/10/2017) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002L
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF



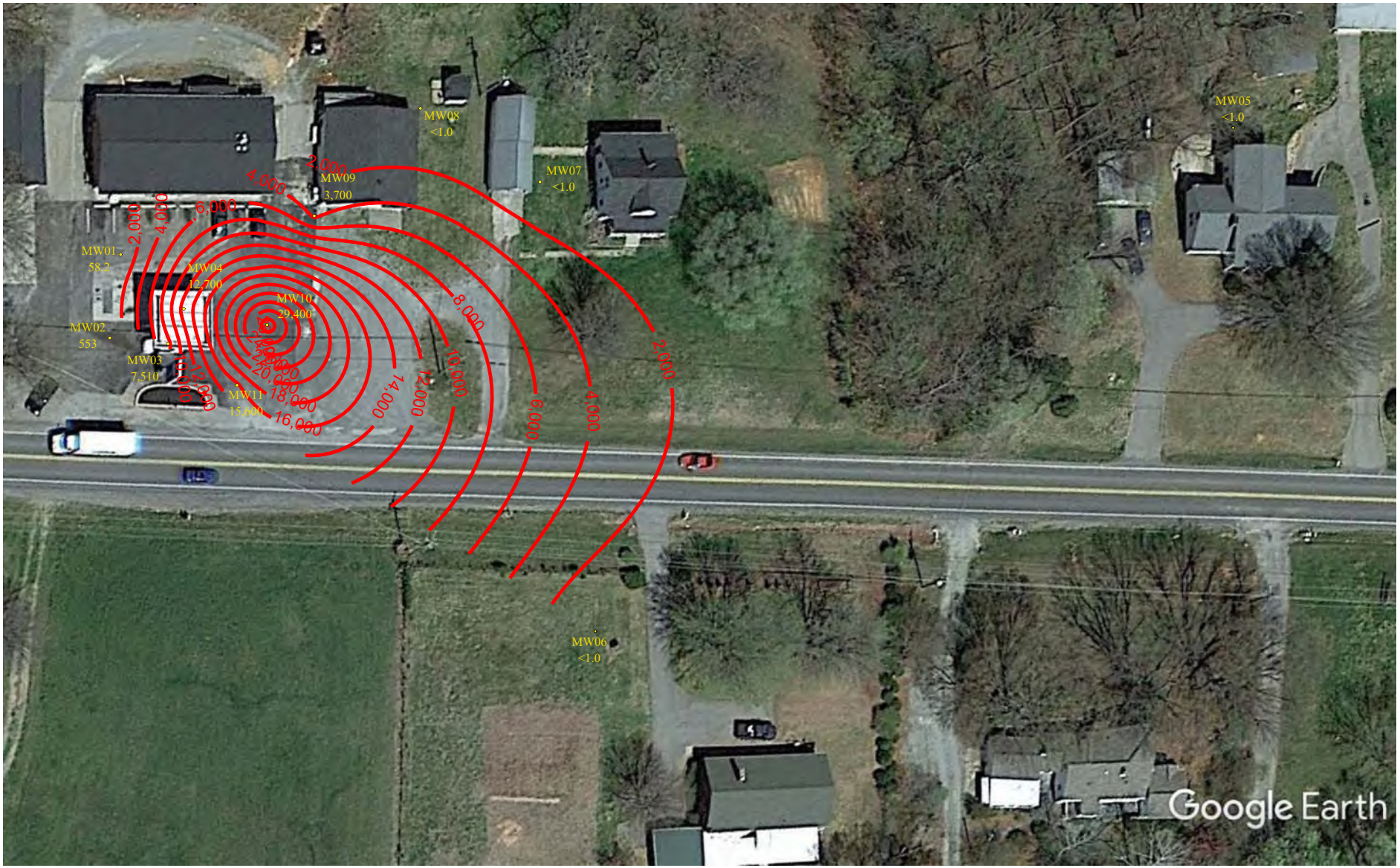
GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SCR TOTAL BTEX ISOCONCENTRATION MAP (10/10/2017) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002M
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF



GREENE ENVIRONMENTAL SERVICES LLC.

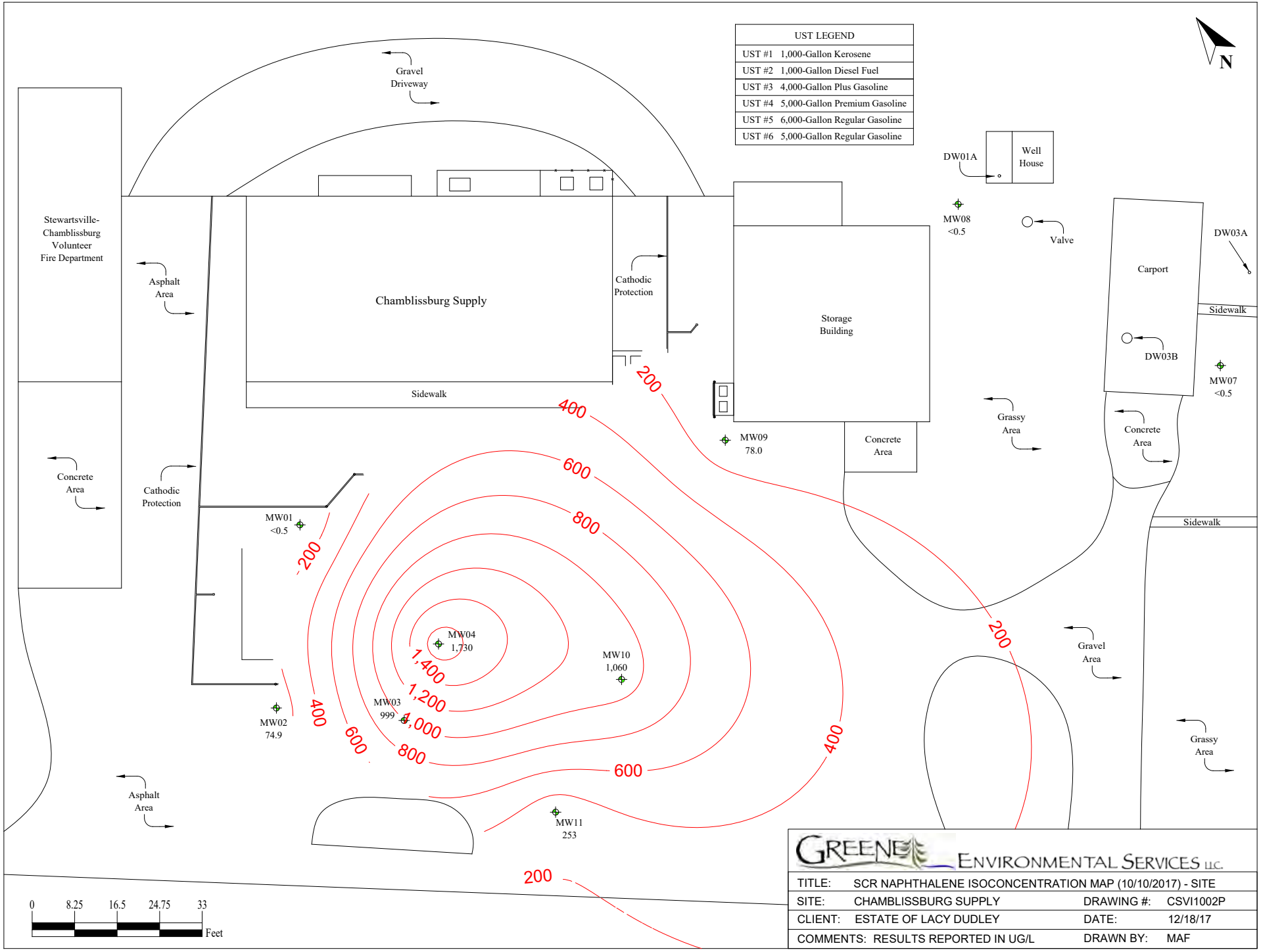
TITLE:	SCR MTBE ISOCONCENTRATION MAP (10/10/2017) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002N
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF



0 26.5 53 79.5 106 Feet

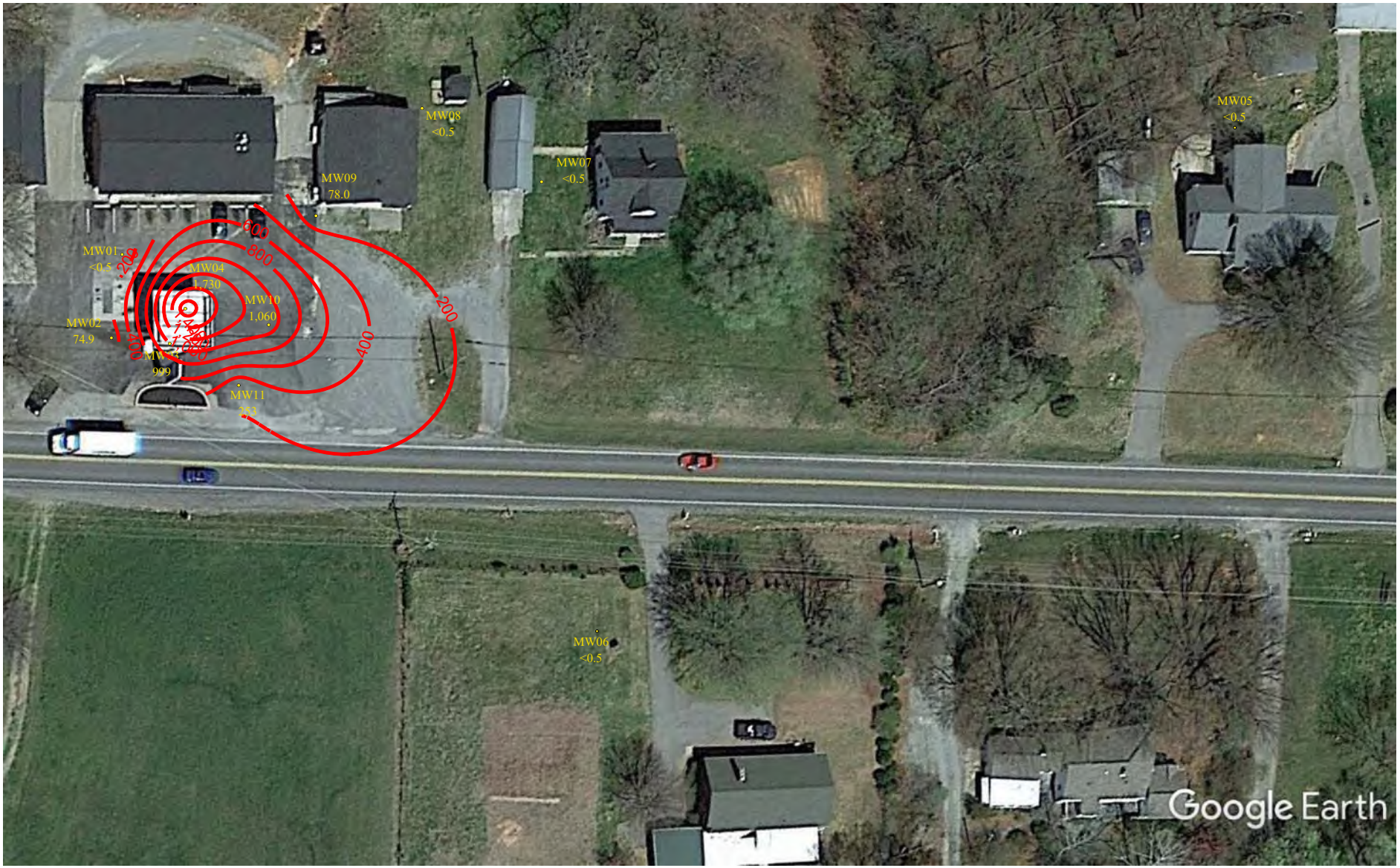
GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SCR MTBE ISOCONCENTRATION MAP (10/10/2017) - AERIAL		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002O
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:		DRAWN BY:	MAF



GREENE ENVIRONMENTAL SERVICES LLC.

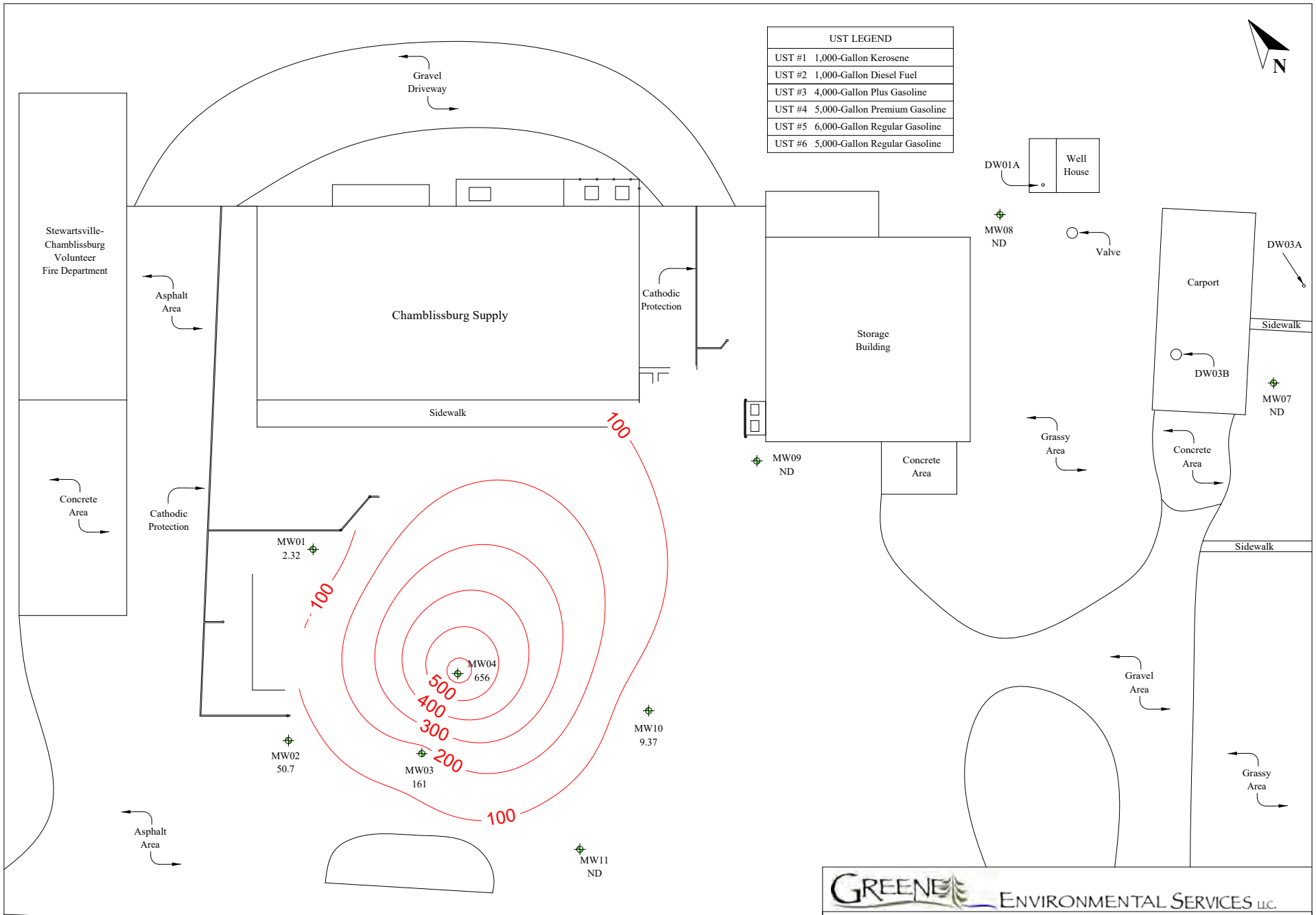
TITLE:	SCR NAPHTHALENE ISOCONCENTRATION MAP (10/10/2017) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002P
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF



0 26.5 53 79.5 106 Feet

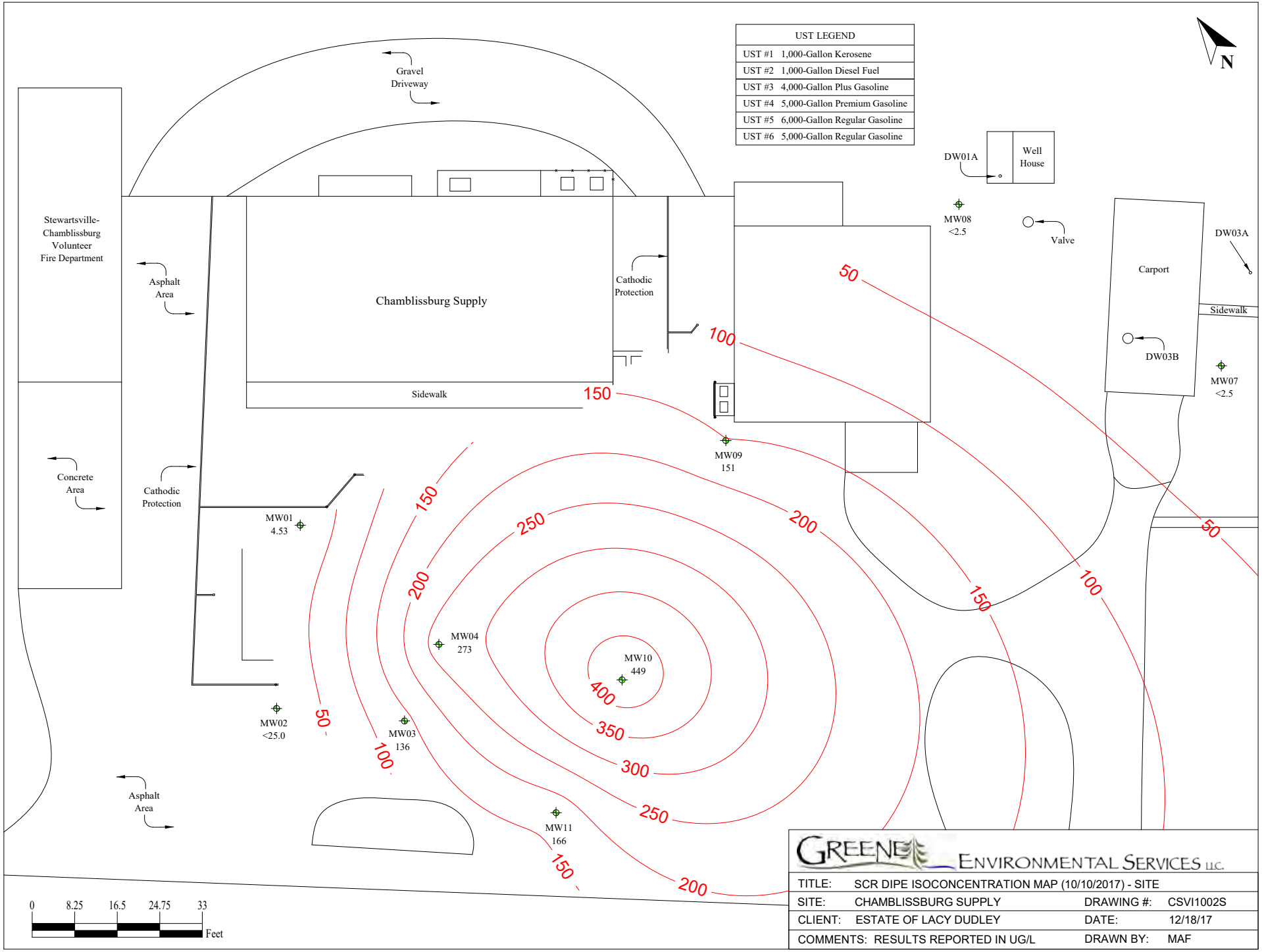
GREENE ENVIRONMENTAL SERVICES LLC.

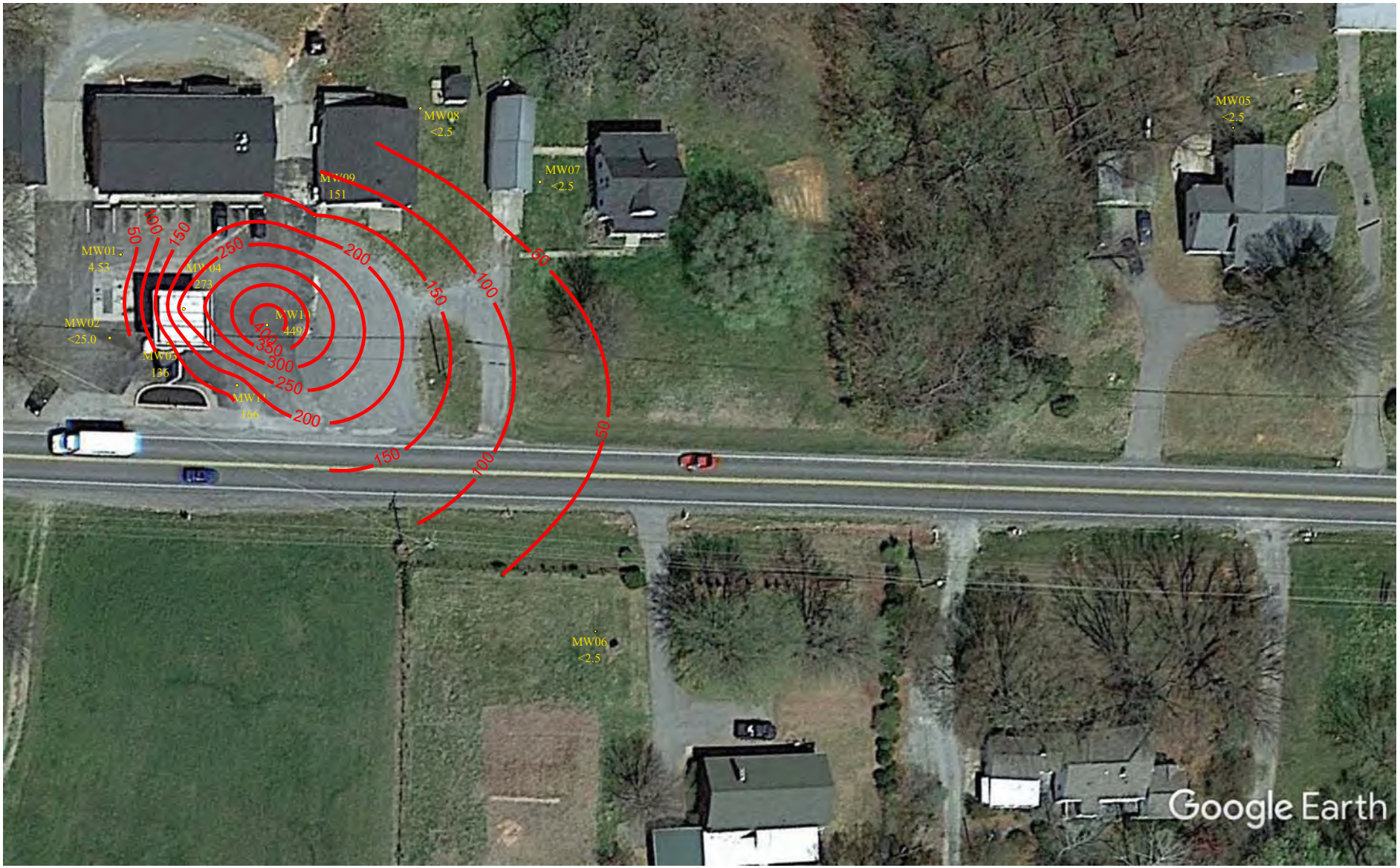
TITLE:	SCR NAPHTHALENE ISOCONCENTRATION MAP (10/10/2017) - AERIAL		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002Q
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:		DRAWN BY:	MAF



GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SCR EDB ISOCONCENTRATION MAP (10/10/2017) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002R
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF

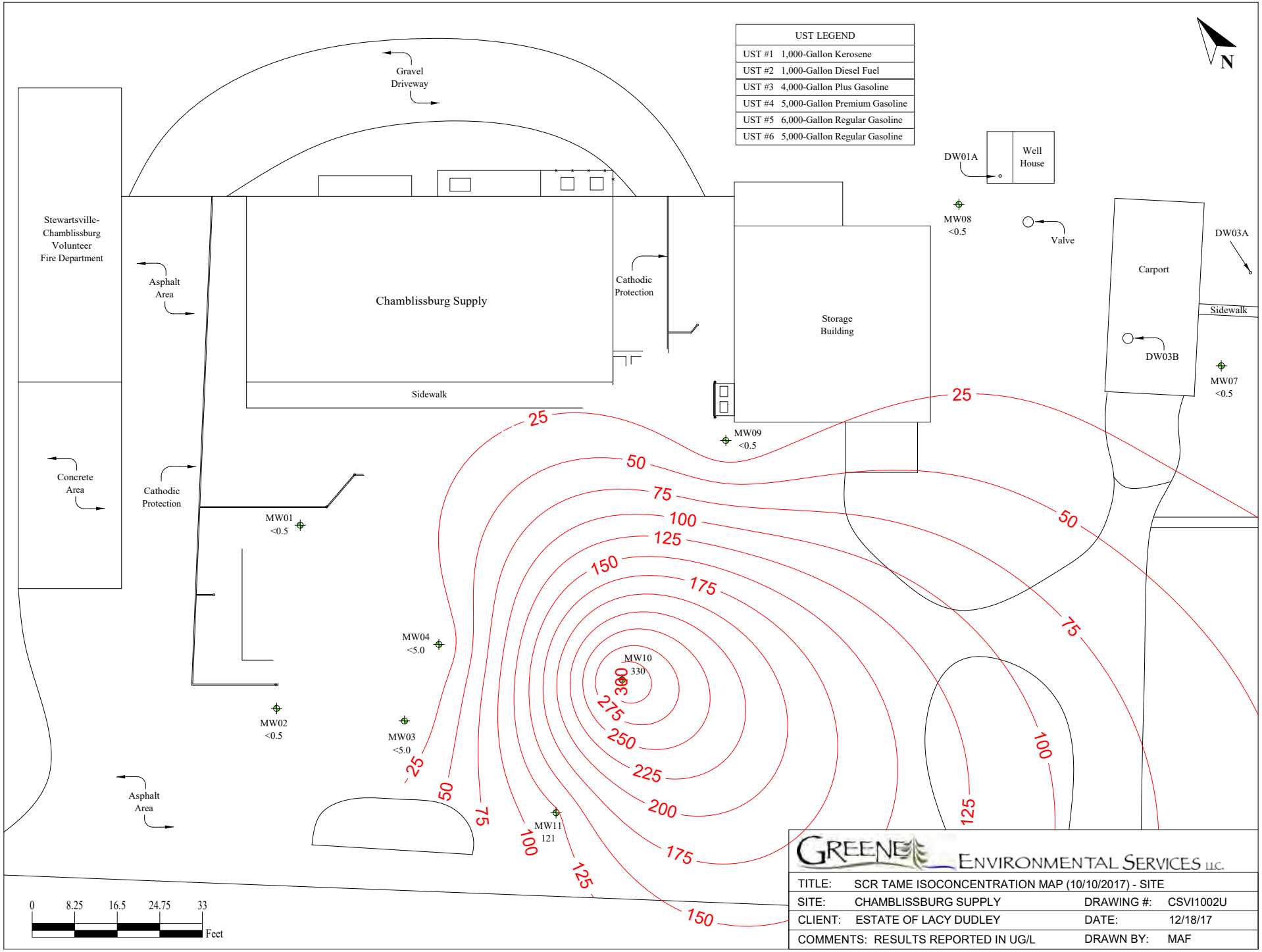

UST LEGEND
UST #1 1,000-Gallon Kerosene
UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
UST #5 6,000-Gallon Regular Gasoline
UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Sidewalk
Concrete Area
Cathodic Protection
Asphalt Area
DW01A
Well House
MW08 <2.5
Valve
DW03A
Carport
Sidewalk
DW03B
MW07 <2.5
MW09 151
MW01 4.53
MW02 <25.0
MW03 136
MW04 273
MW10 449
MW11 166
50
100
150
200
250
300
350
400
0 8.25 16.5 24.75 33 Feet
GREENE ENVIRONMENTAL SERVICES LLC.
TITLE: SCR DIPE ISOCONCENTRATION MAP (10/10/2017) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1002S
CLIENT: ESTATE OF LACY DUDLEY
DATE: 12/18/17
COMMENTS: RESULTS REPORTED IN UG/L
DRAWN BY: MAF

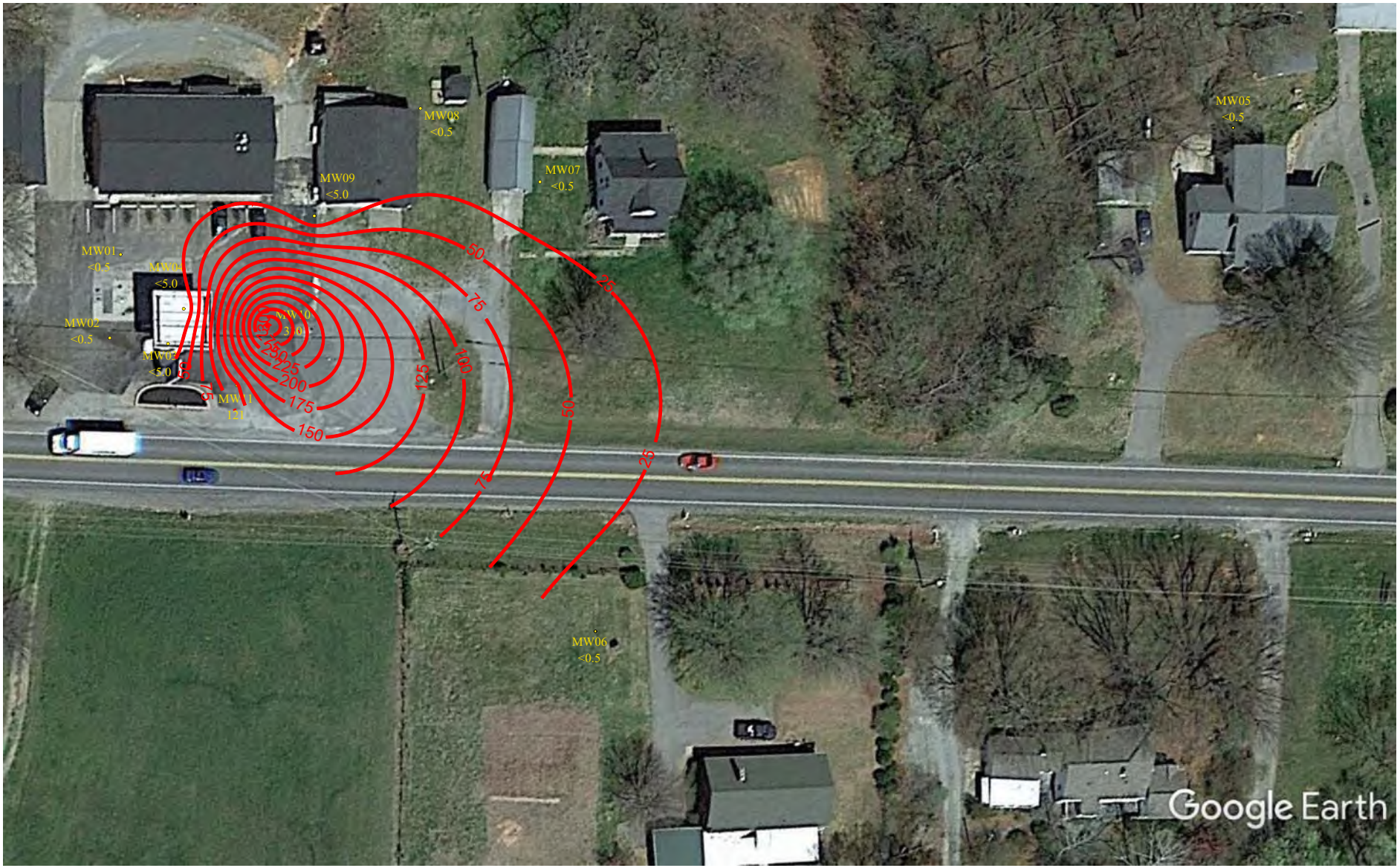


0 26.5 53 79.5 106 Feet

GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SCR DIPE ISOCONCENTRATION MAP (10/10/2017) - AERIAL		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002T
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:		DRAWN BY:	MAF

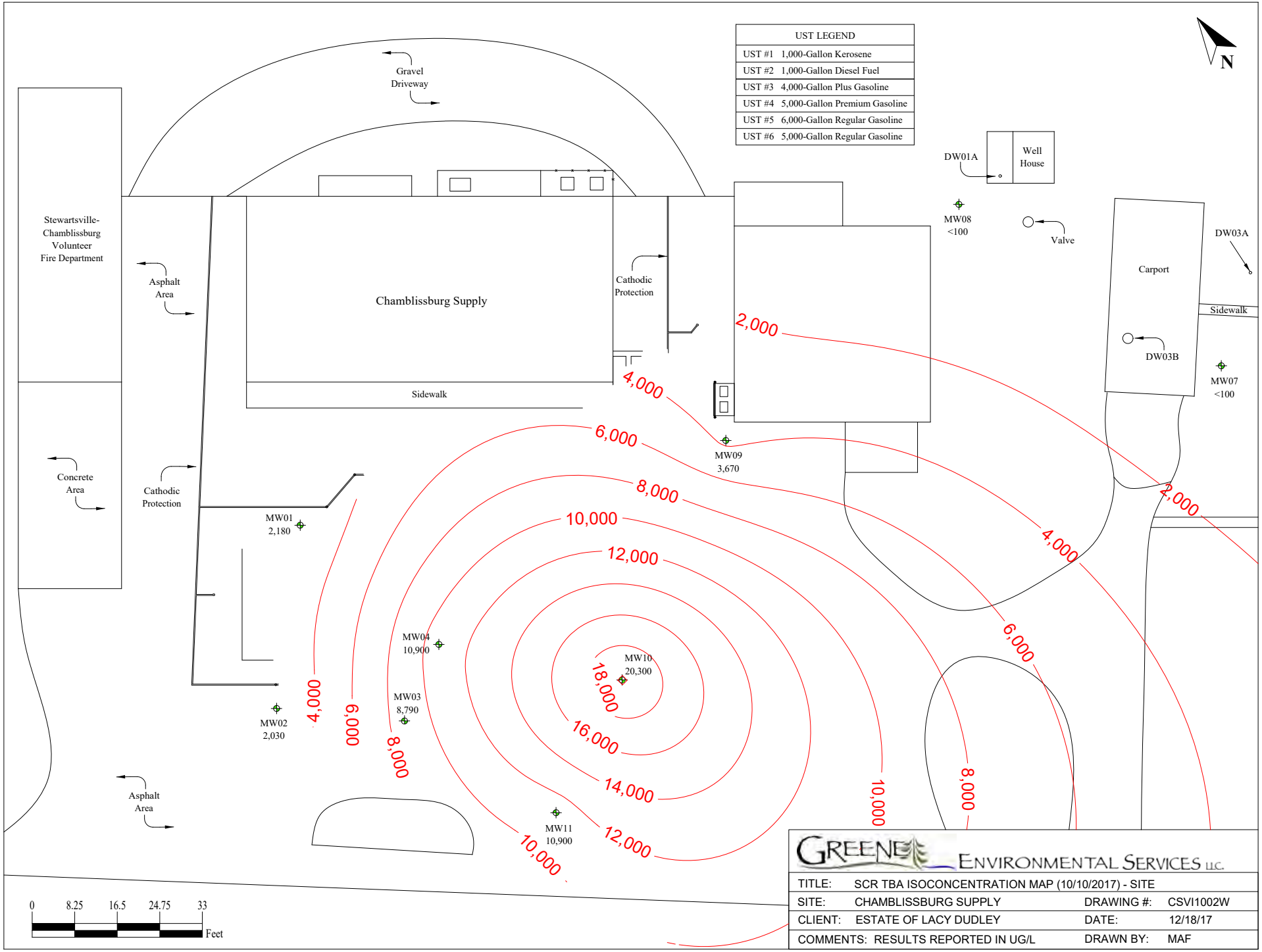

UST LEGEND
UST #1 1,000-Gallon Kerosene
UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
UST #5 6,000-Gallon Regular Gasoline
UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Sidewalk
Storage Building
Well House
DW01A
MW08 <0.5
Valve
Carport
DW03A
DW03B
MW07 <0.5
MW09 <0.5
Concrete Area
Cathodic Protection
MW01 <0.5
MW04 <5.0
MW10 330
MW02 <0.5
MW03 <5.0
MW11 121
Asphalt Area
25
50
75
100
125
150
175
200
225
250
275
300
0 8.25 16.5 24.75 33 Feet
GREENE ENVIRONMENTAL SERVICES LLC.
TITLE: SCR TAME ISOCONCENTRATION MAP (10/10/2017) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1002U
CLIENT: ESTATE OF LACY DUDLEY
DATE: 12/18/17
COMMENTS: RESULTS REPORTED IN UG/L
DRAWN BY: MAF

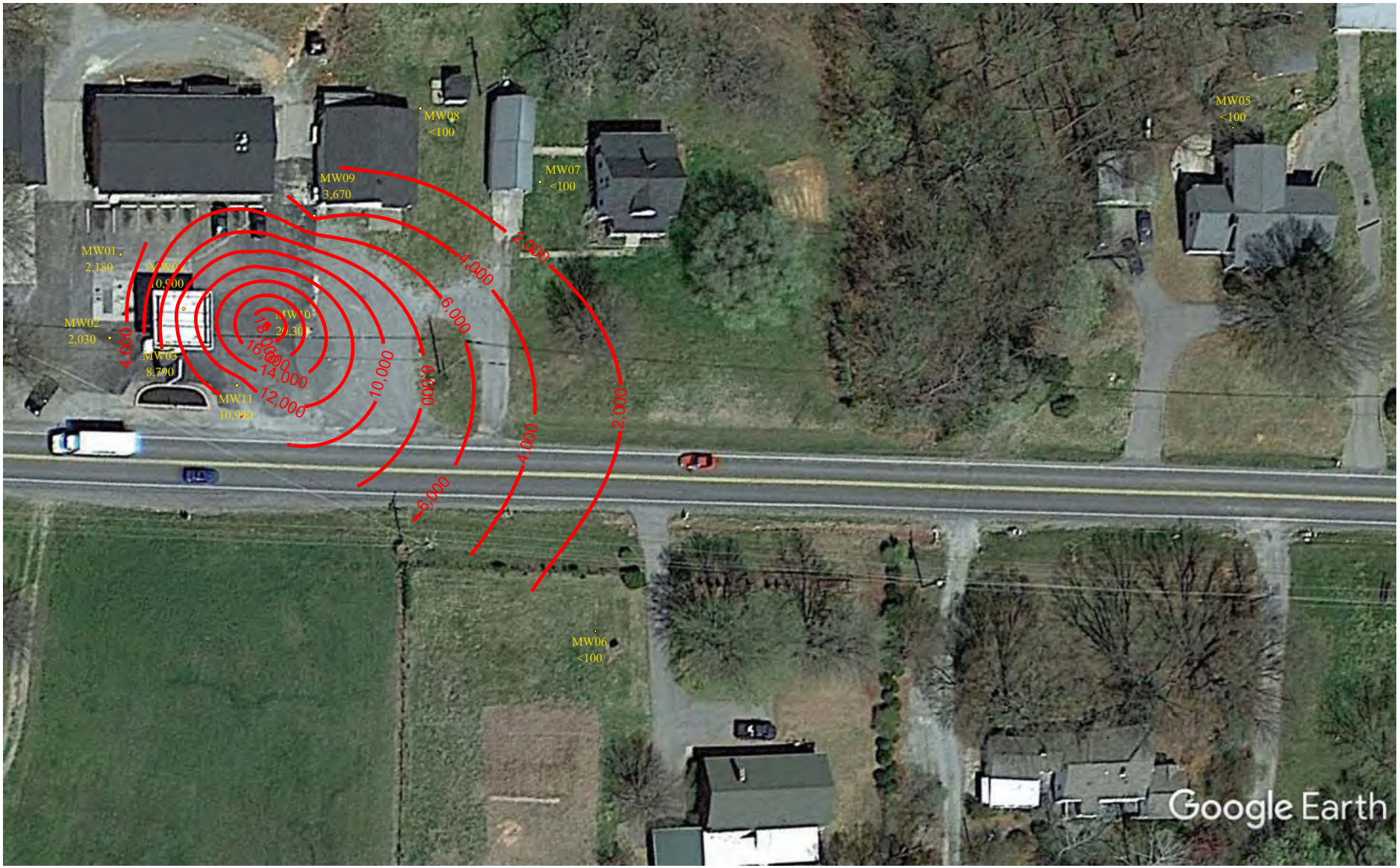


0 26.5 53 79.5 106 Feet

GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SCR TAME ISOCONCENTRATION MAP (10/10/2017) - AERIAL		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002V
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:		DRAWN BY:	MAF

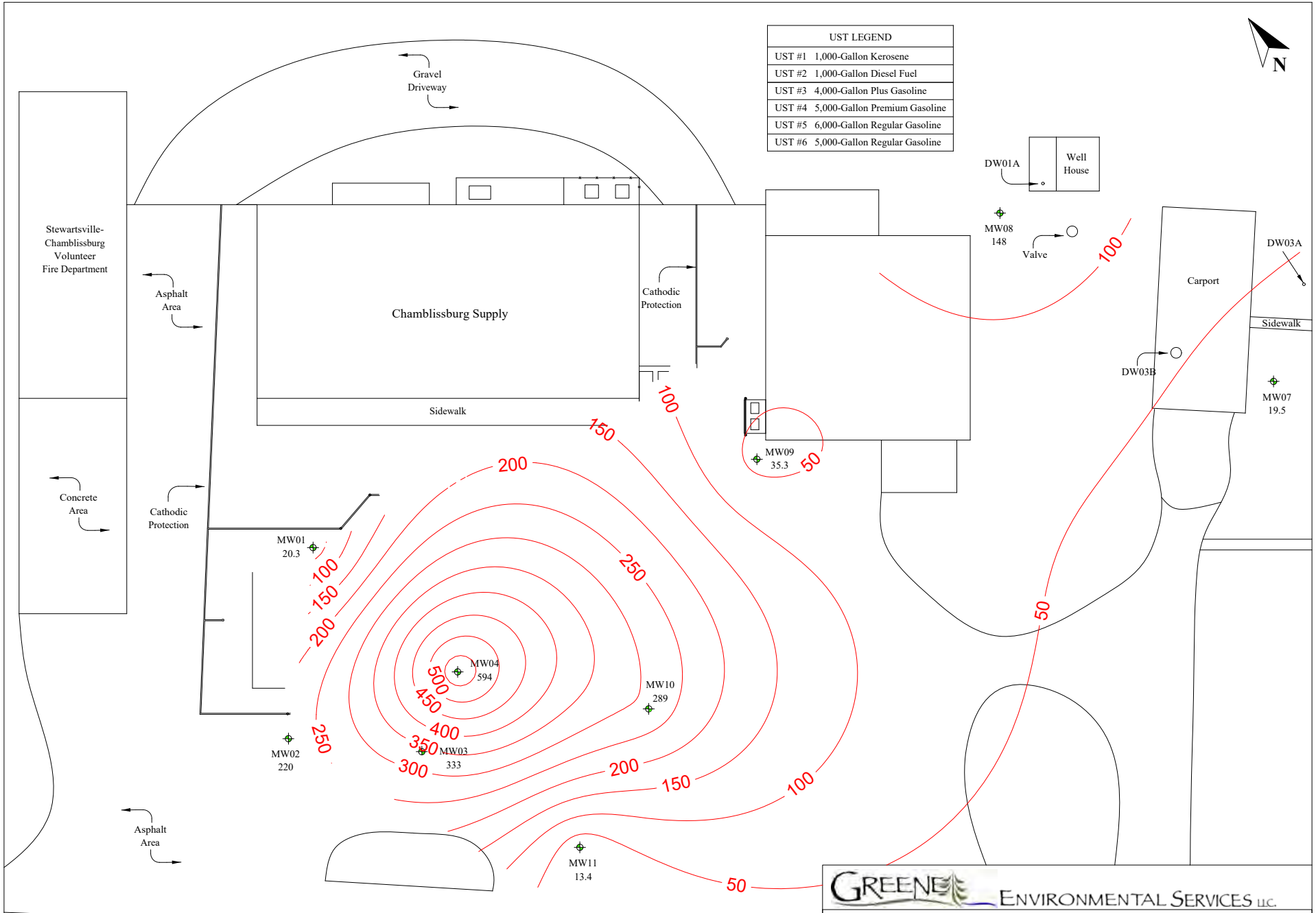

UST LEGEND
UST #1 1,000-Gallon Kerosene
UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
UST #5 6,000-Gallon Regular Gasoline
UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Sidewalk
Concrete Area
Cathodic Protection
Asphalt Area
DW01A
Well House
MW08 <100
Valve
DW03A
Carport
Sidewalk
DW03B
MW07 <100
MW09 3,670
MW01 2,180
MW02 2,030
MW03 8,790
MW04 10,900
MW10 20,300
MW11 10,900
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
0 8.25 16.5 24.75 33 Feet
GREENE ENVIRONMENTAL SERVICES LLC.
TITLE: SCR TBA ISOCONCENTRATION MAP (10/10/2017) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1002W
CLIENT: ESTATE OF LACY DUDLEY
DATE: 12/18/17
COMMENTS: RESULTS REPORTED IN UG/L
DRAWN BY: MAF



0 26.5 53 79.5 106 Feet

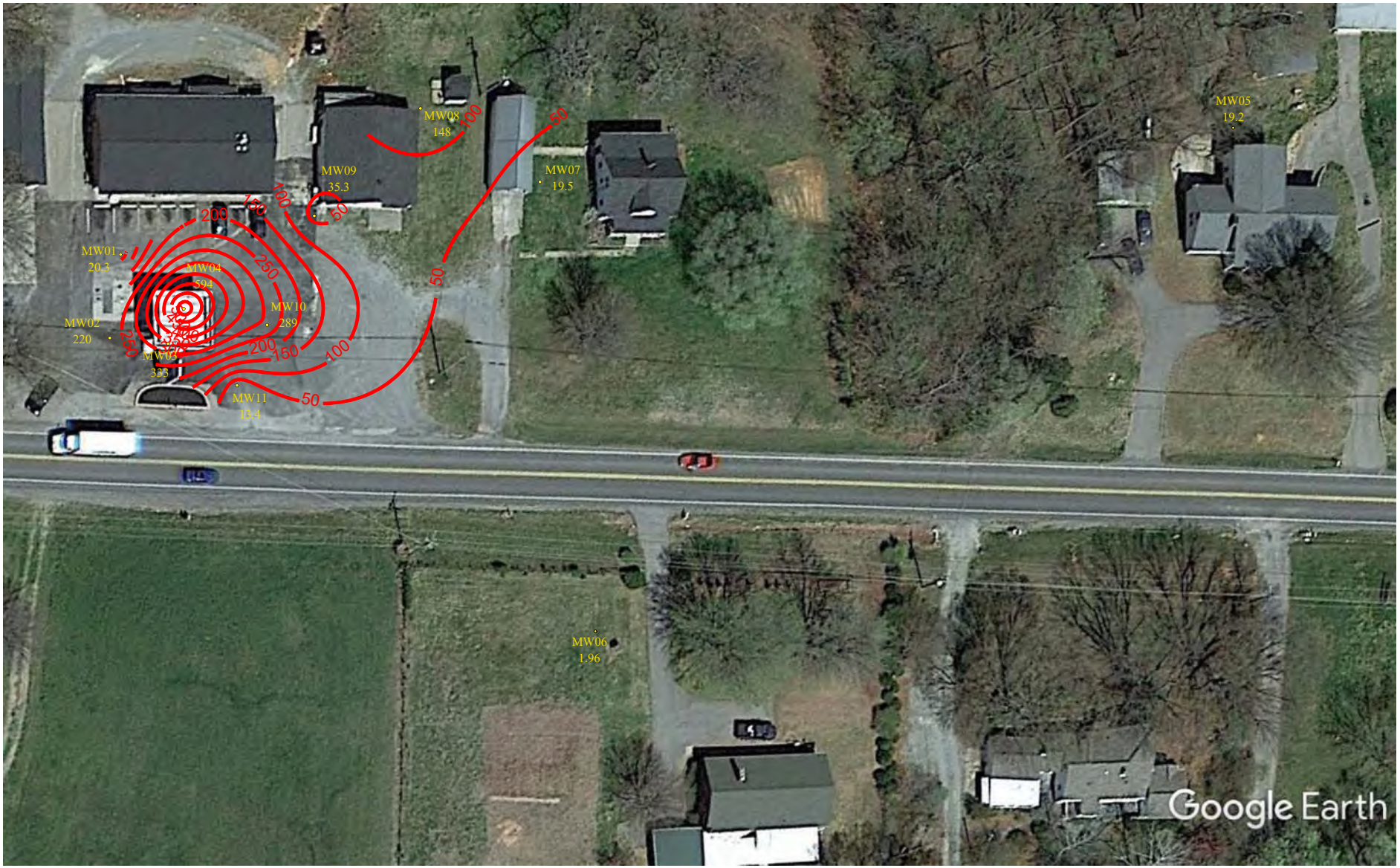
GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SCR TBA ISOCONCENTRATION MAP (10/10/2017) - AERIAL		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002X
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:		DRAWN BY:	MAF



GREENE ENVIRONMENTAL SERVICES LLC.

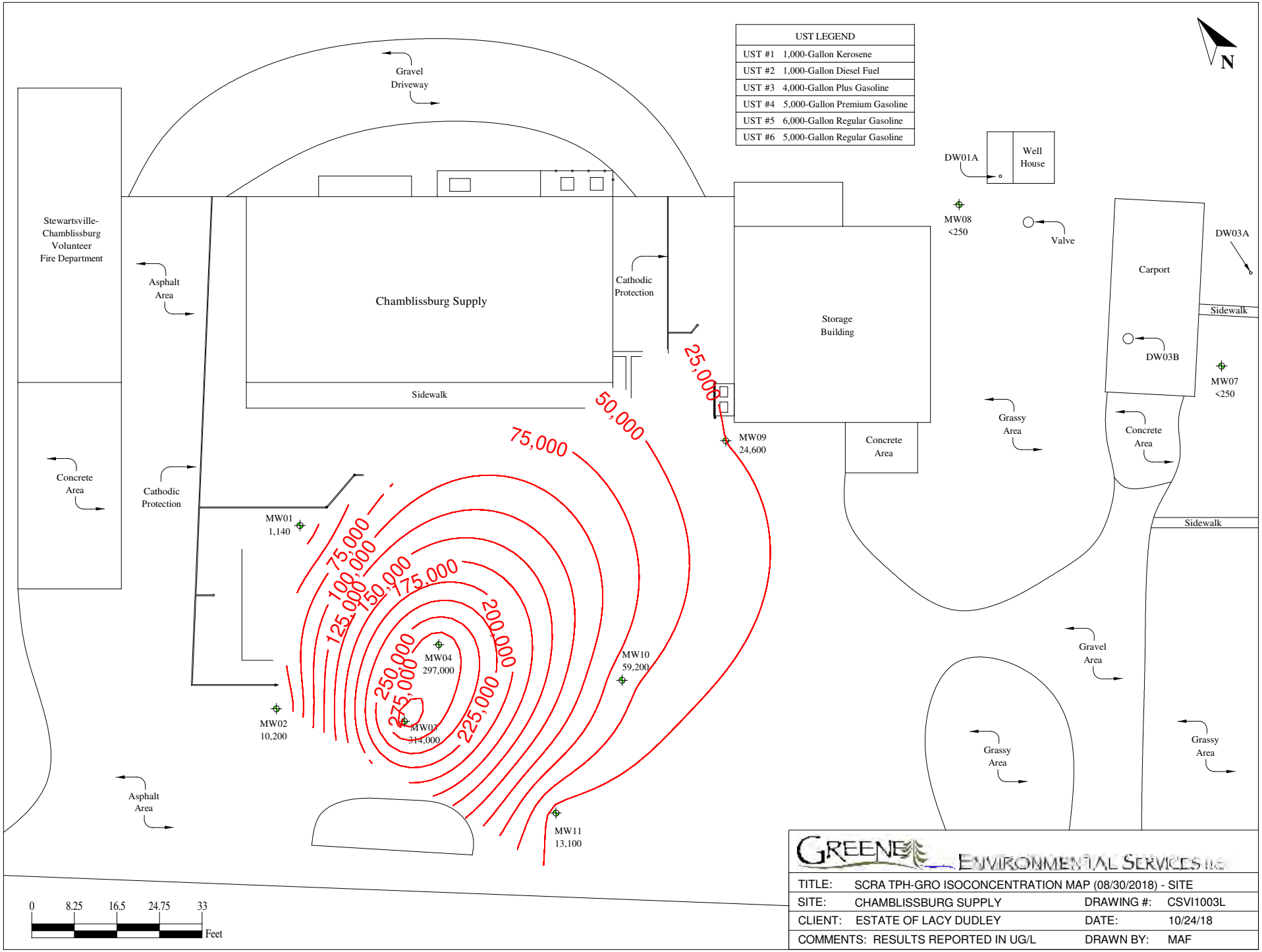
TITLE:	SCR TOTAL LEAD ISOCONCENTRATION MAP (10/10/2017) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002Y
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF



0 26.5 53 79.5 106 Feet

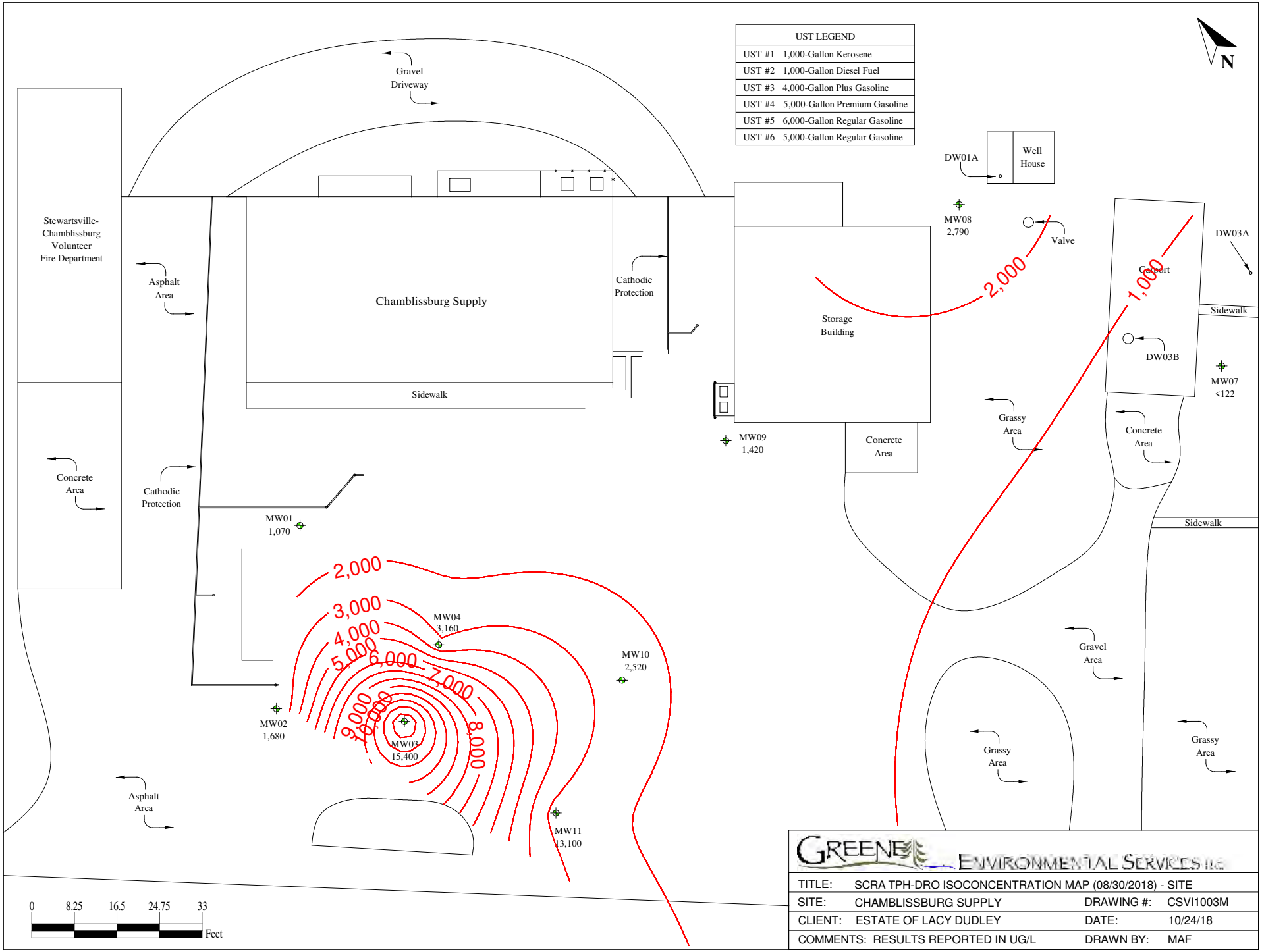
GREENE ENVIRONMENTAL SERVICES LLC.

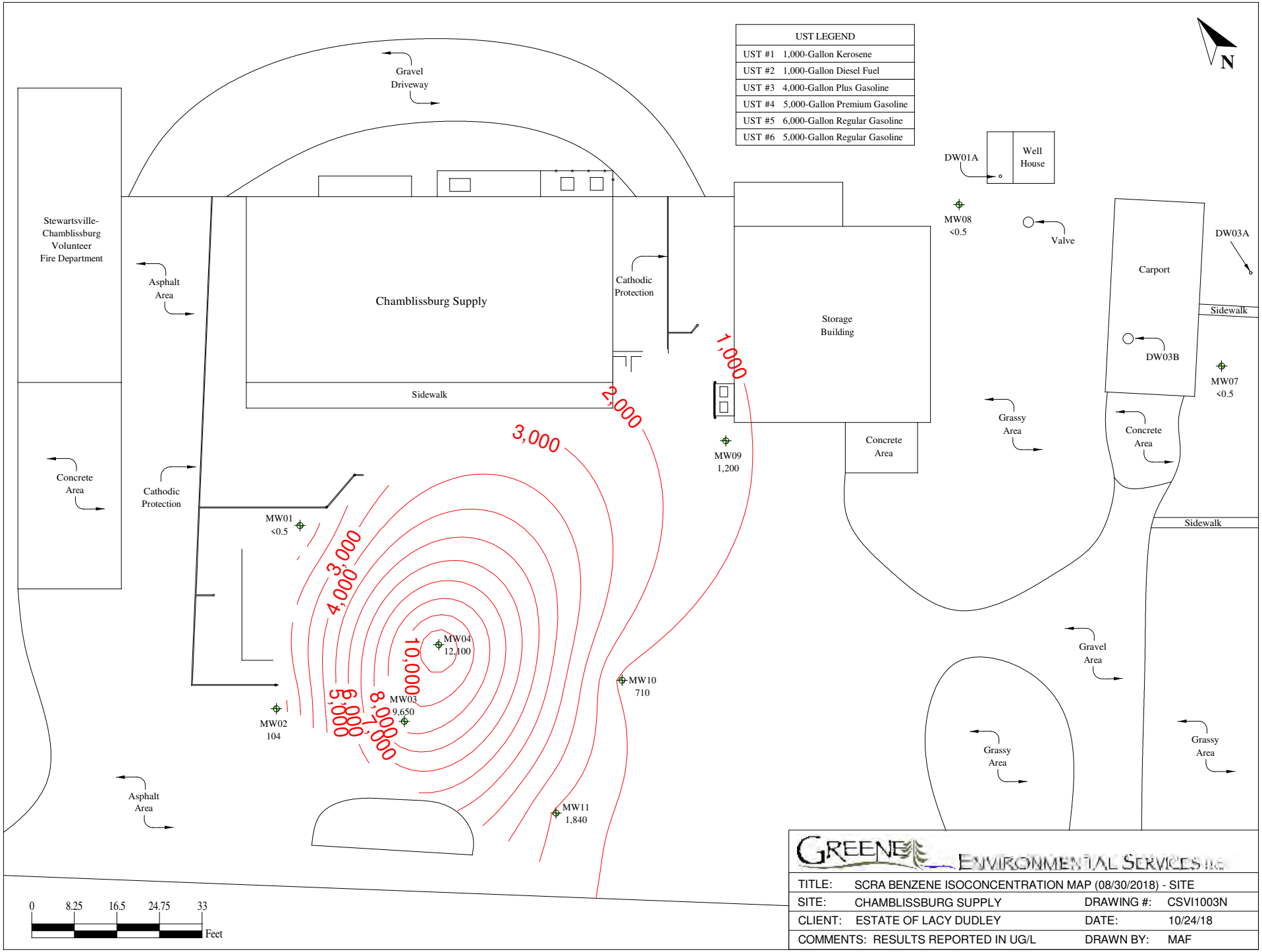
TITLE:	SCR TOTAL LEAD ISOCONCENTRATION MAP (10/10/2017) - AERIAL		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002Z
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:		DRAWN BY:	MAF

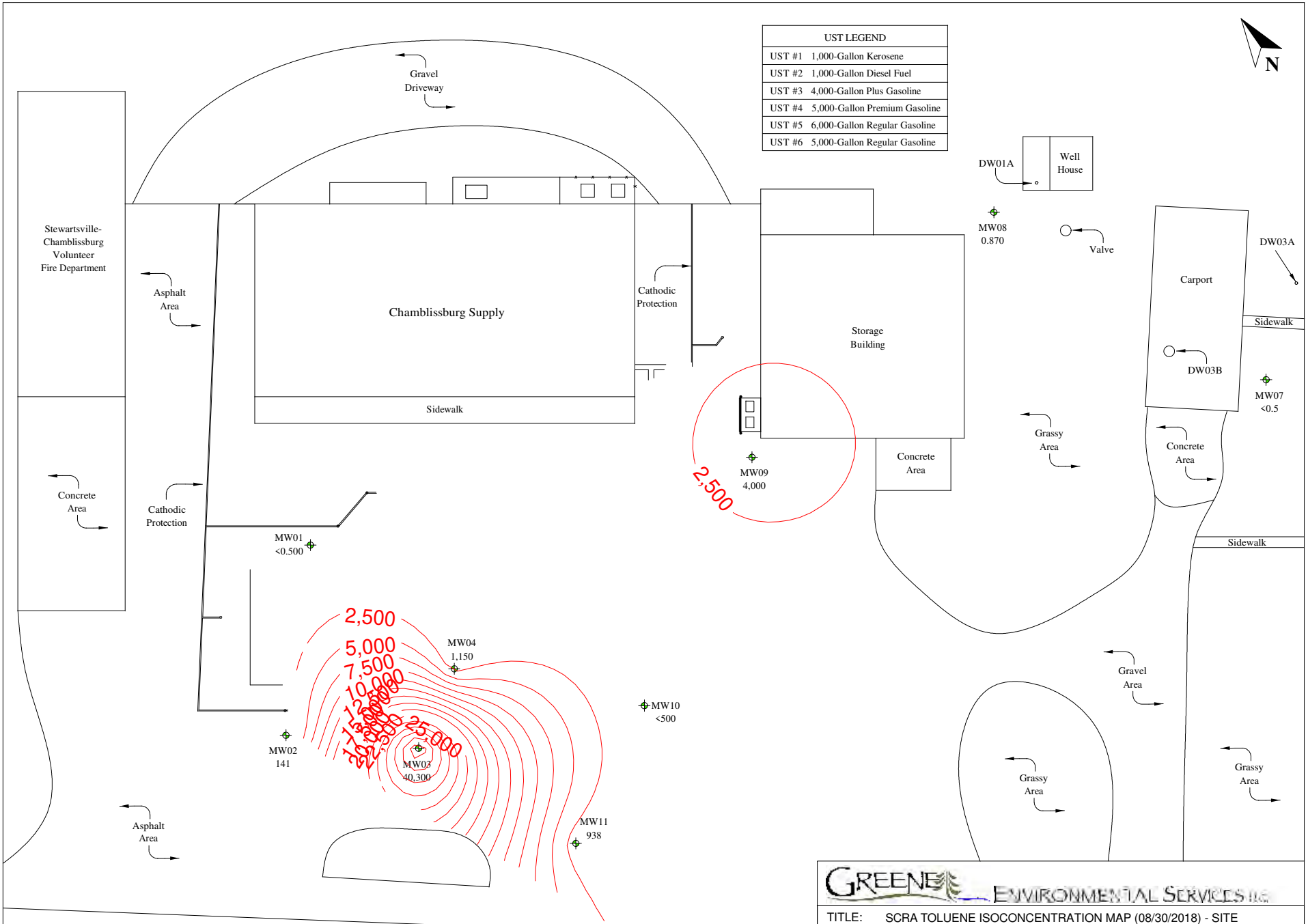


GREENE ENVIRONMENTAL SERVICES INC

TITLE:	SCRA TPH-GRO ISOCONCENTRATION MAP (08/30/2018) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1003L
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	10/24/18
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF

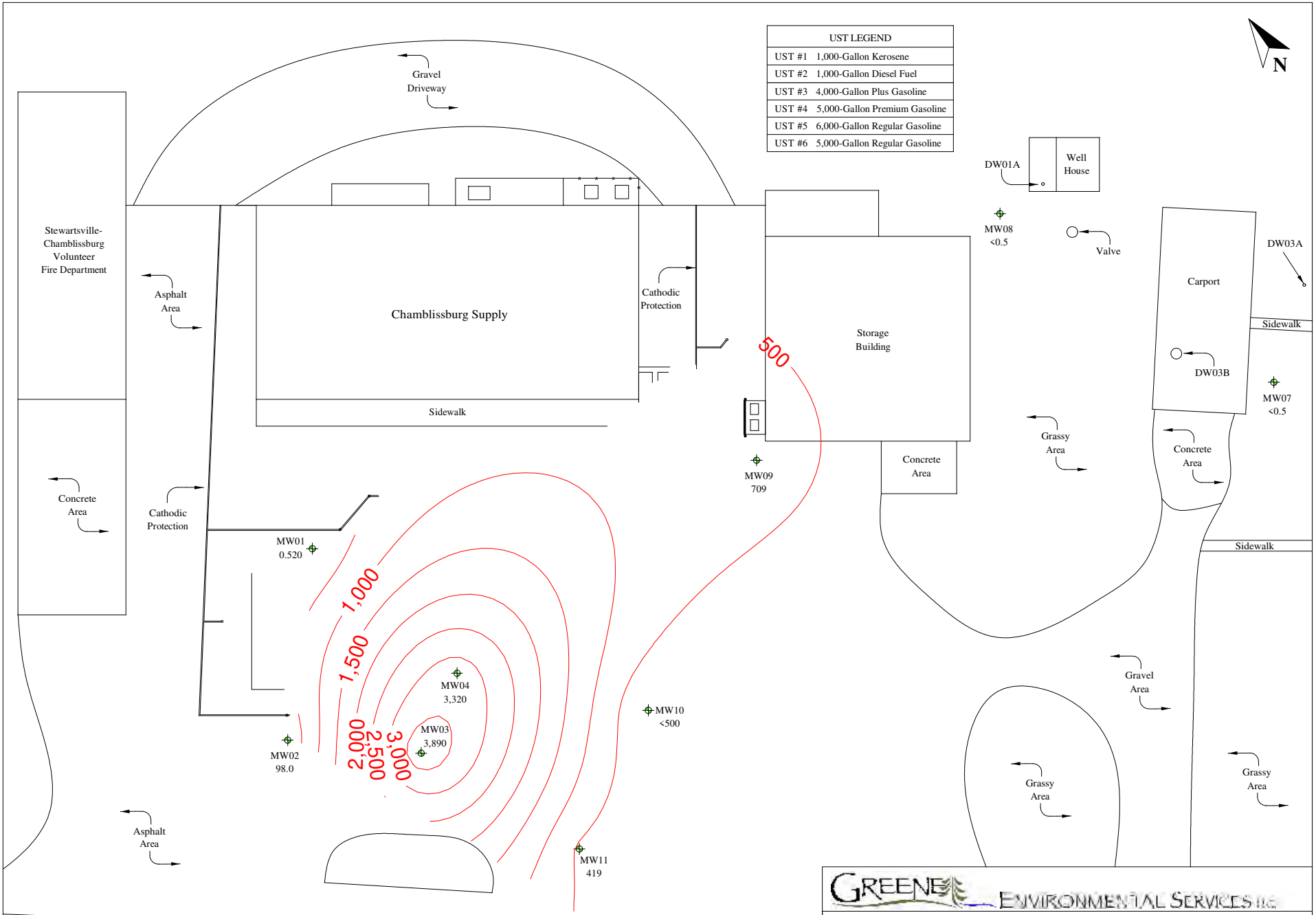

UST LEGEND
UST #1 1,000-Gallon Kerosene
UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
UST #5 6,000-Gallon Regular Gasoline
UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Sidewalk
Concrete Area
Cathodic Protection
MW01 1,070
MW02 1,680
MW03 15,400
MW04 3,160
MW10 2,520
MW11 13,100
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
Asphalt Area
Storage Building
Concrete Area
MW09 1,420
MW08 2,790
Valve
DW01A
Well House
2,000
1,000
Carport
DW03A
DW03B
Sidewalk
MW07 <122
Grassy Area
Concrete Area
Sidewalk
Gravel Area
Grassy Area
Grassy Area
0 8.25 16.5 24.75 33 Feet
GREENE ENVIRONMENTAL SERVICES INC
TITLE: SCRA TPH-DRO ISOCONCENTRATION MAP (08/30/2018) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1003M
CLIENT: ESTATE OF LACY DUDLEY
DATE: 10/24/18
COMMENTS: RESULTS REPORTED IN UG/L
DRAWN BY: MAF


UST LEGEND
UST #1 1,000-Gallon Kerosene
UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
UST #5 6,000-Gallon Regular Gasoline
UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Storage Building
Sidewalk
Concrete Area
Cathodic Protection
Asphalt Area
DW01A
Well House
MW08 <0.5
Valve
DW03A
Carport
Sidewalk
DW03B
MW07 <0.5
Grassy Area
Concrete Area
Concrete Area
Sidewalk
Gravel Area
Grassy Area
Grassy Area
MW09 1,200
MW01 <0.5
MW04 12,100
MW03 9,650
MW02 104
MW10 710
MW11 1,840
1,000
2,000
3,000
3,000
4,000
5,000
6,000
7,000
8,000
10,000
0 8.25 16.5 24.75 33
Feet
GREENE ENVIRONMENTAL SERVICES INC.
TITLE: SCRA BENZENE ISOCONCENTRATION MAP (08/30/2018) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1003N
CLIENT: ESTATE OF LACY DUDLEY
DATE: 10/24/18
COMMENTS: RESULTS REPORTED IN UG/L
DRAWN BY: MAF



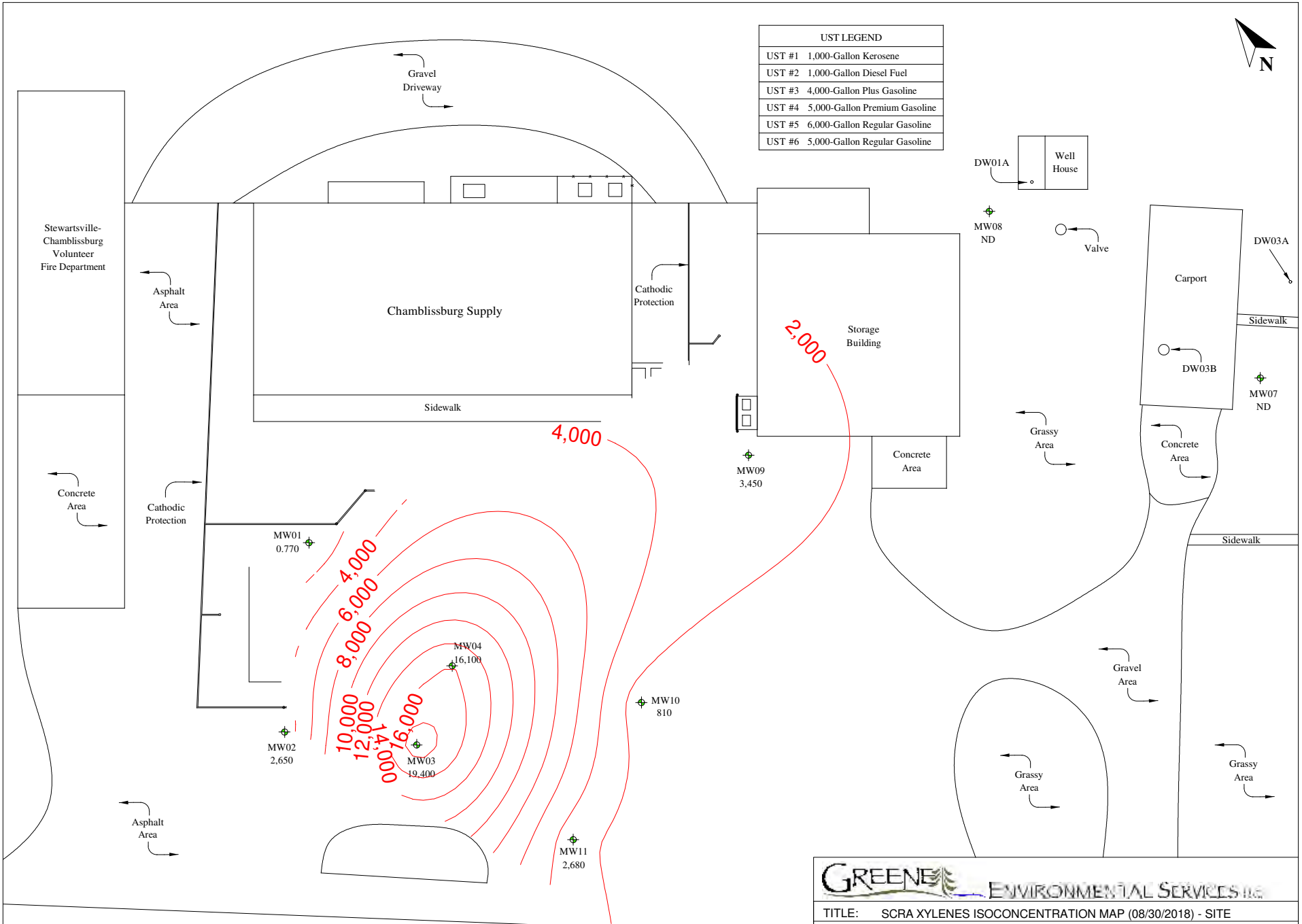
GREENE ENVIRONMENTAL SERVICES INC

TITLE:	SCRA TOLUENE ISOCONCENTRATION MAP (08/30/2018) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1003O
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	10/24/18
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF



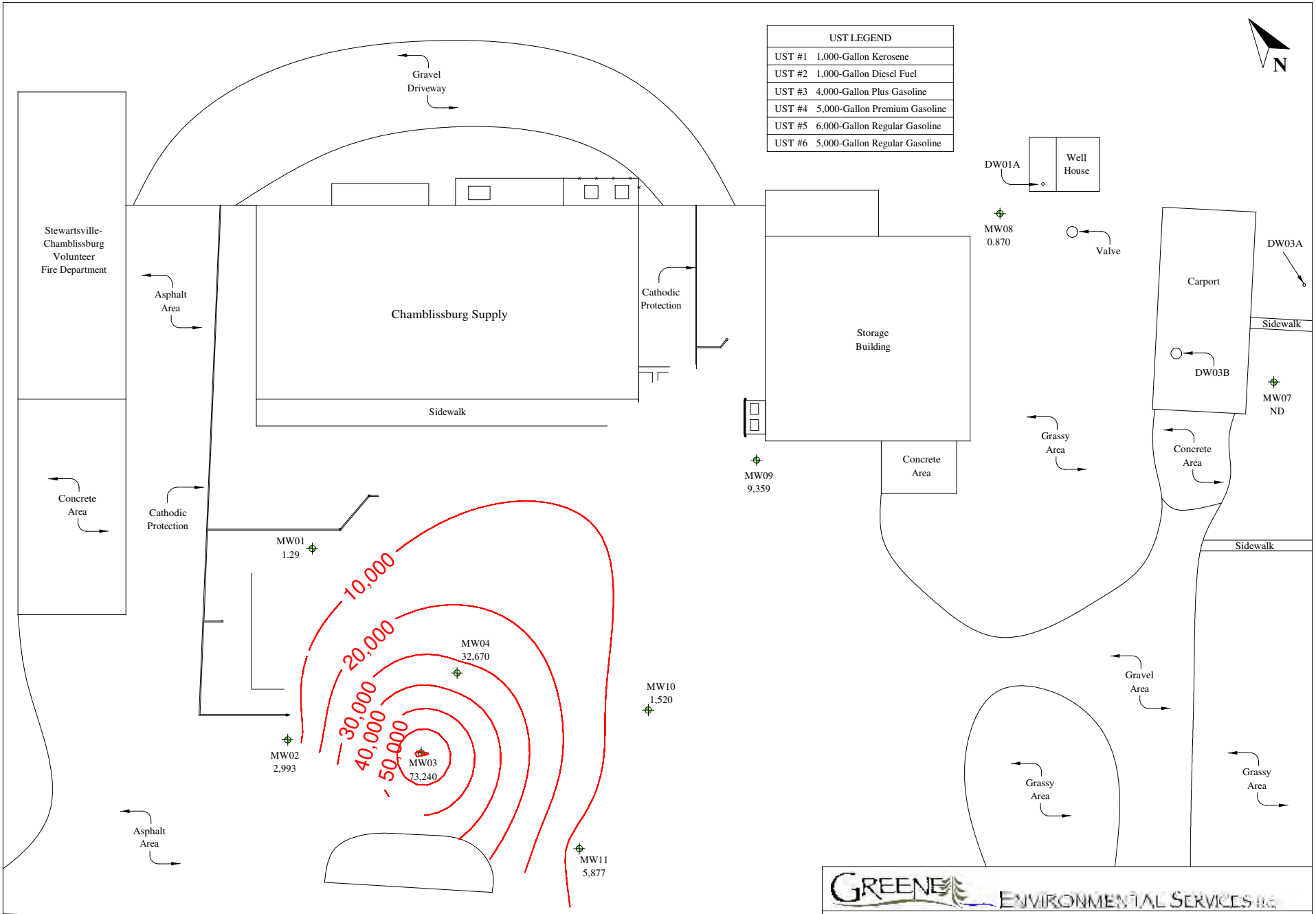
GREENE ENVIRONMENTAL SERVICES INC

TITLE:	SCRA ETHYLBENZENE ISOCONCENTRATION MAP (08/30/2018) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1003P
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	10/24/18
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF



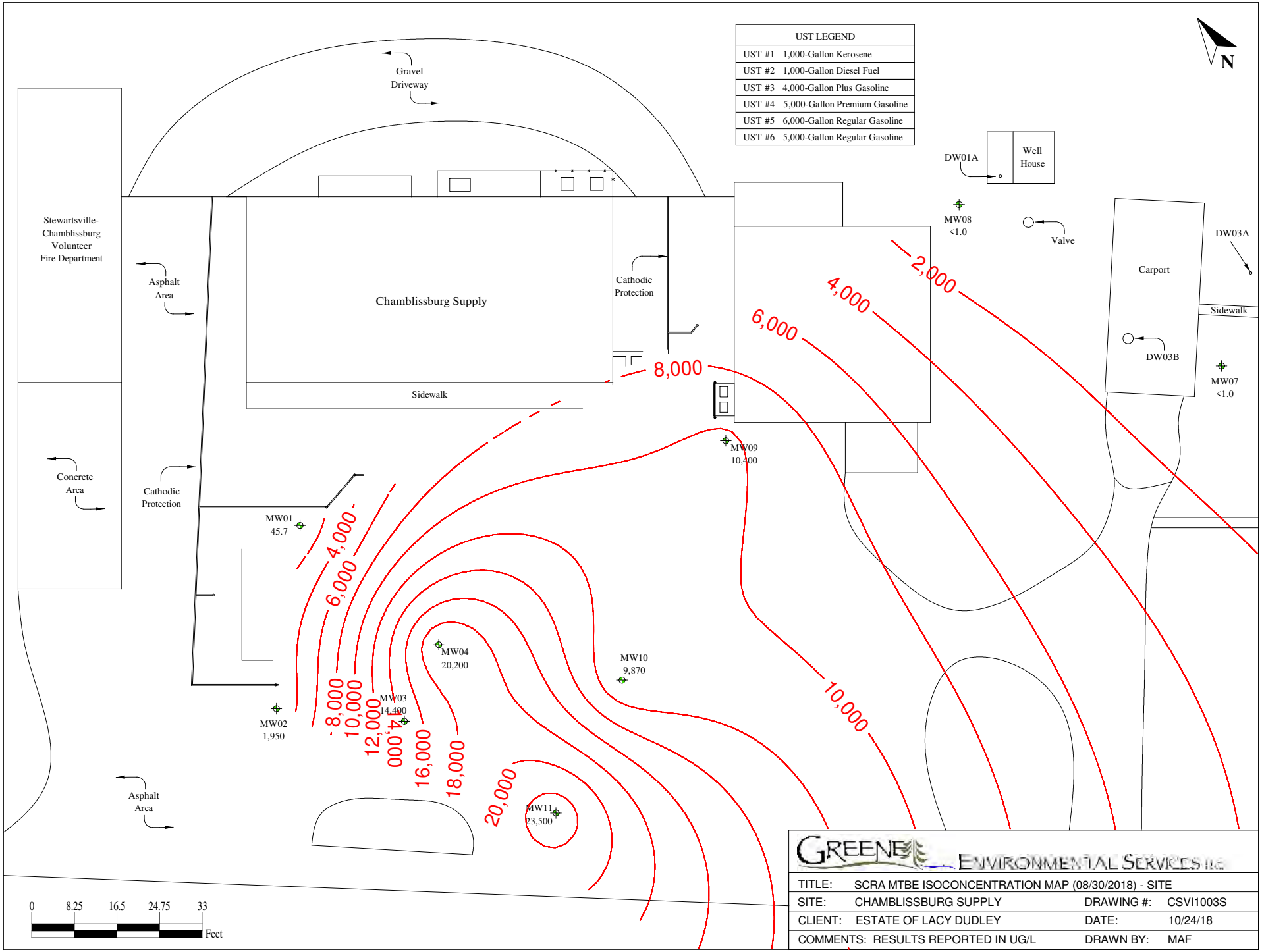
GREENE ENVIRONMENTAL SERVICES INC

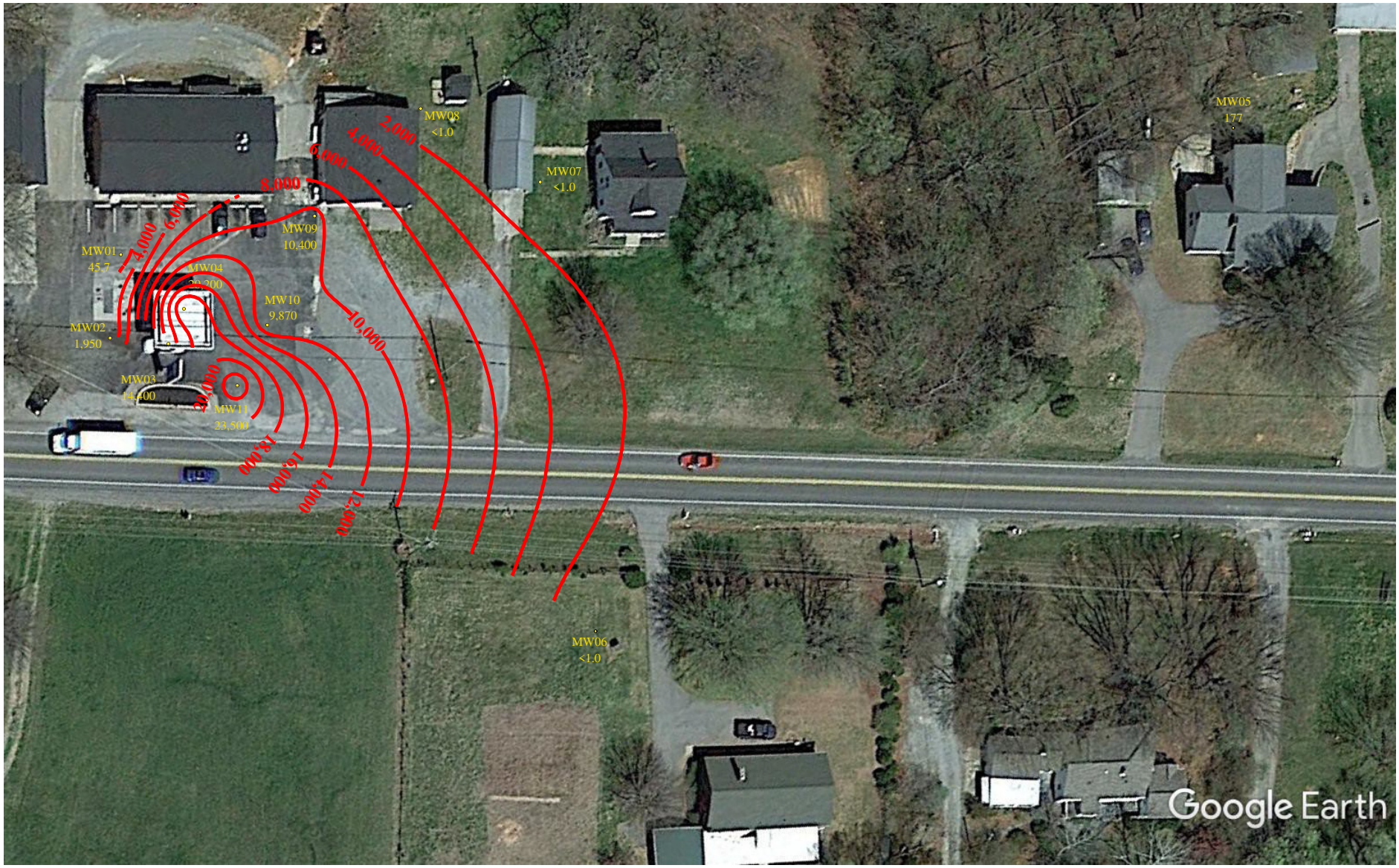
TITLE:	SCRA XYLENES ISOCONCENTRATION MAP (08/30/2018) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1003Q
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	10/25/18
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF



GREENE ENVIRONMENTAL SERVICES INC

TITLE:	SCRA TOTAL BTEX ISOCONCENTRATION MAP (08/30/2018) - SITE		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1003R
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	10/24/18
COMMENTS:	RESULTS REPORTED IN UG/L	DRAWN BY:	MAF

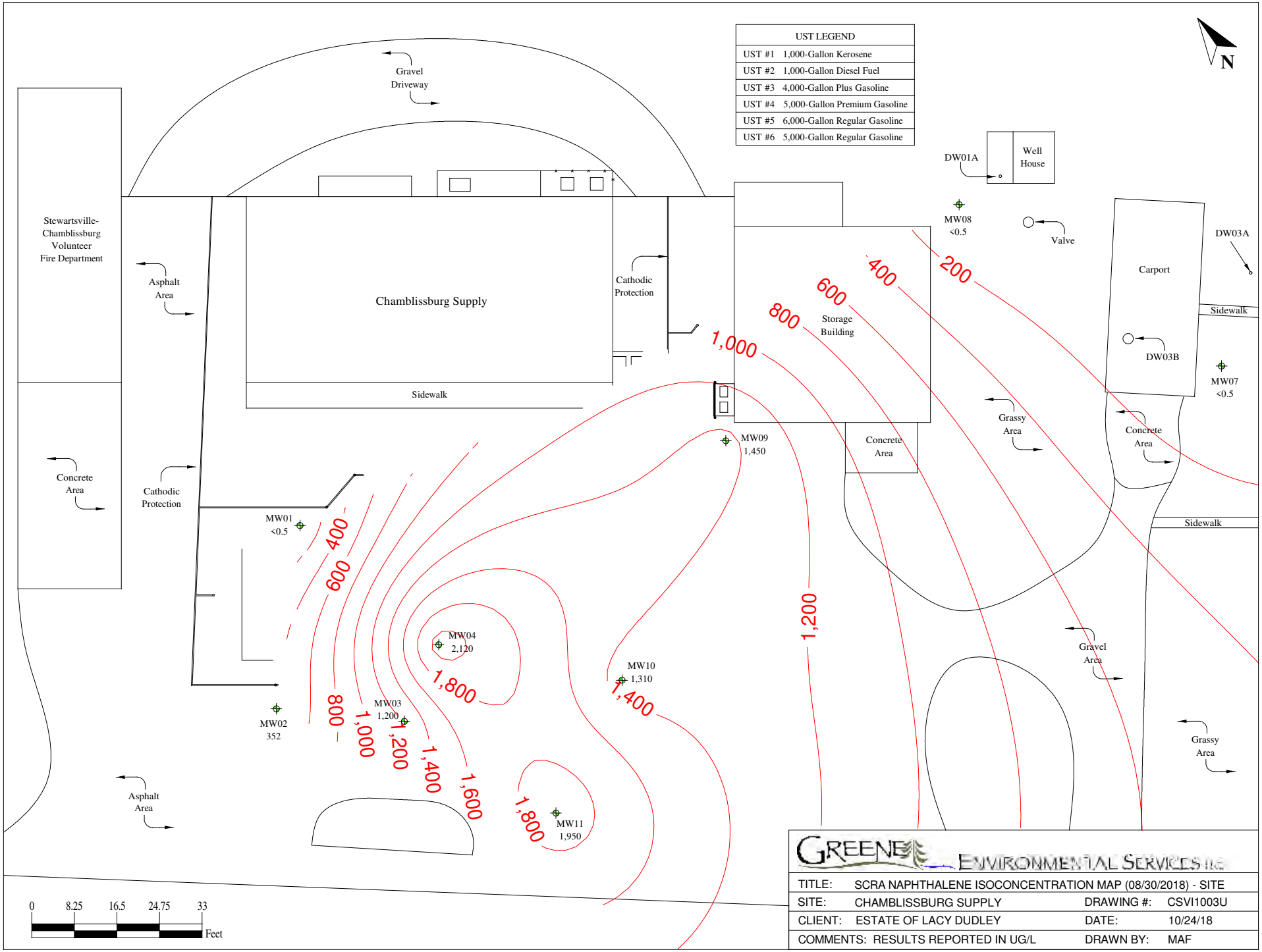

UST LEGEND
UST #1 1,000-Gallon Kerosene
UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
UST #5 6,000-Gallon Regular Gasoline
UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Sidewalk
Concrete Area
Cathodic Protection
Asphalt Area
DW01A
Well House
MW08 <1.0
Valve
DW03A
Carport
Sidewalk
DW03B
MW07 <1.0
MW09 10,400
MW01 45.7
MW02 1,950
MW03 14,400
MW04 20,200
MW10 9,870
MW11 23,500
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
20,000
0 8.25 16.5 24.75 33 Feet
GREENE ENVIRONMENTAL SERVICES INC
TITLE: SCRA MTBE ISOCONCENTRATION MAP (08/30/2018) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1003S
CLIENT: ESTATE OF LACY DUDLEY
DATE: 10/24/18
COMMENTS: RESULTS REPORTED IN UG/L
DRAWN BY: MAF

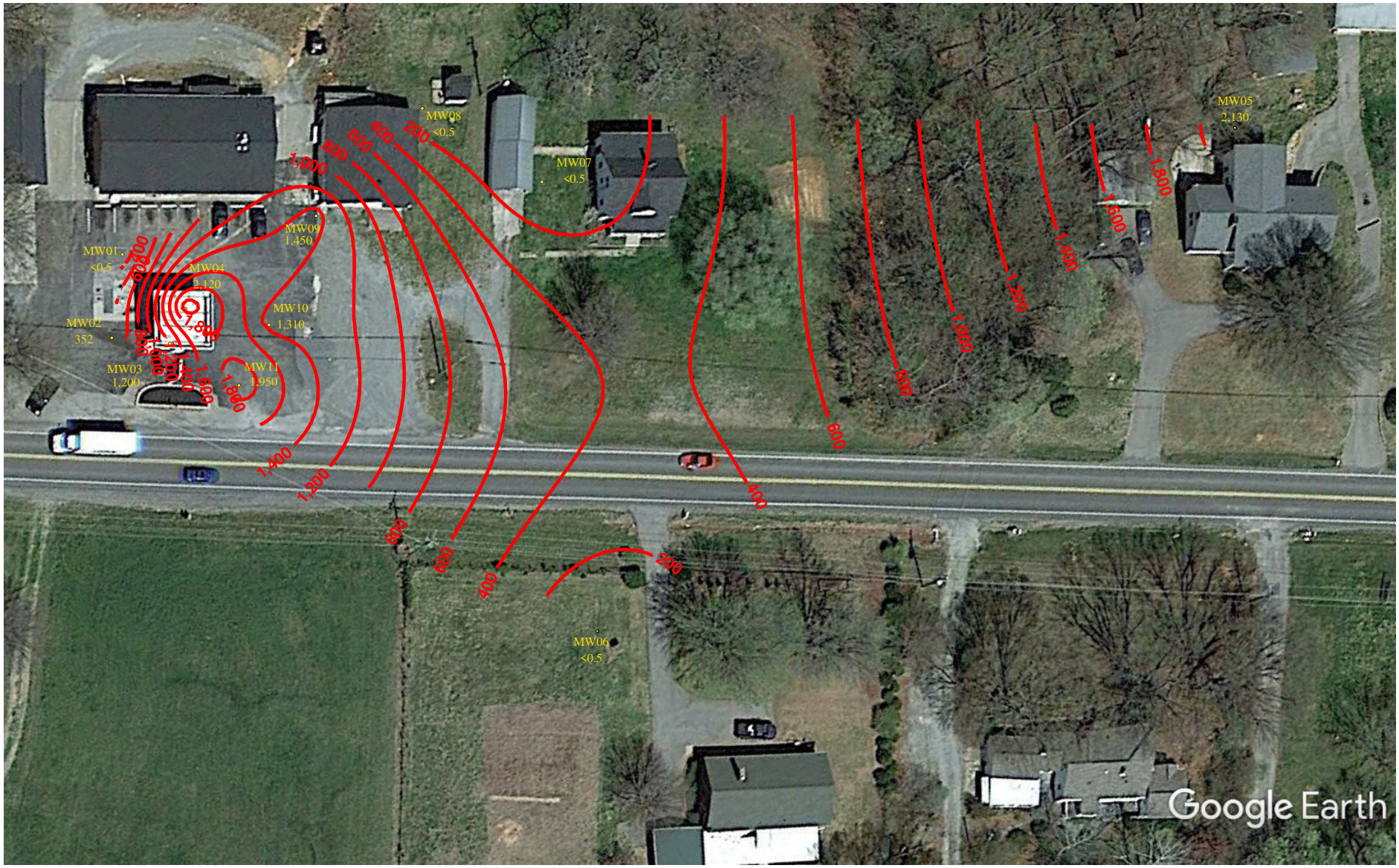


0 26.5 53 79.5 106 Feet

GREENE ENVIRONMENTAL SERVICES INC

TITLE:	SCRA MTBE ISOCONCENTRATION MAP (08/30/2018) - AERIAL		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1003T
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	10/24/18
COMMENTS:	REPORTED IN UG/L	DRAWN BY:	MAF


UST LEGEND
UST #1 1,000-Gallon Kerosene
UST #2 1,000-Gallon Diesel Fuel
UST #3 4,000-Gallon Plus Gasoline
UST #4 5,000-Gallon Premium Gasoline
UST #5 6,000-Gallon Regular Gasoline
UST #6 5,000-Gallon Regular Gasoline
N
Gravel Driveway
Stewartsville-Chamblissburg Volunteer Fire Department
Asphalt Area
Chamblissburg Supply
Cathodic Protection
Sidewalk
Storage Building
Concrete Area
Grassy Area
Well House
DW01A
MW08 <0.5
Valve
Carport
DW03A
DW03B
MW07 <0.5
Concrete Area
Sidewalk
Gravel Area
Grassy Area
MW09 1,450
MW01 <0.5
MW02 352
MW03 1,200
MW04 2,120
MW10 1,310
MW11 1,950
200
400
600
800
1,000
1,200
1,400
1,600
1,800
0 8.25 16.5 24.75 33 Feet
GREENE ENVIRONMENTAL SERVICES INC
TITLE: SCRA NAPHTHALENE ISOCONCENTRATION MAP (08/30/2018) - SITE
SITE: CHAMBLISSBURG SUPPLY
DRAWING #: CSVI1003U
CLIENT: ESTATE OF LACY DUDLEY
DATE: 10/24/18
COMMENTS: RESULTS REPORTED IN UG/L
DRAWN BY: MAF



0 26.5 53 79.5 106 Feet

GREENE ENVIRONMENTAL SERVICES INC

TITLE:	SCR NAPHTHALENE ISOCONCENTRATION MAP (10/10/2017) - AERIAL		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1003V
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/18/17
COMMENTS:		DRAWN BY:	MAF

*The arrows represent the direction of dip.

*The number represents the dip angle.

FOLIATIONS

FRACTURE SET #1

FRACTURE SET #2

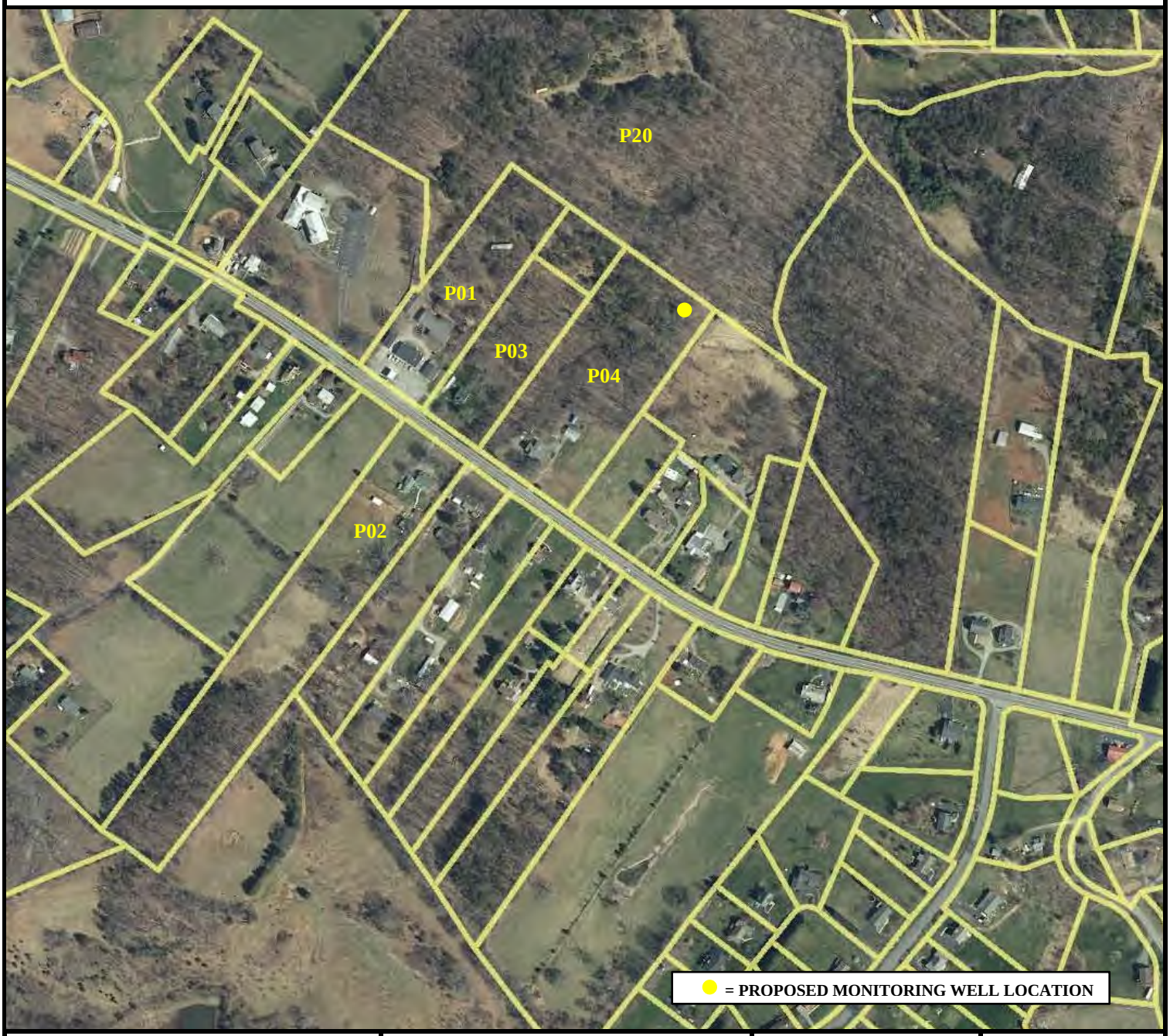
0 33 66 99 132 Feet

GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SCR GEOPHYSICAL BOREHOLE LOGGING SUMMARY		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1002AA
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	01/31/18
COMMENTS:		DRAWN BY:	MAF

Proposed Deep Water Monitoring Well Location Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179



GREENE ENVIRONMENTAL SERVICES INC
570 Redbud Hill Road, Rocky Mount, Virginia 24151
Office: 540-483-3311 or 800-215-2596
Fax: 540-483-3381
www.greene-environmental.com

BEDFORD COUNTY, VIRGINIA

Source: Google Earth

Scale: Not to Scale

Project: SCRA

Client: Estate of Lacy Dudley

Greene Job #: CSVI1003

Date: December 13, 2018

N
W E
S

Latitude:
037.257362°N
Longitude:
079.722368° W

APPENDIX C

Geologic Information

Soil Boring Logs/Monitoring Well Construction Diagrams
Fracture Trace Analysis – Draper Aden Associates

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B01

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (1250, 2500, 3750)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B01-1 (0.5-5') Fine grained; red clay, petroleum odor; no moisture.	5.0	B01-1		1,970 / 13,200	4,737	
		B01-2 (5'-10') Fine grained; red sandy clay with some organic material present; strong petroleum odor; moisture evident approximately 5' to 6' bgs only.	10.0	B01-2		NA	4,117	
		B01-3 (10'-15') Fine grained; red sandy clay with some organic material present; strong petroleum odor; no moisture.	15.0	B01-3		NA	3,583	
		B01-4 (15'-20') Fine grained; sandy brown clay; strong petroleum odor; no moisture.	20.0	B01-4		NA	3,302	
		B01-5 (20'-25') Fine grained; brown sandy clay; strong petroleum odor; no moisture.	25.0	B01-5		NA	2,957	
		B01-6 (25'-30') Fine grained; brown clay with organic material present; strong petroleum odor; no moisture.	30.0	B01-6		NA	2,559	
		B01-7 (30'-32.5') Fine grained; brown clay; strong petroleum odor; no moisture. Soil boring B01 was advanced to rod refusal at 32.5 feet bgs in an attempt to encounter groundwater; however, groundwater was not identified.	32.5	B01-7		390 / 4,220	2,250	
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

GREENE ENVIRONMENTAL SERVICES LLC
200 Buckwheat Lane
Rocky Mount, VA 24151

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B02

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (750, 1500, 2250)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B02-1 (0.5-5') Fine grained; red clay, slight petroleum odor; no moisture.	5.0	B02-1		NA	1,818	
		B02-2 (5'-10') Fine grained; brown sandy clay with some larger rock fragments present; petroleum odor; no moisture.	10.0	B02-2		NA	643.9	
		B02-3 (10'-15') Fine grained; brown sandy clay with some larger rock fragments present; strong petroleum odor; no moisture.	15.0	B02-3		1,240 / 6,110	2,757	
		B02-4 (15'-20') Fine grained; gray to black sandy clay; strong petroleum odor; no moisture.	20.0	B02-4		511 / 4,600	2,115	
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

GREENE ENVIRONMENTAL SERVICES LLC
200 Buckwheat Lane
Rocky Mount, VA 24151

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B03

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) / (TPH-GRO)	VOC Concentration ppm (100, 200, 300)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B03-1 (0.5-5') Fine grained; brown to gray sandy clay, slight petroleum odor; no moisture.	5.0	B03-1		NA	163.3	
		B03-2 (5'-10') Fine grained; brown to gray weathered rock material (very hard), slight petroleum odor; no moisture.	10.0	B03-2		NA	198.5	
		B03-3 (10'-15') Fine grained; brown sandy clay; slight petroleum odor; no moisture.	15.0	B03-3		NA	118.8	
		B03-4 (15'-20') Fine grained; brown sandy clay; slight petroleum odor; no moisture.	20.0	B03-4		NA	141.0	
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B04

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (25, 50, 75)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B04-1 (0.5-5') Fine grained; brown sandy clay, no petroleum odor; no moisture.	5.0	B04-1		NA	57.9	
		B04-2 (5'-10') Fine grained; brown sandy clay, no petroleum odor; no moisture.	10.0	B04-2		NA	70.9	
		B04-3 (10'-15') Fine grained; brown clay with organic material present; no petroleum odor; no moisture.	15.0	B04-3		NA	87.7	
		B04-4 (15'-20') Fine grained; red to brown clay; slight petroleum odor; no moisture.	20.0	B04-4		ND / ND	99.9	
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B05

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (25, 50, 75)	Well Completion Details
0		Ground Surface	0.0					
		Asphalt	0.5					
1–4		**B05-1 (0.5-5')** Fine grained; red clay, no petroleum odor; no moisture.	5.0	B05-1		NA	65.0	
5–9		**B05-2 (5'-10')** Fine grained; brown clay, no petroleum odor; no moisture.	10.0	B05-2		NA	89.6	
10–14		**B05-3 (10'-15')** Fine grained; brown clay with white sand; no petroleum odor; no moisture.	15.0	B05-3		NA	30.2	
15–19		**B05-4 (15'-20')** Fine grained; white sand; no petroleum odor; no moisture.	20.0	B05-4		ND / ND	26.5	
20		End of Borehole						
21–25								

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B06

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (25, 50, 75)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B06-1 (0.5-5') Fine grained; red clay, no petroleum odor; no moisture.	5.0	B06-1		NA	32.7	
		B06-2 (5'-10') Fine grained; red clay, no petroleum odor; no moisture.	10.0	B06-2		NA	28.5	
		B06-3 (10'-15') Fine grained; dark brown sandy clay; no petroleum odor; no moisture.	15.0	B06-3		NA	21.8	
		B06-4 (15'-20') Fine grained; dark brown sandy clay; no petroleum odor; no moisture.	20.0	B06-4		NA	31.4	
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B07

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (25, 50, 75)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B07-1 (0.5-5') Fine grained; red clay, no petroleum odor; no moisture.	5.0	B07-1		NA	19.1	
		B07-2 (5'-10') Fine grained; dark brown sandy clay; no petroleum odor; no moisture.	10.0	B07-2		NA	13.9	
		B07-3 (10'-15') Fine grained; dark brown sandy clay with organic material present; slight petroleum odor; no moisture.	15.0	B07-3		NA	9.3	
		B07-4 (15'-20') Fine grained; dark brown clay with white sand and organic material present; slight petroleum odor; no moisture.	20.0	B07-4		ND / ND	13.2	
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B08

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (25, 50, 75)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B08-1 (0.5-5') Fine grained; red clay, no petroleum odor; no moisture.	5.0	B08-1		NA	5.5	
		B08-2 (5'-10') Fine grained; brown clay with organic material present; no petroleum odor; no moisture.	10.0	B08-2		NA	7.7	
		B08-3 (10'-15') Fine grained; brown clay with white sand; slight petroleum odor; no moisture.	15.0	B08-3		NA	5.8	
		B08-4 (15'-20') Fine grained; dark brown sandy clay; slight petroleum odor; no moisture.	20.0	B08-4		NA	0.1	
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B09

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (25, 50, 75)	Well Completion Details
0		Ground Surface	0.0					
		Asphalt	0.5					
1–4		**B09-1 (0.5-5')** Fine grained; red clay, no petroleum odor; no moisture.	5.0	B09-1		NA	10.9	
5–9		**B09-2 (5'-10')** Fine grained; brown clay with layers of white sand; no petroleum odor; no moisture.	10.0	B09-2		NA	2.0	
10–14		**B09-3 (10'-15')** Fine grained; white sand; slight petroleum odor; no moisture.	15.0	B09-3		NA	3.2	
15–19		**B09-4 (15'-20')** Fine grained; dark brown sandy clay with organic material present; slight petroleum odor; no moisture.	20.0	B09-4		NA	0.0	
20–25		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B10

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) / (TPH-GRO)	VOC Concentration ppm (100, 200, 300)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B10-1 (0.5-5') Fine grained; red clay, no petroleum odor; no moisture.	5.0	B10-1		NA	0.0	
		B10-2 (5'-10') Fine grained; brown clay with organic material present; slight petroleum odor; no moisture.	10.0	B10-2		NA	0.0	
		B10-3 (10'-15') (10'-14'): Fine grained; brown clay with organic material present; slight petroleum odor; no moisture. (14'-15'): Fine grained; white sand; slight petroleum odor; no moisture.	15.0	B10-3		NA	2.6	
		B10-4 (15'-20') Fine grained; brown sandy clay with organic material present; petroleum odor; no moisture.	20.0	B10-4		ND / 93.6	334.8	
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B11

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (500, 1000, 1500)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B11-1 (0.5-5') Fine grained; red clay, strong petroleum odor; no moisture.	5.0	B11-1		1,100 / 3,400	1,092	
		B11-2 (5'-10') Fine grained; red clay; strong petroleum odor; no moisture.	10.0	B11-2		NA	1,408	
		B11-3 (10'-15') Fine grained; dark brown sandy clay with organic material present; strong petroleum odor; no moisture.	15.0	B11-3		NA	1,173	
		B11-4 (15'-20') Fine grained; brown sandy clay with organic material present; strong petroleum odor; no moisture.	20.0	B11-4		1,030 / 10,300	1,043	
		Soil boring B11 was advanced to rod refusal at 31.75 feet bgs in an attempt to encounter groundwater. Soil samples were not collected during these additional activities and groundwater was not identified.	31.8					
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

GREENE ENVIRONMENTAL SERVICES LLC
200 Buckwheat Lane
Rocky Mount, VA 24151

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B12

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (500, 1000, 1500)	Well Completion Details
0		Ground Surface	0.0					
		Asphalt	0.5					
1–4		***B12-1 (0.5-5')*** Fine grained; red to brown sandy clay, petroleum odor; no moisture.	5.0	B12-1		23.9 / 381	1,127	
5–9		***B12-2 (5'-10')*** Fine grained; red to brown sandy clay, petroleum odor; no moisture	10.0	B12-2		NA	1,251	
10–14		***B12-3 (10'-15')*** Fine grained; white sand; strong petroleum odor; no moisture.	15.0	B12-3		NA	1,205	
15–19		***B12-4 (15'-20')*** Fine grained; brown to gray sandy clay; strong petroleum odor; no moisture.	20.0	B12-4		6,930 / 25,900	1,183	
20		End of Borehole						
21–25								

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

GREENE ENVIRONMENTAL SERVICES LLC
200 Buckwheat Lane
Rocky Mount, VA 24151

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B13

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (500, 1000, 1500)	Well Completion Details
0		Ground Surface	0.0					
		Asphalt	0.5					
1–4		***B13-1 (0.5-5')*** Fine grained; red clay, slight petroleum odor; no moisture.	5.0	B13-1		3,780 / 1,840	1,234	
5–9		***B13-2 (5'-10')*** Fine grained; brown sandy clay, slight petroleum odor; no moisture.	10.0	B13-2		NA	1,270	
10–14		***B13-3 (10'-15')*** Fine grained; brown sandy clay with organic material present; slight petroleum odor; no moisture.	15.0	B13-3		NA	515.7	
15–19		***B13-4 (15'-20')*** Fine grained; brown sandy clay with organic material present; petroleum odor; no moisture.	20.0	B13-4		6,880 / 1,420	367.0	
20–25		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

GREENE ENVIRONMENTAL SERVICES LLC
200 Buckwheat Lane
Rocky Mount, VA 24151

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B14

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (50, 100, 150)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B14-1 (0.5-5') Fine grained; red clay, no petroleum odor; no moisture.	5.0	B14-1		NA	104.8	
		B14-2 (5'-10') Fine grained; brown clayey sand, no petroleum odor; no moisture.	10.0	B14-2		NA	38.6	
		B14-3 (10'-15') Fine grained; brown clayey sand, no petroleum odor; no moisture.	15.0	B14-3		NA	22.0	
		B14-4 (15'-20') Fine grained; brown to gray clayey sand, no petroleum odor; no moisture.	20.0	B14-4		NA	16.6	
		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

GREENE ENVIRONMENTAL SERVICES LLC
200 Buckwheat Lane
Rocky Mount, VA 24151

Project No: CSVI1001

Project: RELEASE INVESTIGATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B15

Diagram of Monitoring Well: NA

Geologist: CALEB HARRISON

Generation Date: 07/03/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-DRO) (TPH-GRO)	VOC Concentration ppm (25, 50, 75)	Well Completion Details
0		Ground Surface	0.0					
		Asphalt	0.5					
1–4		***B15-1 (0.5-5')*** Fine grained; red clay, no petroleum odor; no moisture.	5.0	B15-1		NA	14.3	
5–10		***B15-2 (5'-10')*** Fine grained; brown clayey sand, no petroleum odor; no moisture.	10.0	B15-2		NA	14.1	
10–15		***B15-3 (10'-15')*** Fine grained; brown clayey sand, slight petroleum odor; no moisture.	15.0	B15-3		NA	19.0	
15–20		***B15-4 (15'-20')*** Fine grained; brown to gray clayey sand, petroleum odor; no moisture.	20.0	B15-4		506 / ND	88.5	
20–25		End of Borehole						

Drill Method: DIRECT PUSH

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 06/30/2017

Hole Size: 2.5 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

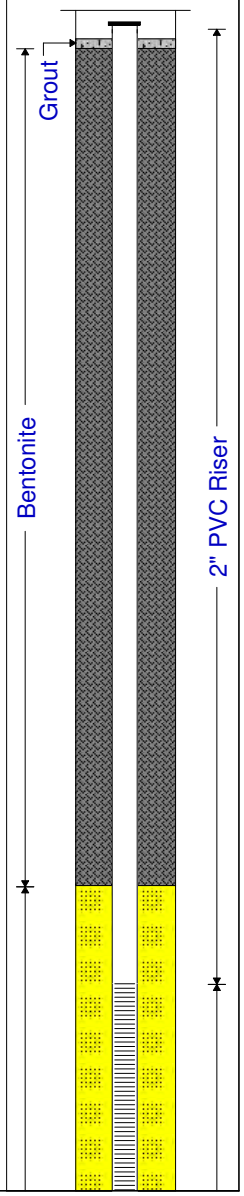
Log of Borehole: B16

Diagram of Monitoring Well: MW01

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
		Ground Surface	0.0					
0		**Asphalt**	0.5					
1–5		**B16-1 (0.5-5')** Fine grained; red clay; no petroleum odor; no moisture.	5.0	B16-1		NA	0.9	
5–10		**B16-2 (5'-10')** Fine grained; brownish-red; silty/sandy clay; no petroleum odor; no moisture.	10.0	B16-2		NA	0.0	
10–15		**B16-3 (10'-15')** (10'-11.5'): Fine grained; light brown clay (11.5'-15'): Fine grained; light brown clay with white weathered rock material; no petroleum odor; no moisture.	15.0	B16-3		NA	0.0	
15–20		**B16-4 (15'-20')** Fine grained; light brown clay with white weathered rock material; some black organic material present; no petroleum odor; no moisture.	20.0	B16-4		NA	0.0	
20–25		**B16-5 (20'-25')** (20'-23.5'): Same as above. (23.5'-25'): Fine grained; light brown; silty/sandy clay with larger fragments of quartz present; slight petroleum odor; no moisture.	25.0	B16-5		NA	0.9	
25–30		**B16-6 (25'-30')** Fine grained; light brown clay with white weatherd rock material and black organic material present; slight petroleum odor; no moisture.	30.0	B16-6		NA	2.8, 0.0	



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/18/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B16

Diagram of Monitoring Well: MW01

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

Depth	Description	Depth
31–32	***B16-7 (30'-32')*** Fine grained; dark brown; weathered rock material; slight petroleum odor; no moisture.	32.0
32–33	Obtained rod refusal at approximately 32.0 feet bgs due to suspected weathered rock.	
33–35	***B16-8 (35')*** Converted drill rig to HSA.	35.0
35–36	Fine grained; dark brown; weathered rock material with mica present; slight to no petroleum odor; no moisture.	
36–40	***B16-9 (40')*** Fine grained; brown to dark brown; weathered rock material; slight petroleum odor; no moisture.	40.0
40–45	***B16-10 (45')*** Fine grained; dark brown to brown; weathered rock material; slight to no petroleum odor; no moisture.	45.0
45–50	***B16-11 (50')*** Fine grained; dark brown to brown; weathered rock material; no petroleum odor; no moisture.	50.0
50–55	***B16-12 (55')*** Fine grained; dark brown to brown; weathered rock material; no petroleum odor; no moisture. Terminated soil boring B16 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B16 to monitoring well MW01.	55.0
55–60	End of Borehole	

SAMPLE

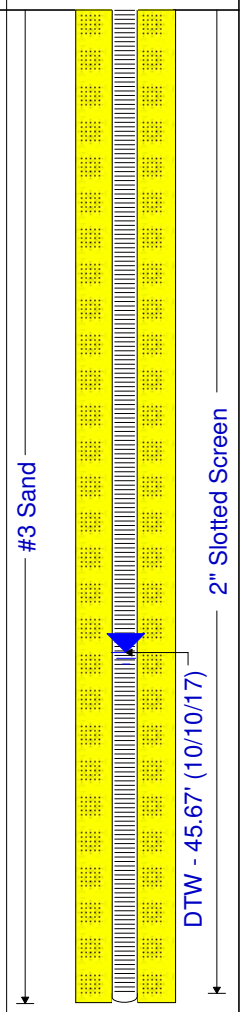
Number	Type	Lab Results (TPH-GRO)
B16-7		NA
B16-8		1.7
B16-9		NA
B16-10		ND
B16-11		NA
B16-12		NA

PID READINGS

VOC Concentration (ppm)

MONITORING WELL DIAGRAM

Well Completion Details



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/18/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B17

Diagram of Monitoring Well: MW02

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

Depth	Description	Depth
	Ground Surface	0.0
	Asphalt	0.5
	B17-1 (0.5-5') Fine to medium grained; mottled reddish brown to tan; silty/sandy clay with small rock fragments; no petroleum odor; no moisture.	5.0
	B17-2 (5'-10') (5'-9'): Same as above. (9'-10'): Medium to fine grained; white silt with rock fragments; no petroleum odor; no moisture.	10.0
	B17-3 (10'-15') Medium to fine grained; white silt with rock fragments; slight petroleum odor; no moisture.	15.0
	B17-4 (15'-20') Fine grained; mottled white to brown to reddish brown; silty/sandy clay with weathered material and rock fragments; petroleum odor; no moisture.	20.0
	B17-5 (20'-25') Fine grained; mottled white to brown to tan; silty/fine sand with some clay and rock fragments; petroleum odor; no moisture.	25.0
	B17-6 (25'-28') Fine graind; silty/fine sand with some clay and rock fragments; petroleum odor; no moisture. Obtained rod refusal at approximately 28.0 feet bgs due to suspected weathered rock.	28.0
		30.0

SAMPLE

Number	Lab Results (TPH-GRO)
B17-1	NA
B17-2	NA
B17-3	ND
B17-4	ND
B17-5	ND
B17-6	NA
B17-7	ND

PID READINGS

VOC Concentration ppm (12.5, 25, 37.5)

0.0, 6.4, 18.0, 33.8, 39.4, 41.6, 23.9, 10.4

MONITORING WELL DIAGRAM

Well Completion Details

Grout

Bentonite

2" PVC Riser

Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/18/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B17

Diagram of Monitoring Well: MW02

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

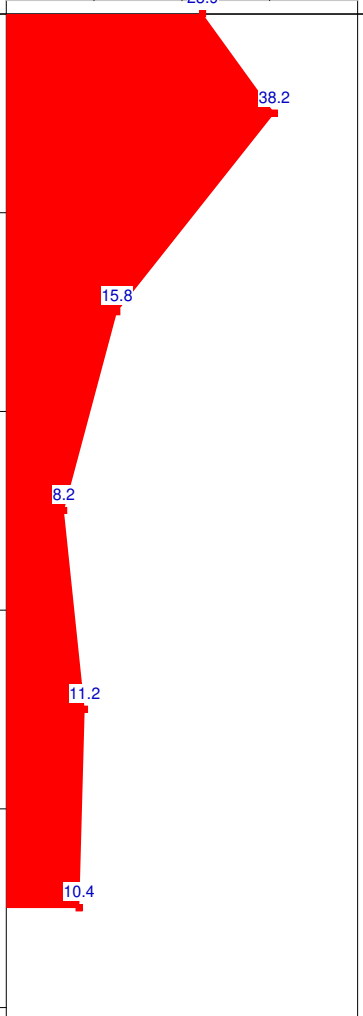
Depth	Symbol	Description	Depth
		B17-7 (28'-30') Converted drill rig to HSA. Fine grained; silty/fine sand and weathered rock material; petroleum odor; no moisture.	
		B17-8 (35') Fine grained; silty/fine sand and weathered rock material; strong petroleum odor; no moisture.	35.0
		B17-9 (40') Fine grained; dark brown; weathered rock material; strong petroleum odor; no moisture.	40.0
		B17-10 (45') Fine grained; dark brown; weathered rock material; strong petroleum odor; no moisture.	45.0
		B17-11 (50') Fine grained; dark brown; weathered rock material; strong petroleum odor; moisture evident.	50.0
		B17-12 (55') Fine grained; dark brown; weathered rock material; strong petroleum odor; moisture evident. Terminated soil boring B17 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B17 to monitoring well MW02.	55.0
		End of Borehole	

SAMPLE

Number	Type	Lab Results (TPH-GRO)
B17-8		ND
B17-9		ND
B17-10		ND
B17-11		NA
B17-12		NA

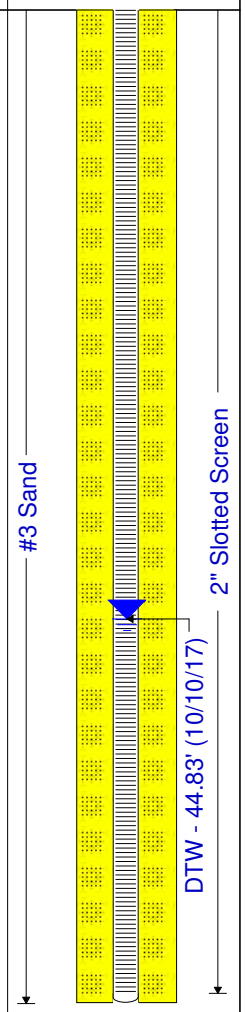
PID READINGS

VOC Concentration ppm



MONITORING WELL DIAGRAM

Well Completion Details



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/18/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

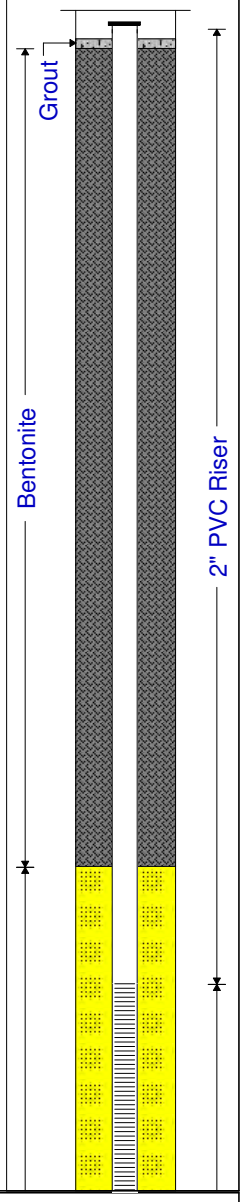
Log of Borehole: B18

Diagram of Monitoring Well: MW03

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (1000, 2000, 3000)	Well Completion Details
		Ground Surface	0.0					
0		**Asphalt**	0.5					
1–5		**B18-1 (0.5-5')** Fine-grained; reddish brown; silty/sandy clay; strong petroleum odor; no moisture.	5.0	B18-1		9,570	3,291	Grout
5–10		**B18-2 (5'-10')** Fine-grained; reddish brown to brown; silty fine sand with rock fragments; strong petroleum odor; no moisture.	10.0	B18-2		15,700	2,067	Bentonite
10–15		**B18-3 (10'-15')** Fine-grained; reddish brown to brown; silty fine sand with rock fragments; strong petroleum odor; no moisture.	15.0	B18-3		936	1,951	2" PVC Riser
15–20		**B18-4 (15'-20')** Fine-grained; reddish brown to tan; silty/sandy clay with mica present; strong petroleum odor; no moisture.	20.0	B18-4		3,170	1,957	
20–25		**B18-5 (20'-25')** Fine-grained; red to black to brown; weathered material with silty/fine sand and mica; strong petroleum odor; no moisture.	25.0	B18-5		8,510	1,458	
25–28		**B18-6 (25'-30')** Fine graind; silty/fine sand with some clay and rock fragments; petroleum odor; no moisture.	28.0	B18-6		3,910	1,631	
28–30			30.0				1,341	



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/18/2017 - 09/20/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

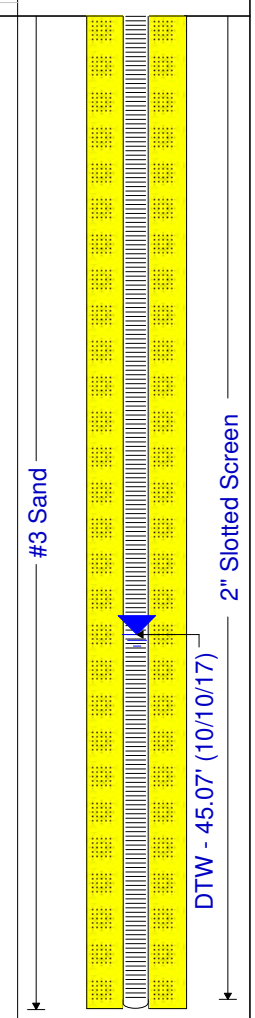
Log of Borehole: B18

Diagram of Monitoring Well: MW03

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (1000, 2000, 3000)	Well Completion Details
31–32		***B18-7 (30'-32')*** Fine-grained; red to black to brown; weathered material with silty/fine sand and mica; strong petroleum odor; no moisture. Obtained rod refusal at approximately 32.0 feet bgs due to suspected weathered rock.		B18-7		NA	1,631; 1,838	
33–35		***B18-8 (35')*** Converted drill rig to HSA. Fine grained; brown to dark brown; silty/fine sand and weathered rock material; strong petroleum odor; no moisture.	35.0	B18-8		2,830	1,185	
36–40		***B18-9 (40')*** Fine grained; brown to dark brown; silty/fine sand and weathered rock material; smaller rock fragments present; strong petroleum odor; no moisture.	40.0	B18-9		680	1,372	
41–45		***B18-10 (45')*** Fine grained; brown to dark brown; silty/fine sand and weathered rock material; smaller rock fragments present; strong petroleum odor; no moisture.	45.0	B18-10		3,610	1,320	
46–50		***B18-11 (50')*** Fine grained; dark brown; silty fine sand; strong petroleum odor; moisture evident.	50.0	B18-11		NA	1,257	
51–55		***B18-12 (55')*** Fine grained; dark brown; silty fine sand; strong petroleum odor; moisture evident. Terminated soil boring B18 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B18 to monitoring well MW03.	55.0	B18-12		NA	1,341	
55		End of Borehole						



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/18/2017 - 09/20/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B19

Diagram of Monitoring Well: MW04

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

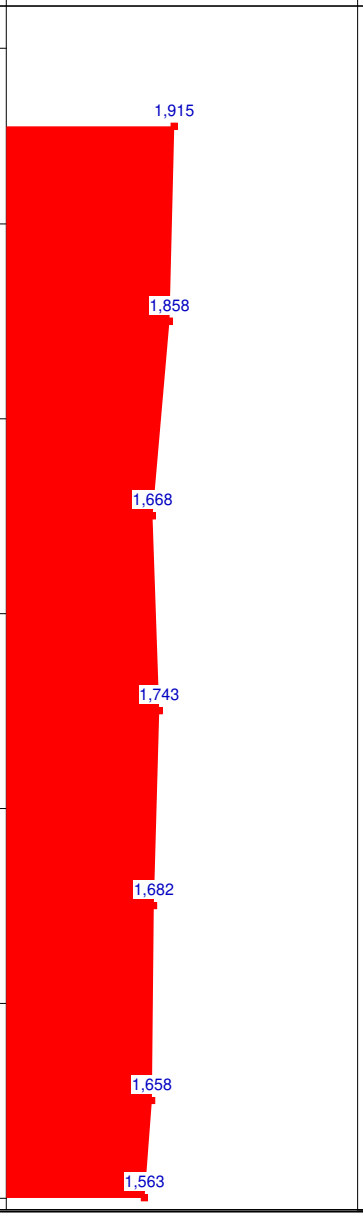
Depth	Symbol	Description	Depth
		Ground Surface	0.0
		Asphalt	0.5
		B19-1 (0.5-5') Fine-grained; reddish brown; silty/sandy clay; strong petroleum odor; no moisture.	5.0
		B19-2 (5'-10') Fine-grained; reddish brown to brown; silty/sandy clay with mica; strong petroleum odor; no moisture.	10.0
		B19-3 (10'-15') Fine-grained; reddish brown to brown; silty/sandy clay with mica; strong petroleum odor; no moisture.	15.0
		B19-4 (15'-20') Fine-grained; brown to reddish brown to black; silty/sandy clay with weathered material; strong petroleum odor; no moisture.	20.0
		B19-5 (20'-25') Fine-grained; brown to reddish brown to black; silty/sandy clay with weathered material; strong petroleum odor; no moisture.	25.0
		B19-6 (25'-30') Fine-grained; brown to reddish brown to black; silty/sandy clay with weathered material; strong petroleum odor; no moisture.	28.0
			30.0

SAMPLE

Number	Type	Lab Results (TPH-GRO)
B19-1		9,060
B19-2		4,580
B19-3		12,600
B19-4		8,100
B19-5		8,510
B19-6		5,450

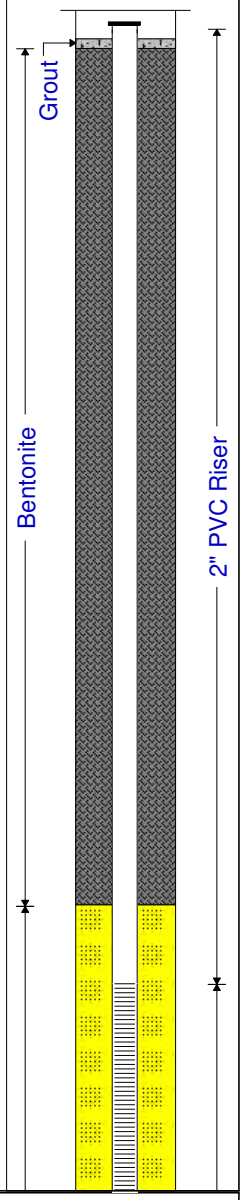
PID READINGS

VOC Concentration ppm



MONITORING WELL DIAGRAM

Well Completion Details



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/18/2017 - 09/21/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B19

Diagram of Monitoring Well: MW04

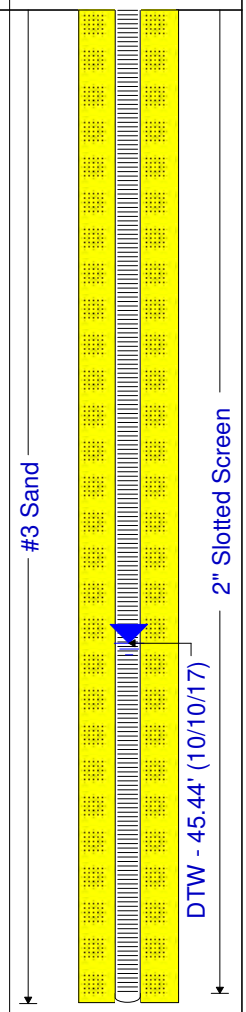
Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (1000, 2000, 3000)	Well Completion Details
31–33		**B19-7 (30'-34')** Fine-grained; brown to black to tan; weathered material with quartz fragmetns evident; strong petroleum odor; no moisture. Obtained rod refusal at approximately 34.0 feet bgs due to suspected weathered rock.		B19-7		5,830	1,658; 1,511	
34–35		**B19-8 (35')** Converted drill rig to HSA. Fine grained; brown; weathered material with silty fine sand; strong petroleum odor; no moisture.	35.0	B19-8		NA	1,736	
36–40		**B19-9 (40')** Fine grained; brown; weathered material with silty fine sand; strong petroleum odor; no moisture.	40.0	B19-9		2,630	1,748	
41–45		**B19-10 (45')** Fine grained; dark brown; weathered material with small rock fragments; strong petroleum odor; slight moisture.	45.0	B19-10		637	1,374	
46–50		**B19-11 (50')** Fine grained; dark brown; weathered material with small rock fragments; strong petroleum odor; moisture evident.	50.0	B19-11		NA	1,386	
51–55		**B19-12 (55')** Fine grained; dark brown; weathered material with silty fine sand; strong petroleum odor; moisture evident. Terminated soil boring B19 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B19 to monitoring well MW04.	55.0	B19-12		NA	1,563	
55		End of Borehole						

Depth scale: 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60

Well Completion Details: #3 Sand; 2" Slotted Screen; DTW - 45.44' (10/10/17)



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/18/2017 - 09/21/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B20

Diagram of Monitoring Well: MW05

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

Depth	Description	Depth
	Ground Surface	0.0
	Asphalt	0.5
	B20-1 (0.5-5') Fine-grained; reddish brown clay; no petroleum odor; no moisture.	5.0
	B20-2 (5'-10') Fine-grained; mottled reddish brown to brown to black; silty/sandy clay with fine/silty sand; no petroleum odor; no moisture.	10.0
	B20-3 (10'-15') Fine-grained; mottled brown to reddish brown to tan; fine silty sand; no petroleum odor; no moisture.	15.0
	B20-4 (15'-20') Fine-grained; mottled brown to tan to white; fine silty/sandy clay; no petroleum odor; no moisture.	20.0
	B20-5 (20'-25') Fine-grained; mottled brown to white to gray; silty fine sand; no petroleum odor; no moisture.	25.0
	B20-6 (25'-28') Fine-grained; mottled brown to white to gray; silty fine sand with weathered material present; no petroleum odor; no moisture. Obtained rod refusal at approximately 28.0 feet bgs due to suspected weathered rock.	28.0
		30.0

SAMPLE

Number	Lab Results (TPH-GRO)
B20-1	NA
B20-2	NA
B20-3	NA
B20-4	NA
B20-5	NA
B20-6	NA
B20-7	NA

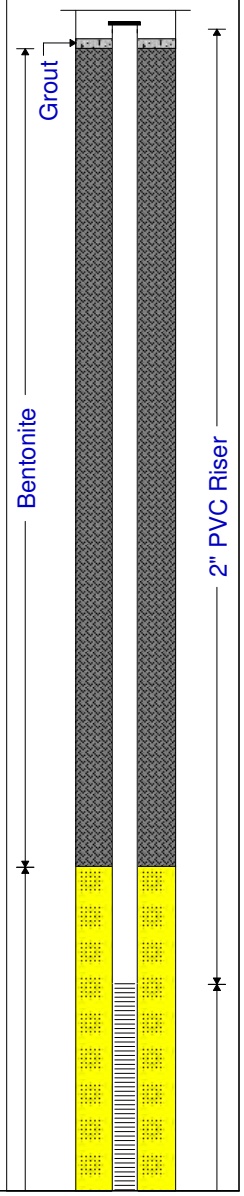
PID READINGS

VOC Concentration ppm (2.5, 5, 7.5)

0.0

MONITORING WELL DIAGRAM

Well Completion Details



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/19/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

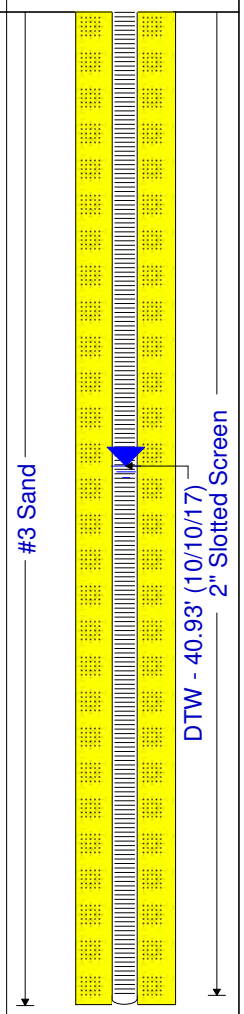
Log of Borehole: B20

Diagram of Monitoring Well: MW05

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
31, 32, 33, 34, 35		***B20-7 (30')*** Converted drill rig to HSA. Fine-grained; silty/fine sand with weathered material present; no petroleum odor; no moisture. ***B20-8 (35')*** Fine-grained; silty/fine sand with weathered material present; no petroleum odor; no moisture.	35.0	B20-8		1.34	0.0, 0.0, 0.0	
36, 37, 38, 39, 40		***B20-9 (40')*** Fine grained; brown; silty/fine sand with weathered material present; no petroleum odor; no moisture.	40.0	B20-9		NA	0.0	
41, 42, 43, 44, 45		***B20-10 (45')*** Fine grained; brown; silty/fine sand with weathered material present; no petroleum odor; slight moisture.	45.0	B20-10		ND	0.0	
46, 47, 48, 49, 50		***B20-11 (50')*** Fine grained; brown; silty/fine sand with weathered material present; no petroleum odor; moisture evident.	50.0	B20-11		NA	0.0	
51, 52, 53, 54, 55		***B20-12 (55')*** Fine grained; brown; silty/fine sand with weathered material present; no petroleum odor; moisture evident. Terminated soil boring B20 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B20 to monitoring well MW05.	55.0	B20-12		NA	0.0	
56, 57, 58, 59, 60		End of Borehole						



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/19/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

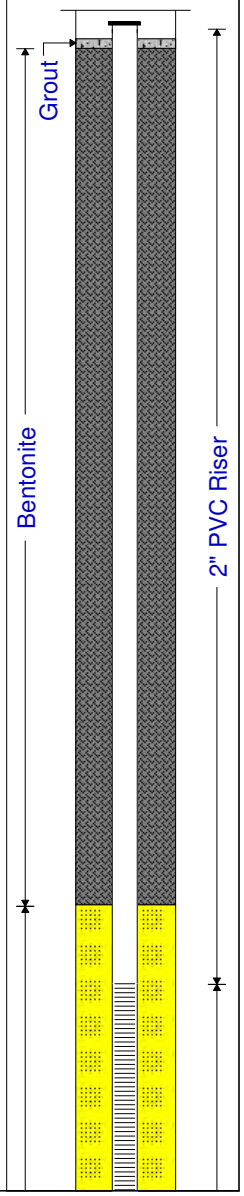
Log of Borehole: B21

Diagram of Monitoring Well: MW06

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
		Ground Surface	0.0					
		Asphalt	0.5					
		B21-1 (0.5-5') Fine-grained; reddish brown silty/sandy clay; no petroleum odor; no moisture.	5.0	B21-1		NA	0.0	
		B21-2 (5'-10') Fine-grained; brown to reddish brown; silty/sandy clay; no petroleum odor; no moisture.	10.0	B21-2		NA	0.0	
		B21-3 (10'-15') Fine-grained; mottled brown to tan to white; silty/fine sand with some weathered material and mica present; no petroleum odor; no moisture.	15.0	B21-3		NA	0.0	
		B21-4 (15'-20') Fine-grained; mottled brown to tan to white; silty/fine sand with some weathered material, mica and quartz fragments present; no petroleum odor; no moisture.	20.0	B21-4		NA	0.0	
		B21-5 (20'-25') Fine-grained; mottled brown to black to tan; silty/fine sand with weathered material and small rock fragments present; no petroleum odor; no moisture.	25.0	B21-5		NA	0.0	
		B21-6 (30') Obtained rod refusal at approximately 29.0 feet bgs due to suspected weathered rock. No recovery. Switched to HSA. Sample collected from auger cuttings. Fine-grained; brown; fine/silty sand with weathered material present; no petroleum odor; no	30.0	B21-6		NA	0.0 / 0.7	



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/19/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

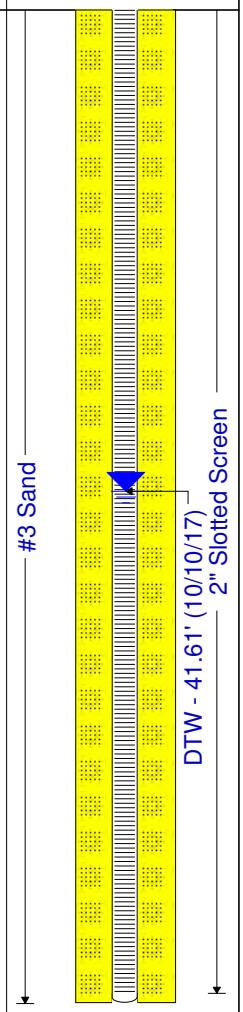
Log of Borehole: B21

Diagram of Monitoring Well: MW06

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
31–34		***B21-7 (35')*** Fine-grained; brown; fine/silty sand with weathered material present; no petroleum odor; no moisture.	35.0	B21-7		ND	0.0	
35–39		***B21-8 (40')*** Fine-grained; brown to dark brown; silty/fine sand with weathered material present; no petroleum odor; no moisture.	40.0	B21-8		NA	0.0	
40–44		***B21-9 (45')*** Fine-grained; brown to dark brown; silty/fine sand with weathered material present; no petroleum odor; slight moisture.	45.0	B21-9		ND	0.0	
45–49		***B21-10 (50')*** Fine grained; brown to dark brown; fine/silty sand with weathered material present; no petroleum odor; moisture evident.	50.0	B21-10		ND	0.0	
50–54		***B21-11 (55')*** Fine grained; brown to dark brown; fine/silty sand with weathered material present; no petroleum odor; moisture evident. Terminated soil boring B21 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B21 to monitoring well MW06.	55.0	B21-11		NA	0.7	
55–60		End of Borehole						



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/19/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

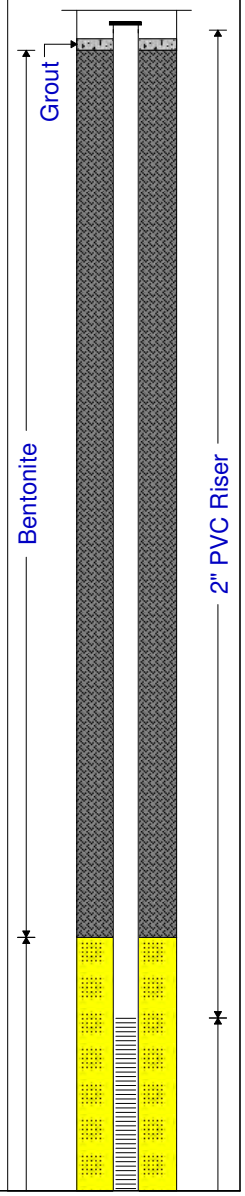
Log of Borehole: B22

Diagram of Monitoring Well: MW07

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
		Ground Surface	0.0					
0		**Asphalt**	0.5					
1–4		**B22-1 (0.5-5')** Fine-grained; reddish brown silty/sandy clay; no petroleum odor; no moisture.	5.0	B22-1		NA	0.0	
5–9		**B22-2 (5'-10')** Fine-grained; mottled brown to light brown to white; silty/sand with larger rock fragments present; no petroleum odor; no moisture.	10.0	B22-2		NA	0.0	
10–14		**B22-3 (10'-15')** Fine-grained; mottled brown to light brown to white; silty/sand with larger rock fragments present; no petroleum odor; no moisture.	15.0	B22-3		NA	0.0	
15–19		**B22-4 (15'-20')** Fine-grained; mottled brown to black to tan; silty/fine sand; no petroleum odor; no moisture.	20.0	B22-4		NA	0.0	
20–24		**B22-5 (20'-25')** Fine-grained; tan to brown silty/sand; no petroleum odor; no moisture.	25.0	B22-5		NA	0.0	
25–29		**B22-6 (25'-29')** Fine-grained; tan to brown silty sand; no petroleum odor; no moisture. Obtained rod refusal at approximately 29.0 feet bgs due to suspected weathered rock.	29.0	B22-6		NA	0.0	



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/19/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

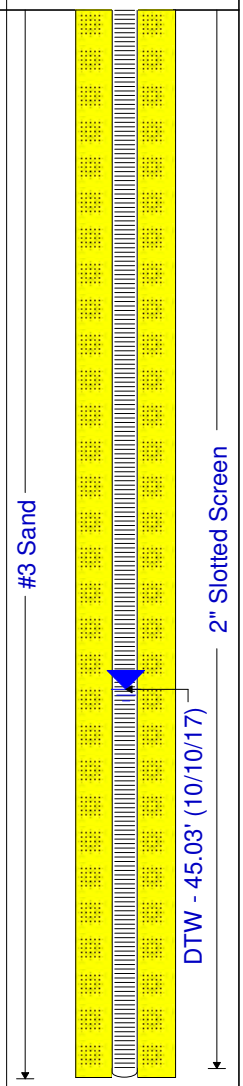
Log of Borehole: B22

Diagram of Monitoring Well: MW07

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
30		***B22-7 (30')*** Converted drill rig to HSA. Fine-grained; brown; silty sand with weathered material; no petroleum odor; no moisture.	30.0	B22-7		NA	0.0	
31							0.0	
32		***B22-8 (35')*** Fine-grained; brown; silty sand with weathered material; no petroleum odor; no moisture.		B22-8		ND		
33							0.0	
34								
35		***B22-9 (40')*** Fine-grained; brown; silty sand with weathered material; no petroleum odor; slight moisture.	35.0					
36								
37				B22-9		NA	0.0	
38								
39								
40		***B22-10 (45')*** Fine-grained; brown; silty/fine sand with weathered material present; no petroleum odor; slight moisture.	40.0					
41								
42				B22-10		ND	0.0	
43								
44								
45		***B22-11 (50')*** Fine-grained; brown; silty/fine sand with weathered material present; no petroleum odor; moisture evident.	45.0					
46								
47				B22-11		NA	0.0	
48								
49								
50		***B22-12 (55')*** Fine-grained; brown; silty/fine sand with weathered material present; no petroleum odor; moisture evident. Terminated soil boring B22 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B22 to monitoring well MW07.	50.0					
51								
52				B22-12		NA	0.0	
53								
54								
55		End of Borehole	55.0					
56								
57								
58								



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/19/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

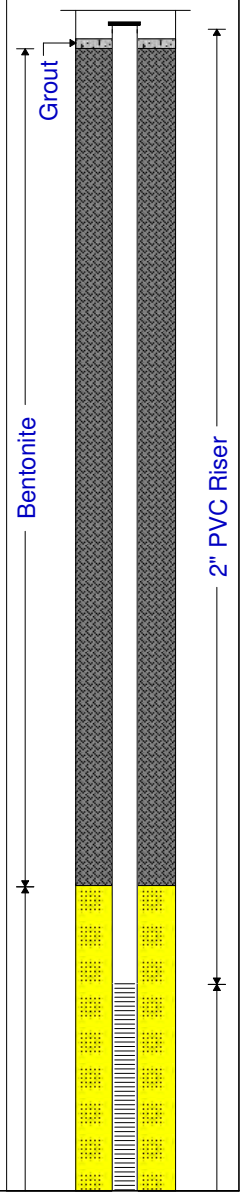
Log of Borehole: B23

Diagram of Monitoring Well: MW08

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
		Ground Surface	0.0					
0		**Asphalt**	0.5					
1–5		**B23-1 (0.5-5')** Fine-grained; reddish brown; silty/sandy clay; no petroleum odor; no moisture.	5.0	B23-1		NA	0.0	
5–10		**B23-2 (5'-10')** Fine-grained; mottled brown to dark brown to tan; silty/sand; no petroleum odor; no moisture.	10.0	B23-2		NA	0.0	
10–15		**B23-3 (10'-15')** Fine-grained; mottled brown to tan to white; silty/fine sand; no petroleum odor; no moisture.	15.0	B23-3		NA	0.4	
15–20		**B23-4 (15'-20')** Fine-grained; mottled brown to tan to white; silty/fine sand; no petroleum odor; no moisture.	20.0	B23-4		NA	0.1	
20–25		**B23-5 (20'-25')** Fine-grained; brown to light brown; silty/fine sand; no petroleum odor; no moisture.	25.0	B23-5		NA	0.0	
25–30		**B23-6 (25'-30')** Fine-grained; brown to light brown; silty/fine sand with weathered material and small rock fragments present; no petroleum odor; no moisture. Obtained rod refusal at approximately 30.0 feet bgs due to suspected weathered rock.	30.0	B23-6		NA	0.1	
							0.0	



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/20/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

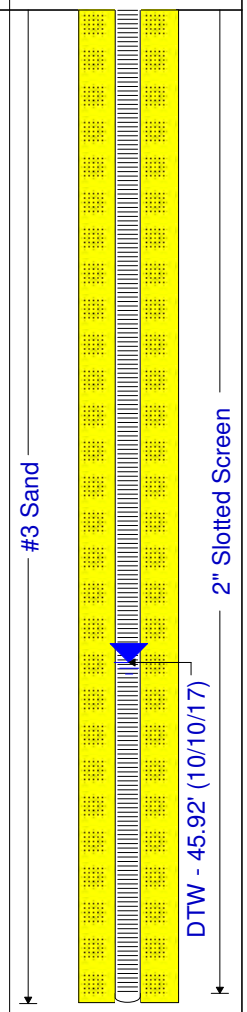
Log of Borehole: B23

Diagram of Monitoring Well: MW08

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
31–34		***B23-7 (35')*** Converted drill rig to HSA. Fine-grained; brown; silty fine sand; no petroleum odor; no moisture.	35.0	B23-7		ND	0.1, 0.0	
35–39		***B23-8 (40')*** Fine-grained; brown; silty fine sand; no petroleum odor; no moisture.	40.0	B23-8		NA	0.0	
40–44		***B23-9 (45')*** Fine-grained; brown to dark brown; silty/fine sand with small rock fragments; no petroleum odor; no moisture.	45.0	B23-9		ND	0.0	
45–49		***B23-10 (50')*** Fine-grained; brown to dark brown; silty/fine sand with small rock fragments; no petroleum odor; moisture evident.	50.0	B23-10		NA	0.0	
50–55		***B23-11 (55')*** Fine-grained; dark brown; silty/fine sand with weathered material present; no petroleum odor; moisture evident. Terminated soil boring B23 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B23 to monitoring well MW08.	55.0	B23-11		NA	0.0	
56–60		End of Borehole						



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/20/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B24

Diagram of Monitoring Well: MW09

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

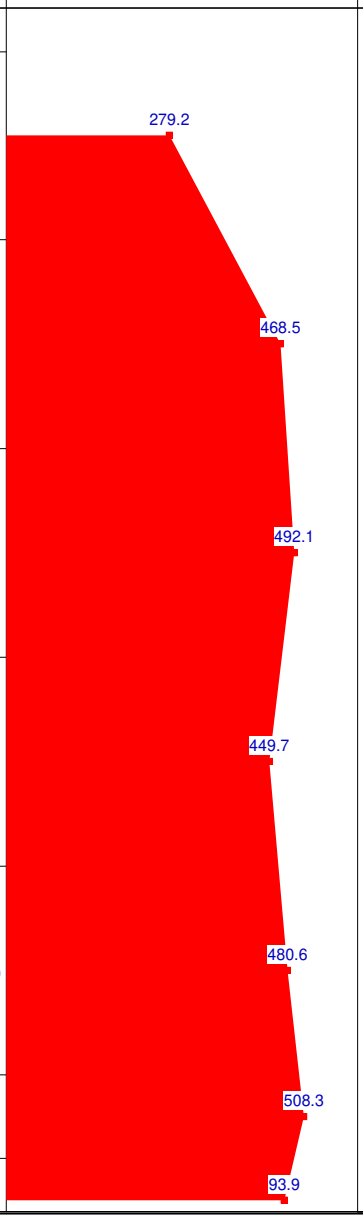
Depth	Description	Depth
	Ground Surface	0.0
	Asphalt	0.5
	B24-1 (0.5-5') Fine-grained; reddish brown; silty/sandy clay; slight petroleum odor; no moisture.	5.0
	B24-2 (5'-10') Fine-grained; mottled brown to tan to dark brown; silty/fine sand; strong petroleum odor; no moisture.	10.0
	B24-3 (10'-15') Fine-grained; mottled brown to light brown; silty/fine sand; strong petroleum odor; no moisture.	15.0
	B24-4 (15'-20') Fine-grained; mottled brown to orangish brown to tan; silty/fine sand; strong petroleum odor; no moisture.	20.0
	B24-5 (20'-25') Fine-grained; mottled brown to orangish brown to tan; silty/fine sand; strong petroleum odor; no moisture.	25.0
	B24-6 (25'-27') Fine-grained; mottled brown to orangish brown to tan; silty/fine sand; strong petroleum odor; no moisture.	27.0
	Obtained rod refusal at approximately 27.0 feet bgs due to suspected weathered rock.	

SAMPLE

Number	Lab Results (TPH-GRO) / (TPH-DRO)
B24-1	168 / 6,310
B24-2	126 / 9,130
B24-3	88.9 / 6,690
B24-4	112 / 7,910
B24-5	1,740 / 18,900
B24-6	NA / NA

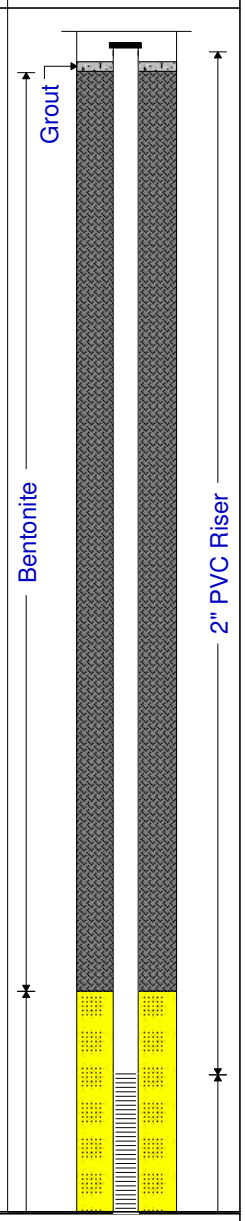
PID READINGS

VOC Concentration ppm (150, 300, 450)



MONITORING WELL DIAGRAM

Well Completion Details



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/20/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B24

Diagram of Monitoring Well: MW09

Geologist: ADAM FLORA

Generation Date: 11/09/2017

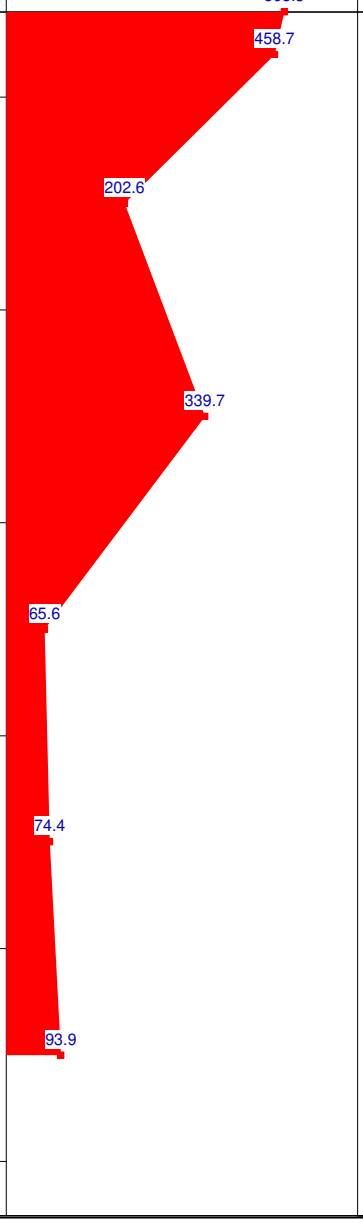
SUBSURFACE PROFILE

Depth	Description	Depth
29–30	***B24-7 (30')*** Converted drill rig to HSA. Fine-grained; brown to orangish brown; silty/fine sand with weathered material present; petroleum odor; no moisture.	30.0
30–35	***B24-8 (35')*** Fine-grained; brown to orangish brown; silty/fine sand; petroleum odor; no moisture.	35.0
35–40	***B24-9 (40')*** Fine-grained; brown to orangish brown; silty/fine sand; petroleum odor; no moisture.	40.0
40–45	***B24-10 (45')*** Fine-grained; brown to dark brown; silty/fine sand; petroleum odor; slight moisture.	45.0
45–50	***B24-11 (50')*** Fine-grained; brown to dark brown; silty/fine sand; petroleum odor; moisture evident.	50.0
50–55	***B24-12 (55')*** Fine-grained; brown to dark brown; silty/fine sand with weathered material present; strong petroleum odor; moisture evident. Terminated soil boring B24 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B27 to monitoring well MW09.	55.0
55–56	End of Borehole	

SAMPLE

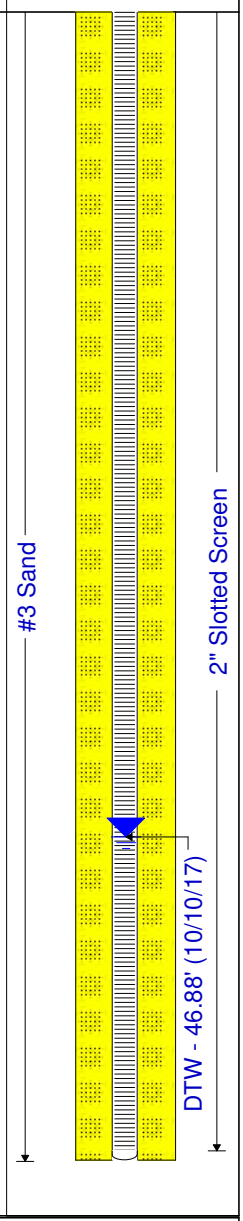
Number	Lab Results (TPH-GRO) / (TPH-DRO)
B24-7	127 / 10,500
B24-8	41.2 / 1,280
B24-9	23.9 / 2,360
B24-10	910 / 153
B24-11	NA / NA
B24-12	NA / NA

PID READINGS



MONITORING WELL DIAGRAM

Well Completion Details



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/20/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B25

Diagram of Monitoring Well: MW10

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

Depth	Symbol	Description	Depth
		Ground Surface	0.0
0		***Asphalt***	0.5
1–5		***B25-1 (0.5-5')*** Fine-grained; reddish brown; silty/sandy clay with silty/fine sand at approximately 4 feet bgs; slight petroleum odor; no moisture.	5.0
5–10		***B25-2 (5'-10')*** Fine-grained; mottled brown to light brown to orangish brown; silty/fine sand; slight petroleum odor; no moisture.	10.0
10–15		***B25-3 (10'-15')*** Fine-grained; mottled brown to dark brown; silty/fine sand; petroleum odor; no moisture.	15.0
15–20		***B25-4 (15'-20')*** Fine-grained; mottled dark brown to black to white; silty/fine sand; petroleum odor; no moisture.	20.0
20–25		***B25-5 (20'-25')*** Fine-grained; mottled dark brown to brown to white; silty/fine sand; petroleum odor; no moisture.	25.0
25–27		***B25-6 (25'-27')*** Fine-grained; dark brown to black to tan; silty/fine sand and weatherexd material; strong petroleum odor; no moisture.	27.0
27–30		Obtained rod refusal at approximately 27.0 feet bgs due to suspected weathered rock.	30.0

SAMPLE

Number	Type	Lab Results (TPH-GRO)
B25-1		1,280
B25-2		1,090
B25-3		1,360
B25-4		2,230
B25-5		ND
B25-6		NA
B25-7		ND

PID READINGS

VOC Concentration ppm (175, 350, 525)

135.7, 234.2, 270.2, 397.2, 447.9, 651.7, 101.4, 38.1

MONITORING WELL DIAGRAM

Well Completion Details

Grout

Bentonite

2" PVC Riser

Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/21/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B25

Diagram of Monitoring Well: MW10

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

Depth	Description	Depth
	B25-7 (30') Converted drill rig to HSA. Fine-grained; brown; silty/fine sand; petroleum odor; no moisture.	
	B25-8 (35') Fine-grained; brown; weathered material with silty/fine sand; petroleum odor; no moisture.	35.0
	B25-9 (40') Fine-grained; brown; weathered material with silty/fine sand; petroleum odor; no moisture.	40.0
	B25-10 (45') Fine-grained; brown; weathered material with silty/fine sand; petroleum odor; no moisture.	45.0
	B25-11 (50') Fine-grained; brown to light brown; weathered material; slight petroleum odor; moisture evident.	50.0
	B25-12 (55') Fine-grained; brown to light brown; weathered material; slight petroleum odor; moisture evident. Terminated soil boring B25 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B25 to monitoring well MW10.	55.0
	End of Borehole	

SAMPLE

Number	Lab Results (TPH-GRO)
B25-8	ND
B25-9	ND
B25-10	ND
B25-11	NA
B25-12	NA

PID READINGS

VOC Concentration ppm (175, 350, 525)

101.4, 108.3, 78.2, 109.1, 21.8, 38.1

MONITORING WELL DIAGRAM

Well Completion Details

#3 Sand

2" Slotted Screen

DTW - 45.59' (10/10/17)

Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/21/2017

Hole Size: 6.875 INCHES

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B26

Diagram of Monitoring Well: MW11

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

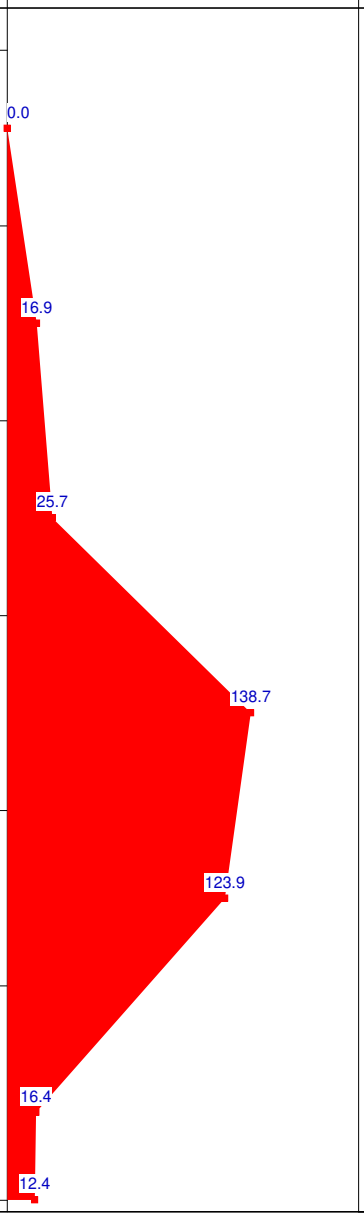
Depth	Symbol	Description	Depth
		Ground Surface	0.0
		Asphalt	0.5
		B26-1 (0.5-5') Fine-grained; reddish brown; silty/sandy clay; no petroleum odor; no moisture.	5.0
		B26-2 (5'-10') Fine-grained; mottled brown to light brown to tan; silty/fine sand; slight petroleum odor; no moisture.	10.0
		B26-3 (10'-15') Fine-grained; mottled brown to orangish brown with black; silty/fine sand; slight petroleum odor; no moisture.	15.0
		B26-4 (15'-20') Fine-grained; mottled brown to orangish brown with black; silty/fine sand; petroleum odor; no moisture.	20.0
		B26-5 (20'-24.5') Fine-grained; mottled orangish brown to brown to black; weathered material and silty fine sand; petroleum odor; no moisture. Obtained rod refusal at approximately 24.5 feet bgs due to suspected weathered rock.	24.5
		B26-6 (30') Converted drill rig to HSA. Fine-grained; brown; weathered material; silty/fine sand; slight petroleum odor; no moisture.	30.0

SAMPLE

Number	Type	Lab Results (TPH-GRO)
B26-1		NA
B26-2		ND
B26-3		ND
B26-4		ND
B26-5		ND
B26-6		ND

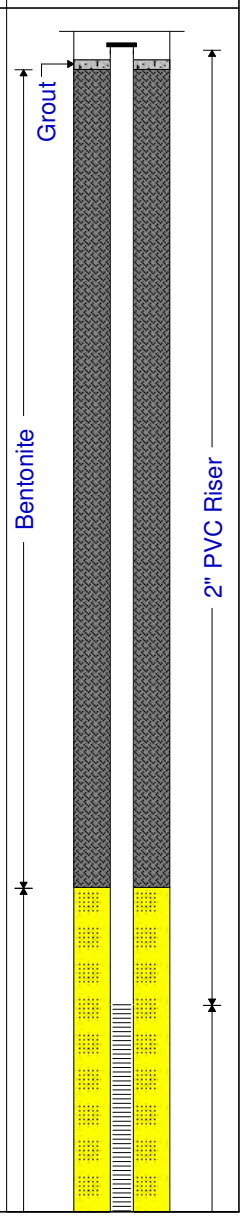
PID READINGS

VOC Concentration ppm (50, 100, 150)



MONITORING WELL DIAGRAM

Well Completion Details



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/21/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC
200 Buckwheat Lane
Rocky Mount, VA 24151

Project No: CSVI1002

Project: SITE CHARACTERIZATION REPORT

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B26

Diagram of Monitoring Well: MW11

Geologist: ADAM FLORA

Generation Date: 11/09/2017

SUBSURFACE PROFILE

Depth	Description	Depth
31–34	***B26-7 (35')*** Fine-grained; brown; weathered material; silty/fine sandl; slight petroleum odor; no moisture.	35.0
35–39	***B26-8 (40')*** Fine-grained; brown; weathered material with silty/fine sand; slight petroleum odor; no moisture.	40.0
40–44	***B26-9 (45')*** Fine-grained; brown; weathered material with silty/fine sand; slight petroleum odor; no moisture.	45.0
45–49	***B26-10 (50')*** Fine-grained; brown to dark brown; weathered material; slight petroleum odor; moisture evident.	50.0
50–54	***B26-11 (55')*** Fine-grained; brown to dark brown; weathered material; slight petroleum odor; moisture evident. Terminated soil boring B25 approximately 55 feet bgs due to evidence of groundwater. Converted soil boring B25 to monitoring well MW10.	55.0
55	End of Borehole	

SAMPLE

Number	Type	Lab Results (TPH-GRO)
B26-7		ND
B26-8		ND
B26-9		ND
B26-10		NA
B26-11		NA

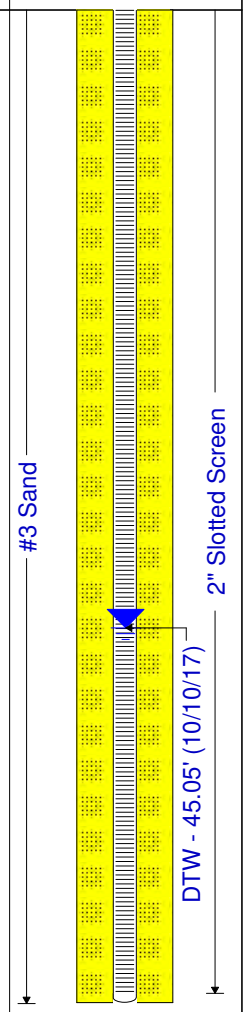
PID READINGS

VOC Concentration ppm (50, 100, 150)

16.4, 15.2, 12.1, 14.6, 9.0, 12.4

MONITORING WELL DIAGRAM

Well Completion Details



Drill Method: DIRECT PUSH/HSA

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/21/2017

Hole Size: 6.875 INCHES

GREENE ENVIRONMENTAL SERVICES LLC
200 Buckwheat Lane
Rocky Mount, VA 24151

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B27

Diagram of Monitoring Well: MW12

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
		Ground Surface	0.0					
		Grass						
		B27-1 (0'-20') Fine-grained; brown; silty/sandy clay; slightly micaceous; no petroleum odor; no moisture.	20.0	B27-1		NA	0.0	Bentonite
		B27-2 (20'-40') Fine-grained; brown; silty/sandy clay; slightly micaceous; no petroleum odor; no moisture.	40.0	B27-2		NA	0.0	6" Steel Casing
		B27-3 (50') Fine-grained; brown; slightly micaceous; slightly weathered; slight moisture.	50.0	B27-3		ND	0.0	
		B27-4 (60') Fine-grained; brown; slightly micaceous; weathered material; slight moisture.	60.0	B27-4		ND	0.0	

Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/14/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

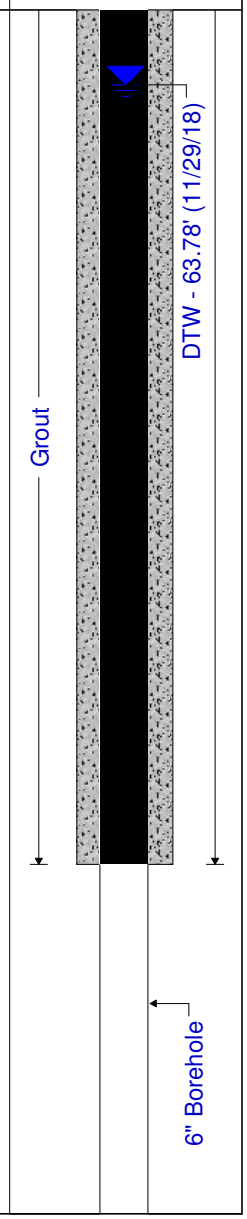
Log of Borehole: B27

Diagram of Monitoring Well: MW12

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
61–69		***B76-5 (70')*** Weathered rock observed approximately 63' bgs. No sample collected.	70.0					
70–79		***B27-6 (80')*** Competent bedrock observed approximately 75' bgs. No sample collected.	80.0					
80–89		***B27-7 (90')*** Competent bedrock. No sample collected.	90.0					
90–102		***B27-8 (103')*** Competent bedrock. No sample collected.	103.0					
103–119		***B27-9 (103'-120')*** Competent bedrock. No sample collected. Fracture observed approximately 113 ' bgs; estimated 3 gpm.	120.0					
120								



Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/14/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B27

Diagram of Monitoring Well: MW12

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
121–139		***B27-10 (120'-140')*** Competent bedrock. No sample collected.	140.0					6" Borehole
140–159		***B27-11 (140'-160')*** Competent bedrock. No sample collected.	160.0					
160–179		***B27-12 (160'-180')*** Competent bedrock. No sample collected.	180.0					

Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/14/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B27

Diagram of Monitoring Well: MW12

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
181–199		***B27-13 (180'-200')*** Competent bedrock. No sample collected. Fracture observed approximately 185 ' bgs; estimated 8-10 gpm.	200.0					
200–219		***B27-14 (200'-220')*** Competent bedrock. No sample collected.	220.0					6" Borehole
220–239		***B27-15 (220'-240')*** Competent bedrock. No sample collected.	240.0					

Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/14/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B27

Diagram of Monitoring Well: MW12

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
241		***B27-16 (240'-260')*** Competent bedrock. No sample collected. Fracture observed approximately 250 ' bgs; estimated 50-75 gpm.						6" Borehole
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261		End of Borehole						
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Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/14/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

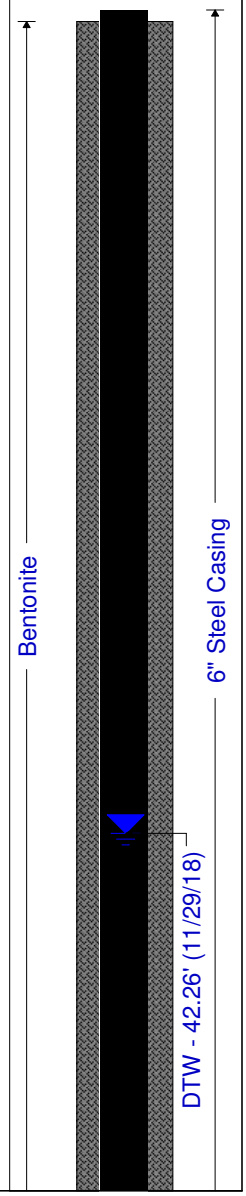
Log of Borehole: B28

Diagram of Monitoring Well: MW13

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
		Ground Surface	0.0					
		Grass						
		B28-1 (0'-20') Fine-grained; brown; silty/sandy clay; no petroleum odor; no moisture.	20.0	B28-1		NA	0.0	
		B28-2 (20'-40') Fine-grained; brown; silty/sandy clay; no petroleum odor; no moisture.	40.0	B28-2		NA	0.0	
		B28-3 (50') Fine-grained; brown; slightly micaceous; weathered rock evident; no moisture.	50.0	B28-3		ND	0.0	
		B28-4 (60') Fine-grained; brown; slightly micaceous; weathered rock; slight moisture.	60.0	B28-4		ND	0.0	



Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/23/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

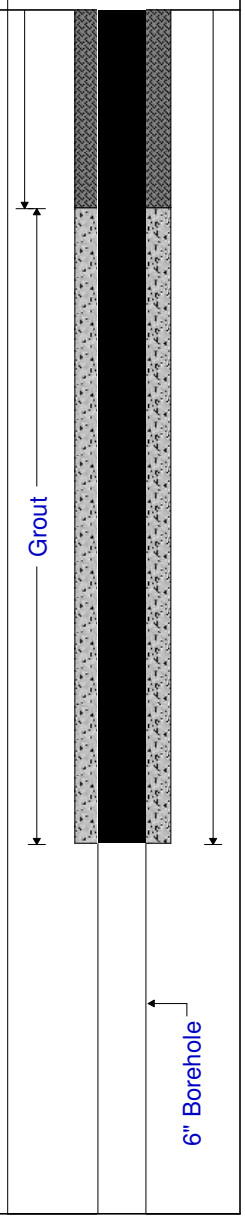
Log of Borehole: B28

Diagram of Monitoring Well: MW13

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
61–69		***B28-5 (70')*** Weathered rock. No sample collected.	70.0					
70–79		***B28-6 (80')*** Competent bedrock observed approximately 80' bgs. No sample collected.	80.0					
80–89		***B28-7 (90')*** Competent bedrock. No sample collected.	90.0					
90–101		***B28-8 (102')*** Competent bedrock. No sample collected.	102.0					
102–119		***B28-9 (102'-120')*** Competent bedrock. No sample collected.	120.0					



Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/23/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B28

Diagram of Monitoring Well: MW13

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
121–139		***B28-10 (120'-140')*** Competent bedrock. No sample collected. Fracture observed approximately 135 ' bgs; estimated 3 gpm.	140.0					6" Borehole
140–159		***B28-11 (140'-160')*** Competent bedrock. No sample collected.	160.0					
160–179		***B28-12 (160'-180')*** Competent bedrock. No sample collected.	180.0					
180								

Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/23/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B28

Diagram of Monitoring Well: MW13

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
181–199		**B28-13 (180'-200')** Competent bedrock. No sample collected.	200.0					
200–219		**B28-14 (200'-220')** Competent bedrock. No sample collected.	220.0					6" Borehole
220–239		**B28-15 (220'-240')** Competent bedrock. No sample collected.	240.0					

Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/23/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B28

Diagram of Monitoring Well: MW13

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
241–259		***B28-16 (240'-260')*** Competent bedrock. No sample collected.	260.0					
260–279		***B28-17 (260'-280')*** Competent bedrock. No sample collected. Fracture observed approximately 270 ' bgs; estimated 50 gpm.	280.0					6" Borehole
280–299		***B28-18 (280'-300')*** Competent bedrock. No sample collected.	300.0					

Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/23/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

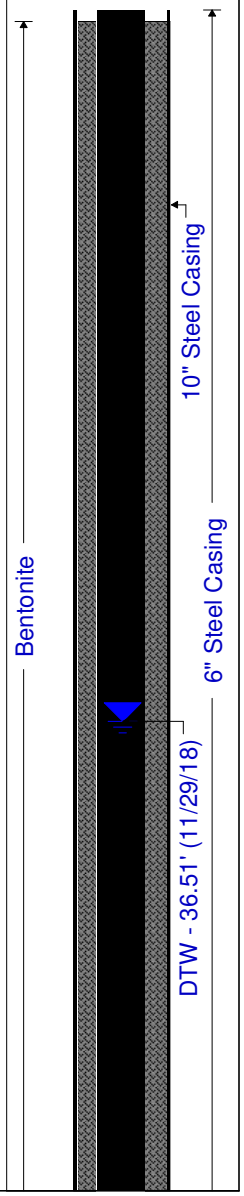
Log of Borehole: B29

Diagram of Monitoring Well: MW14

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm (2.5, 5, 7.5)	Well Completion Details
		Ground Surface	0.0					
		Grass						
		B29-1 (0'-20') Fine-grained; brown; silty/sandy clay; slightly micaceous; no petroleum odor; no moisture.	20.0	B29-1		NA	0.0	
		B29-2 (30') Fine-grained; brown; silty/sandy clay; slightly micaceous; no petroleum odor; slight moisture.	30.0	B29-2		ND	0.0	
		B29-3 (40') Fine-grained; brown; silty/sandy clay; slightly micaceous; no petroleum odor; moisture/shallow groundwater evident.	40.0	B29-3		ND	0.0	
		B29-4 (50') Fine-grained; brown; slightly micaceous; silty/sandy clay with weathered material; shallow groundwater evident.	50.0	B29-4		NA	0.0	
		B29-5 (60') Weathered rock. No petroleum odor; shallow groundwater evident.	60.0	B29-5		NA	0.0	



Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/04/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

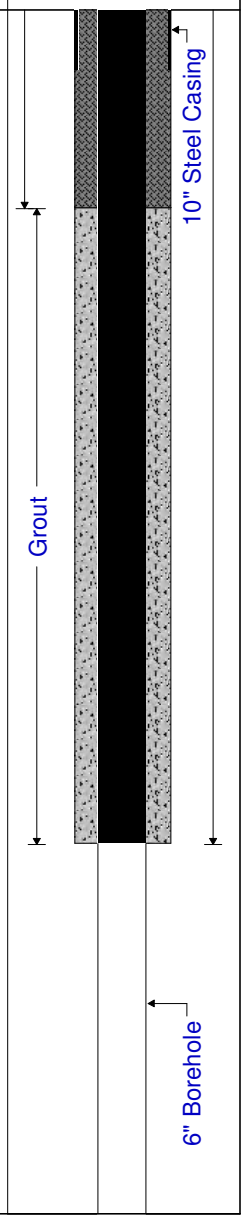
Log of Borehole: B29

Diagram of Monitoring Well: MW14

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
61–69		***B29-6 (70')*** Competent bedrock observed approximately 70' bgs. No sample collected.	70.0					
70–79		***B29-7 (80')*** Competent bedrock. No sample collected.	80.0					
80–89		***B29-8 (90')*** Competent bedrock. No sample collected.	90.0					
90–101		***B29-9 (102')*** Competent bedrock. No sample collected.	102.0					
102–120		***B29-10 (102'-120')*** Competent bedrock. No sample collected.	120.0					



Drill Method: AIR ROTARY
Drilled by: DAVIDSON DRILLING, INC.
Drill Date: 09/04/18
Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B29

Diagram of Monitoring Well: MW14

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
121–139		***B29-11 (120'-140')*** Competent bedrock. No sample collected.	140.0					
140–159		***B29-12 (140'-160')*** Competent bedrock. No sample collected.	160.0					6" Borehole
160–179		***B29-13 (160'-180')*** Competent bedrock. No sample collected. Fracture observed approximately 170 ' bgs; estimated 75 gpm.	180.0					

Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 09/04/18

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B29

Diagram of Monitoring Well: MW14

Geologist: ADAM FLORA

Generation Date: 12/13/2018

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 2.5 5 7.5	Well Completion Details
181–199		***B29-14 (180'-200')*** Competent bedrock. No sample collected. Fracture observed approximately 185 ' bgs; estimated 75 gpm.	200.0					6" Borehole
200		End of Borehole						

Drill Method: AIR ROTARY
Drilled by: DAVIDSON DRILLING, INC.
Drill Date: 09/04/18
Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

FRACTURE TRACE ANALYSIS & SITE RECONNAISSANCE FOR CHAMBLISSBURG SUPPLY

Vinton, Virginia

PREPARED FOR:

Mr. Adam Flora
Greene Environmental Services
129 Bunny Ridge Lane
Rocky Mount, VA 24151

November 3rd, 2017

Draper Aden Associates
Engineering • Surveying • Environmental Services

DAA Project Number: **17010623-010203**

Draper Aden Associates
Engineering • Surveying • Environmental Services

2206 South Main Street
Blacksburg, Virginia 24060
(540) 552-0444 • Fax (540) 552-0291
www.daa.com

November 3rd , 2017

Mr. Adam Flora
Greene Environmental Services
129 Bunny Ridge Lane
Rocky Mount, VA 24151

RE: Fracture Trace Analysis and Site Reconnaissance at Chamblissburg Supply, 10625 Stewartsville Road, Vinton, Virginia

Dear Mr. Flora,

Draper Aden Associates has completed the fracture trace analysis and site reconnaissance for the Chamblissburg Supply near Vinton, Virginia. The objective of this study was to conduct geologic research to identify fracture patterns that may be influencing groundwater movement to several water supply wells. The following report documents our methodologies and findings.

We value our professional relationship with Greene Environmental Services, and hope that you will contact us with any similar needs in the future. If you have any questions regarding this report, or if we can be of any further service to you please do not hesitate to contact us.

Sincerely,

Ethan Truman

Ethan Truman
Field Geologist

3RD PARTY REVIEW

This Report has been subjected to technical and quality reviews by:

Warren T. "Ted" Dean, PG		November 3rd, 2017
Geophysical Services Program Manager	Signature	Date

FIGURES

Figure 1. Study area of the fracture trace analysis.

Figure 2. A portion of the published geologic map of the study area. From Henika, 1997.

Figure 3. Results of fracture trace analysis, overlain with impacted water supply well locations.

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1.0 EXECUTIVE SUMMARY

Draper Aden Associates (DAA) was retained by Greene Environmental Services to conduct a fracture trace analysis and site reconnaissance for the Chamblissburg Supply in Vinton, Virginia. The study area is located approximately 0.75 miles west of Chamblissburg, Virginia at 10625 Stewartsville Road, Vinton, Virginia. The objective of this study was to conduct geologic research to identify fracture patterns that may be influencing groundwater movement to several water supply wells.

The tasks involved in this study included:

1. Researching published geologic maps or other available literature;
2. Conducting a fracture trace analysis, and site reconnaissance;
3. Preparation of this document to detail theory, methods and findings.

The results of the background geologic research and fracture trace analysis revealed three prominent "sets" of fracture traces within the study area. The most prominent set (Set 1) is oriented generally northwest-southeast (spanning from 135 to 150 degrees), the secondary set (Set 2) is oriented approximately west-east (spanning from 75 to 120 degrees), and the third set (Set 3) is oriented northeast-southwest (spanning from 15 to 30 degrees).

The fracture trace analysis does not reveal any direct fracture pathway or pathways between the Chamblissburg Supply site and the impacted water supply wells. The contaminant migration path is likely to be a complex combination of the groundwater gradient and one or more fracture sets. Therefore, the fracture patterns may result in a lateral "stair-step" pathway of groundwater and contaminant flow.

2.0 INTRODUCTION

Draper Aden Associates (DAA) was retained by Greene Environmental Services to conduct a fracture trace analysis and site reconnaissance for the Chamblissburg Supply in Vinton, Virginia. The study area is located approximately 0.75 miles west of Chamblissburg, Virginia at 10625 Stewartsville Road, Vinton, Virginia (Figure 1). The objective of this study was to conduct geologic research to identify fracture patterns that may be influencing groundwater movement to several water supply wells.

The tasks involved in this study included:

4. Researching published geologic maps or other available literature;
5. Conducting a fracture trace analysis, and site reconnaissance;
6. Preparation of this document to detail theory, methods and findings.

3.0 SITE GEOLOGY AND FRACTURE TRACE ANALYSIS

3.1 Site Geology

The site is located within the Piedmont province, which is characterized by its rolling topography. The Piedmont province is underlain by a variety of igneous and metamorphic rocks, with most of the contacts between formations and other geologic structure trending northeast to southwest as is typical of Appalachian geology. According to the published bedrock geologic map the site is underlain by the biotite granofels and gneiss member of the Lovingston massif (Henika, W.S., 1997). The geologic map of the site contains no strike and dip symbols in the study area. The orientation of the strikes and dips of schistosity and compositional layering around the site are predominantly northeast-southwest with some of the compositional layering striking to the northwest-southeast, such as observed in the southeast corner of the study area (Figure 2).

In an attempt to obtain site-specific geologic information, a site reconnaissance was conducted. A thorough examination of local road cuts and stream beds was conducted, but no outcrops were found to confirm local geologic conditions.

3.2 Fracture Trace Analysis

A fracture trace analysis was conducted using a contour map produced from 2007 terrain models acquired from the Virginia Geographic Information Network (VGIN). Fracture traces are linear topographic features such as valleys or unusually straight river segments that are indicative of possible fracture zones within the underlying bedrock, which are the result of ancient directional tectonic stresses. Fractured bedrock is more susceptible to erosion and weathering than unfractured bedrock, and as such, over time the fractured bedrock zones weather downward at a faster rate than the relatively unfractured rock surrounding them, resulting in topographically lower linear features in the ground surface.

The results of the fracture trace analysis are presented in Figure 3, and are illustrated on a shaded relief terrain model. The interpreted fracture traces are illustrated as straight black lines, overlain with the impacted water supply wells (blue targets) for reference. The orientations of the interpreted fracture traces were used to create a rose diagram from which the most prominent fracture trace orientations can be derived.

The analysis revealed three prominent "sets" of fracture traces in the study area. The most prominent set (Set 1) is oriented generally northwest-southeast (spanning from 135 to 150 degrees), the secondary set (Set 2) is oriented approximately west-east (spanning from 75 to 120 degrees), and the third set (Set 3) is oriented northeast-southwest (spanning from 15 to 30 degrees).

4.0 CONCLUSIONS

The movement of groundwater and contaminants can be influenced by many factors, such as geologic structures and gradient. It is possible that any or all of the three sets of fracture traces could influence the migration of the groundwater. It should be noted that while the fracture trace analysis is conducted on fracture traces that are expressed in the topography, it is our experience in using geophysical imaging methods that fracture zones will exist in the bedrock that have no expression in the topography. Therefore, it is likely that fracture zones exist along the ridge on which Stewartsville Road resides where there are no observed fracture traces.

The fracture trace analysis does not reveal any direct fracture pathway or pathways between the Chamblissburg Supply site and the impacted water supply wells. The contaminant migration path is likely to be a complex combination of the groundwater gradient and one or more fracture sets. Therefore, the fracture patterns may result in a lateral "stair-step" pathway of groundwater and contaminant flow.

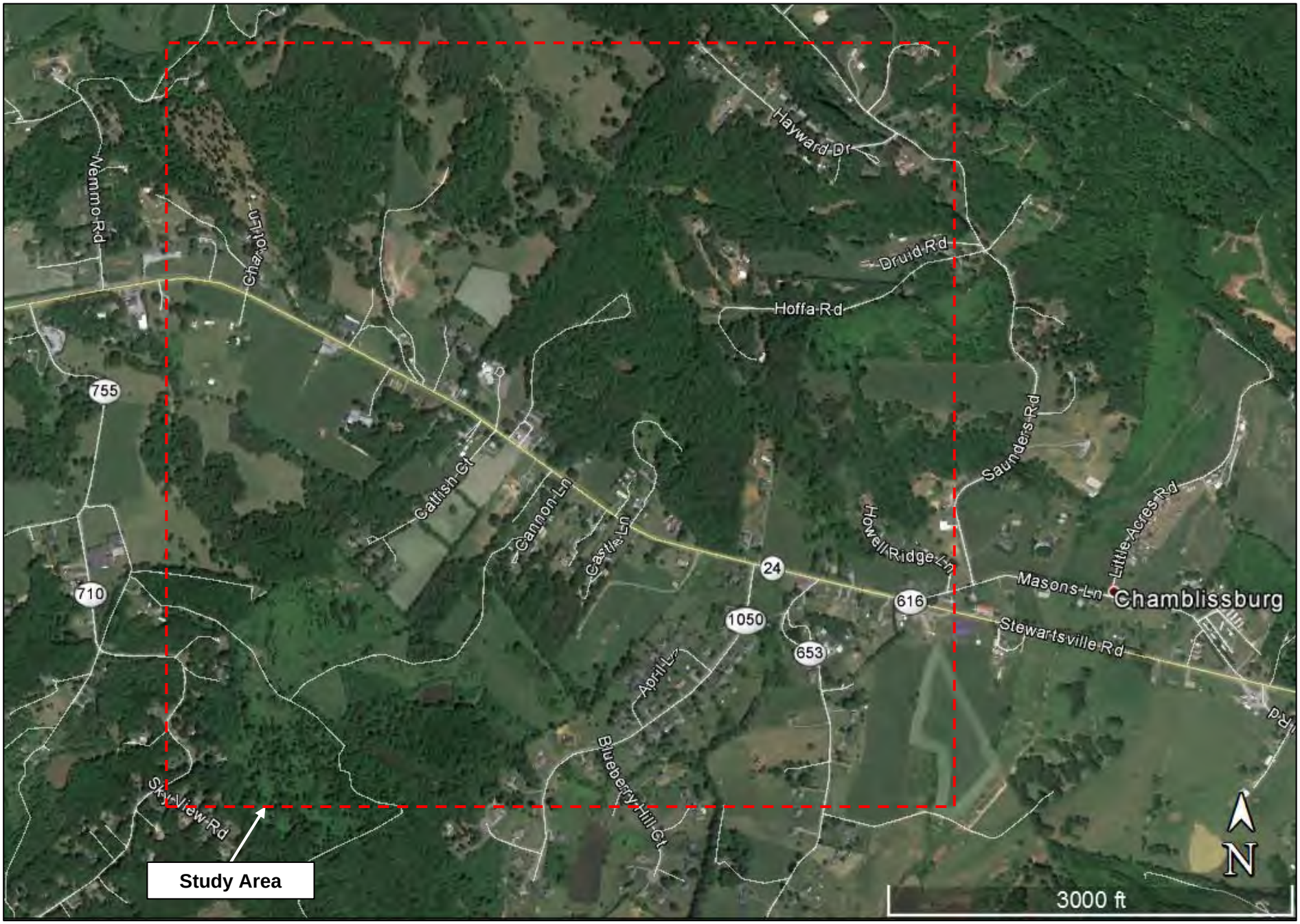
5.0 LIMITATIONS

In accordance with §54.1-402 of the Code of Virginia, any determination of topography or contours, or any depiction of physical improvements, property lines or boundaries using VGIN data is for general information only and shall not be used for the design, modification, or construction of improvements to real property or for flood plain determination.

6.0 REFERENCES

Henika, W.S., 1997. Geologic map of the Roanoke 30 x 60 minute quadrangle, Virginia Division of Mineral Resources, Publication 148, scale 1:100,000

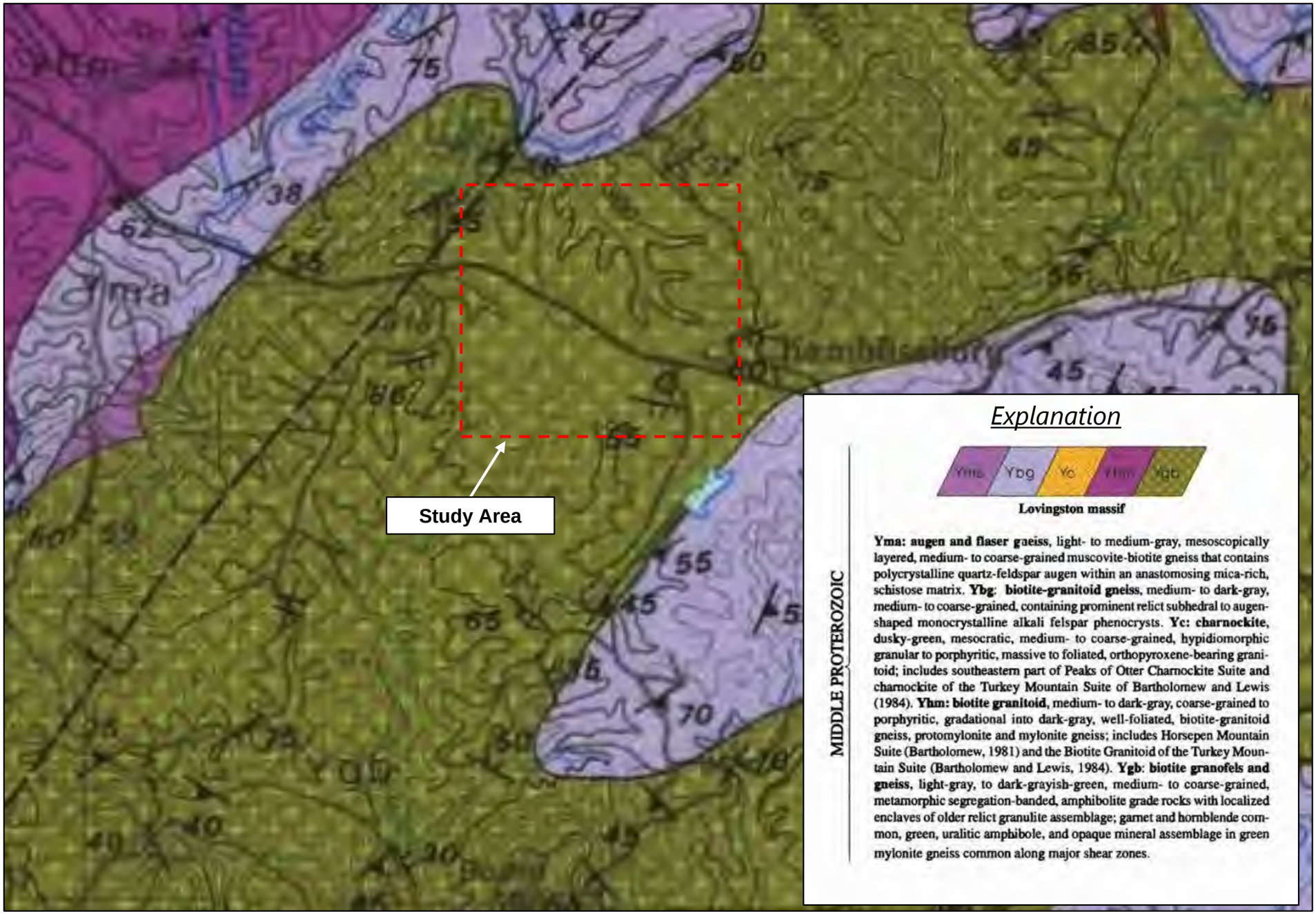
7.0 FIGURES



Draper Aden Associates
Engineering • Surveying • Environmental Services
2206 South Main Street
Blacksburg, VA 24060
540-552-0444 Fax: 540-552-0291
Richmond, VA
Charlottesville, VA
Hampton Roads, VA

Figure 1. Study area of the fracture trace analysis.

Fracture Trace Analysis for Chamblissburg Supply
Vinton, Virginia
DAA JN: 17010623-010203



Scale Unknown

Source: https://ngmdb.usgs.gov/ngm-bin/pdp/zui_viewer.pl?id=15039

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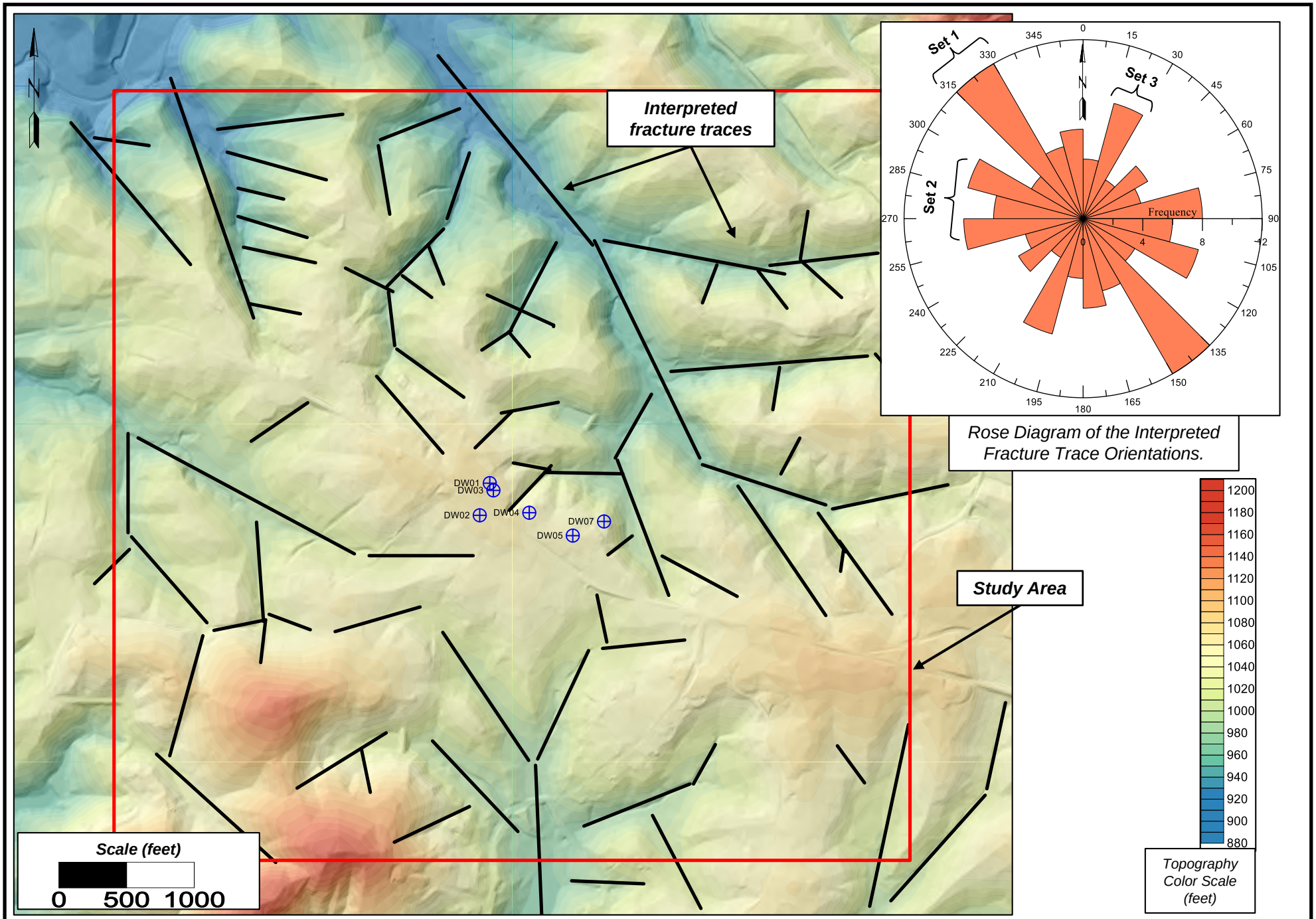
Charlottesville, VA
Hampton Roads, VA

Figure 2. A portion of the published geologic map of the study area. After Henika, W.S., 1997.

Fracture Trace Analysis for Chamblissburg Supply
Vinton, Virginia
DAA JN: 17010623-010203



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Hampton Roads, VA

Figure 3. Results of the fracture trace analysis, overlain with impacted water supply well locations (blue).

Fracture Trace Analysis for Chamblissburg Supply
Vinton, Virginia
DAA JN: 17010623-010203

APPENDIX D

Laboratory Data

Laboratory Test Results
Chain of Custody Documentation

REI Consultants, Inc.
PO Box 286
Beaver, WV 25813
TEL: (304) 255-2500
Website: www.reiclabs.com

782 North Lee Highway
Lexington, VA 24450
TEL: 540.464.1880

16 Commerce Drive
Westover, WV 26501
TEL: 304.241.5861

Tuesday, June 05, 2018

Mr. Trev Greene
GREENE ENVIRONMENTAL SERVICES, LLC
570 REDBUD HILL ROAD
ROCKY MOUNT, VA 24151

TEL: (540) 483-3311
FAX:

RE: CHAMBLISSBURG SUPPLY-CSVI

Work Order #: 18053892

Dear Mr. Trev Greene:

REI Consultants, Inc. received 1 sample(s) on 5/30/2018 for the analyses presented in the following report.

Sincerely,

Billy Shirley
Project Manager
(304) 250-6214

REI Consultants, Inc. - Case Narrative

WO#: 18053892

Date Reported: 6/5/2018
Original

Client: GREENE ENVIRONMENTAL SERVICES, LLC

Project: CHAMBLISSBURG SUPPLY-CSVI

The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

All sample results for solid samples are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as TTHM and HAA5, may vary slightly from the sum of the individual parameter results, due to rounding of individual results, as required by EPA.

The test results in this report meet all NELAP and/or VELAP requirements for parameters clearly designated as PA, VA, PA/VA, or VELAP in the column labeled NELAP.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

All tests performed by REIC Service Centers are designated by an annotation on the test code. All other tests were performed by REIC's Main Laboratory in Beaver, WV.

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

DEFINITIONS:
MCL: Maximum Contaminant Level
MDL: Method Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.
Mg/Kg or mg/L: Units of part per million (PPM) - milligram per Kilogram (weight/weight) or milligram per Liter (weight/volume).
NA: Not Applicable
ND: Not Detected at the PQL or MDL
PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.
Qual: Qualifier that applies to the analyte reported.
TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.
Ug/Kg or ug/L: Units of part per billion (PPB) - microgram per kilogram (weight/weight) or microgram per liter (weight/volume).

QUALIFIERS:
X: Reported value exceeds required MCL
B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL
E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.
H: Holding time for preparation or analysis has been exceeded.
J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.
S: % REC (% recovery) exceeds control limits

CERTIFICATIONS:
Beaver, WV: WVDHHR 00412CM, WVDEP 060, VADCLS 00281, KYDEP 90039, NCDWQ 466, PADEP 68-00839, VADCLS(VELAP) 460148
Bioassay (Beaver, WV): WVDEP 060, VADCLS(VELAP) 460148, PADEP 68-00839
Lexington, VA: VADCLS(VELAP) 460150
Morgantown, WV: WVDHHR 003112M, WVDEP 387

REI Consultants, Inc. - Analytical Report

WO#: 18053892

Date Reported: 6/5/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	5/24/2018 1:20:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	5/30/2018
Lab ID:	18053892-01A	**Matrix:**	Groundwater
Client Sample ID:	GS01	**Site ID:**	VIRGINIA

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CB**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	05/31/18 2:09PM	06/05/18 2:32PM	PA/VA
Surr: 2,5-Dibromotoluene	111	NA	41.8-138	NA	%Rec	05/31/18 2:09PM	06/05/18 2:32PM	

Pace Analytical Services, LLC.
PO Box 684056
Chicago, IL 60695-4056
TEL: (304)255-2500
Website: www.reiclabs.com

Sample Receipt Checklist

Client Name:	**GRE096**			Work Order Number:	**18053892**
RCPNo:	**1**	Date and Time Received:	**5/30/2018 6:30:00 PM**	Received by:	**Brandon Knight**
Completed By:	**Candace Meadows**		Reviewed By:	**Billy Shirley**	
Completed Date:	**5/31/2018 9:38:20 AM**		Reviewed Date:	**5/31/2018 4:18 PM**	

Carrier Name: REIC

1.	Chain of custody present?	Yes [x]	No [ ]	
2.	Chain of custody signed when relinquished and received?	Yes [x]	No [ ]	
3.	Are matrices correctly identified on Chain of custody?	Yes [x]	No [ ]	
4.	Is it clear what analyses were requested?	Yes [x]	No [ ]	
5.	Custody seals intact?	Yes [ ]	No [ ]	Not Present [x]
6.	Samples in proper container type and preservative?	Yes [x]	No [ ]	
7.	Were correct preservatives noted on COC?	Yes [x]	No [ ]	NA [ ]
8.	Sample containers intact?	Yes [x]	No [ ]	
9.	Sufficient sample volume for indicated test?	Yes [x]	No [ ]	
10.	Were container labels complete?	Yes [x]	No [ ]	
11.	All samples received within holding time?	Yes [x]	No [ ]	
12.	Was an attempt made to cool the samples?	Yes [x]	No [ ]	NA [ ]
13.	Sample Temp. taken and recorded upon receipt?	Yes [x]	No [ ]	To 1.9 ºC
14.	Water - Were bubbles absent in VOC vials?	Yes [x]	No [ ]	No Vials [ ]
15.	Are Samples considered acceptable?	Yes [x]	No [ ]	
16.	COC filled out properly?	Yes [x]	No [ ]	

Client Notification/Response

Client Name: **GRE096** Work Order Number: **18053892**

Comment:

Client Contacted: Yes [ ] No [ ] NA [x] Person Contacted:

Contact Mode: Phone [ ] Fax: [ ] Email: [ ] In Person: [ ]

Date Contacted: Contacted By:

Regarding:

Client Instructions:

Corrective Action:

CHAIN OF CUSTODY RECORD

18053892

GREENE ENVIRONMENTAL SERVICES, LLC
GRE096
Billy Shirley

REIC
& Industrial Consultants, Inc.

MAIN LABORATORY & CORPORATE HEADQUARTERS:
P.O. Box 286 · 225 Industrial Park Rd, Beaver, WV 25813
800-999-0105 · 304-255-2500 · www.reiclabs.com

SHENANDOAH Service Center
1557 Commerce Rd., Ste 201
Verona, VA 24482
540-248-0183

ROANOKE Service Center
3029-C Peters Creek Rd
Roanoke, VA 24019
540-777-1276

MORGANTOWN Service Center
16 Commerce Drive
Westover, WV 26501
304-241-5861

v13-0516 REIC use ONLY CLIENT ID GRE096 DATE _____ SHEET _____

Client: GREENE ENVIRONMENTAL SERVICES, LLC PO # _____
Contact Person Mr. Trev Greene Phone (540) 483-3311
Address 570 Redbud Hill Road City ROCKY MOUNT State VA Zip 24151
Billing Address (if different) _____
City _____ State _____ Zip _____
Site ID & State VIRGINIA Proj ID Chamblissburg Supply - CSVI **Sampler** BM

ANALYSIS & METHOD REQUESTED: TPH-GRO via 8015

TURNAROUND TIME: [•] NORMAL
RUSH TURNAROUND*: [ ] 5 DAY [ ] 3 DAY [ ] 2 DAY [ ] 1 DAY
*Rush work needs prior laboratory approval and will incur additional charges

Send Results Via: [•] Email [ ] Fax

All analytical requests are subject to REIC's Standard Terms and Conditions.

SAMPLE ID	No. & Type of Containers	Sampling Date/Time	Matrix	Sample Comp/Grab	TPH-GRO via 8015
GS01	3 voa	05/24/18 @ 1320	G Water	Grab	X

ENTER PRESERVATIVE CODE(S):
0 None
1 Hydrochloric Acid
2 Nitric Acid
3 Sulfuric Acid
4 Sodium Thiosulfate
5 Sodium Hydroxide/ Sodium Arsenite
6 Sodium Hydroxide
7 Ascorbic Acid
8 Sodium Bisulfate/Methanol
9 Ammonium Chloride
10 CR6 Buffer
11 Sodium Sulfite/ Hydrochloric Acid
12 _____*
*(Use blank for a preservative not listed.)

COMMENTS:

CUSTODY SEALS [ ] Y [✓] N

Corrected temp at arrival: 19 °C ICED? Y ✓ N ___ IR # 12 Containers provided by: [✓] REIC [ ] Client Delivered by: [ ] Client [✓] REIC [ ] UPS [ ] FedEx [ ] USPS

RECD	Date/Time	RECD	Date/Time	RECD	Date/Time
05/30/18 0830					
BC	5-30-18 830				
	5-30-18 1600				
	5-30-18 1830				

Pace Analytical Services
PO Box 286
Beaver, WV 25813
TEL: (304) 255-2500
Website: www.reiclabs.com

782 North Lee Highway
Lexington, VA 24450
TEL: 540.464.1880

16 Commerce Drive
Westover, WV 26501
TEL: 304.241.5861

Friday, August 24, 2018

Mr. Trev Greene
GREENE ENVIRONMENTAL SERVICES, LLC
570 REDBUD HILL ROAD
ROCKY MOUNT, VA 24151

TEL: (540) 483-3311
FAX:

RE: CHAMBLISSBURG SUPPLY - CSVI

Work Order #: 18082754

Dear Mr. Trev Greene:

Pace Analytical Services received 2 sample(s) on 8/17/2018 for the analyses presented in the following report.

Sincerely,

Billy Shirley
Project Manager
(304) 250-6214

Pace Analytical Services - Case Narrative

WO#: 18082754

Date Reported: 8/24/2018
Original

Client: GREENE ENVIRONMENTAL SERVICES, LLC

Project: CHAMBLISSBURG SUPPLY - CSVI

The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

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The test results in this report meet all NELAP and/or VELAP requirements for parameters clearly designated as PA, VA, PA/VA, or VELAP in the column labeled NELAP.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

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Mg/Kg or mg/L: Units of part per million (PPM) - milligram per Kilogram (weight/weight) or milligram per Liter (weight/volume).
NA: Not Applicable
ND: Not Detected at the PQL or MDL
PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.
Qual: Qualifier that applies to the analyte reported.
TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.
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X: Reported value exceeds required MCL
B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL
E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.
H: Holding time for preparation or analysis has been exceeded.
J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.
S: % REC (% recovery) exceeds control limits

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Bioassay (Beaver, WV): WVDEP 060, VADCLS(VELAP) 460148, PADEP 68-00839
Lexington, VA: VADCLS(VELAP) 460150
Morgantown, WV: WVDHHR 003112M, WVDEP 387

Pace Analytical Services - Analytical Report

WO#: 18082754

Date Reported: 8/24/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/14/2018 10:28:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	8/17/2018
Lab ID:	18082754-01A	**Matrix:**	Soil
Client Sample ID:	B27-3	**Site ID:**	VIRGINIA

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
PERCENT MOISTURE				**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	9.0	NA	1.0	NA		wt%		08/24/18 5:45AM	
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: CLS**	
TPH (Diesel Range: C10 - C28)	ND	3.98	7.95	NA		mg/Kg	08/22/18 8:51AM	08/24/18 2:09AM	PA/VA
Surr: o-Terphenyl	80.9	NA	49.2-135	NA		%Rec	08/22/18 8:51AM	08/24/18 2:09AM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: CB**	
TPH (Gasoline Range: C6 - C10)	ND	2.50	5.00	NA		mg/Kg	08/21/18 11:19AM	08/21/18 1:24PM	PA/VA
Surr: 2,5-Dibromotoluene	41.6	NA	51.3-138	NA	S	%Rec	08/21/18 11:19AM	08/21/18 1:24PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

The surrogate recovery is outside laboratory control limits due to matrix interference.

VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**				**Analyst: JM**	
Benzene	ND	0.00176	0.00352	NA		mg/Kg	08/20/18 12:14PM	08/23/18 2:11PM	PA/VA
Ethylbenzene	ND	0.00176	0.00352	NA		mg/Kg	08/20/18 12:14PM	08/23/18 2:11PM	PA/VA
m,p-Xylene	ND	0.00352	0.00704	NA		mg/Kg	08/20/18 12:14PM	08/23/18 2:11PM	PA/VA
Methyl tert-butyl ether	ND	0.00880	0.0176	NA		mg/Kg	08/20/18 12:14PM	08/23/18 2:11PM	PA/VA
Naphthalene	ND	0.00176	0.00352	NA		mg/Kg	08/20/18 12:14PM	08/23/18 2:11PM	PA/VA
o-Xylene	ND	0.00176	0.00352	NA		mg/Kg	08/20/18 12:14PM	08/23/18 2:11PM	PA/VA
Toluene	ND	0.00176	0.00352	NA		mg/Kg	08/20/18 12:14PM	08/23/18 2:11PM	PA/VA
Surr: 1,2-Dichloroethane-d4	110	NA	79.9-120	NA		%Rec	08/20/18 12:14PM	08/23/18 2:11PM	
Surr: 4-Bromofluorobenzene	102	NA	77-148	NA		%Rec	08/20/18 12:14PM	08/23/18 2:11PM	
Surr: Dibromofluoromethane	97.6	NA	43.2-154	NA		%Rec	08/20/18 12:14PM	08/23/18 2:11PM	
Surr: Toluene-d8	93.9	NA	64.1-129	NA		%Rec	08/20/18 12:14PM	08/23/18 2:11PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

Pace Analytical Services - Analytical Report

WO#: 18082754

Date Reported: 8/24/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/14/2018 10:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	8/17/2018
Lab ID:	18082754-02A	**Matrix:**	Soil
Client Sample ID:	B27-4	**Site ID:**	VIRGINIA

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
PERCENT MOISTURE				**Method: SM2540 B-1997**			**Analyst: DF**	
Percent Moisture	9.0	NA	1.0	NA	wt%		08/24/18 5:45AM	
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CLS**	
TPH (Diesel Range: C10 - C28)	ND	3.97	7.95	NA	mg/Kg	08/22/18 8:51AM	08/24/18 2:41AM	PA/VA
Surr: o-Terphenyl	78.2	NA	49.2-135	NA	%Rec	08/22/18 8:51AM	08/24/18 2:41AM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CB**	
TPH (Gasoline Range: C6 - C10)	ND	2.48	4.95	NA	mg/Kg	08/21/18 11:19AM	08/21/18 1:57PM	PA/VA
Surr: 2,5-Dibromotoluene	66.6	NA	51.3-138	NA	%Rec	08/21/18 11:19AM	08/21/18 1:57PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**			**Analyst: JM**	
Benzene	ND	0.00200	0.00400	NA	mg/Kg	08/20/18 12:14PM	08/23/18 2:40PM	PA/VA
Ethylbenzene	ND	0.00200	0.00400	NA	mg/Kg	08/20/18 12:14PM	08/23/18 2:40PM	PA/VA
m,p-Xylene	ND	0.00400	0.00800	NA	mg/Kg	08/20/18 12:14PM	08/23/18 2:40PM	PA/VA
Methyl tert-butyl ether	ND	0.0100	0.0200	NA	mg/Kg	08/20/18 12:14PM	08/23/18 2:40PM	PA/VA
Naphthalene	ND	0.00200	0.00400	NA	mg/Kg	08/20/18 12:14PM	08/23/18 2:40PM	PA/VA
o-Xylene	ND	0.00200	0.00400	NA	mg/Kg	08/20/18 12:14PM	08/23/18 2:40PM	PA/VA
Toluene	ND	0.00200	0.00400	NA	mg/Kg	08/20/18 12:14PM	08/23/18 2:40PM	PA/VA
Surr: 1,2-Dichloroethane-d4	107	NA	79.9-120	NA	%Rec	08/20/18 12:14PM	08/23/18 2:40PM	
Surr: 4-Bromofluorobenzene	104	NA	77-148	NA	%Rec	08/20/18 12:14PM	08/23/18 2:40PM	
Surr: Dibromofluoromethane	98.7	NA	43.2-154	NA	%Rec	08/20/18 12:14PM	08/23/18 2:40PM	
Surr: Toluene-d8	94.3	NA	64.1-129	NA	%Rec	08/20/18 12:14PM	08/23/18 2:40PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

Pace Analytical Services, LLC.
PO Box 684056
Chicago, IL 60695-4056
TEL: (304)255-2500
Website: www.reiclabs.com

Sample Receipt Checklist

Client Name:	**GRE096**			Work Order Number:	**18082754**
RCPNo:	**1**	Date and Time Received:	**8/17/2018 6:00:00 PM**	Received by:	**Christian Vess**
Completed By:	**Kim Pack**		Reviewed By:	**Billy Shirley**	
Completed Date:	**8/18/2018 8:29:53 AM**		Reviewed Date:	**8/20/2018 11:07 AM**	

Carrier Name: PACE

1.	Chain of custody present?	Yes [x]	No [ ]	
2.	Chain of custody signed when relinquished and received?	Yes [x]	No [ ]	
3.	Are matrices correctly identified on Chain of custody?	Yes [x]	No [ ]	
4.	Is it clear what analyses were requested?	Yes [x]	No [ ]	
5.	Custody seals intact?	Yes [ ]	No [ ]	Not Present [x]
6.	Samples in proper container type and preservative?	Yes [x]	No [ ]	
7.	Were correct preservatives noted on COC?	Yes [x]	No [ ]	NA [ ]
8.	Sample containers intact?	Yes [x]	No [ ]	
9.	Sufficient sample volume for indicated test?	Yes [x]	No [ ]	
10.	Were container labels complete?	Yes [x]	No [ ]	
11.	All samples received within holding time?	Yes [x]	No [ ]	
12.	Was an attempt made to cool the samples?	Yes [x]	No [ ]	NA [ ]
13.	Sample Temp. taken and recorded upon receipt?	Yes [x]	No [ ]	To 0.3 ºC
14.	Water - Were bubbles absent in VOC vials?	Yes [ ]	No [ ]	No Vials [x]
15.	Are Samples considered acceptable?	Yes [x]	No [ ]	
16.	COC filled out properly?	Yes [x]	No [ ]	

Client Notification/Response

Client Name: **GRE096** Work Order Number: **18082754**

Comment:

Client Contacted: Yes [ ] No [ ] NA [x] Person Contacted:

Contact Mode: Phone [ ] Fax: [ ] Email: [ ] In Person: [ ]

Date Contacted: Contacted By:

Regarding:

Client Instructions:

Corrective Action:

CHAIN OF CUSTODY RECORD

18082754

GRE096
GREENE ENVIRONMENTAL SE
Billy Shirley

EIC
ial Consultants, Inc.

MAIN LABORATORY & CORPORATE HEADQUARTERS:
P.O. Box 286 • 225 Industrial Park Rd, Beaver, WV 25813
800-999-0105 • 304-255-2500 • www.reiclabs.com

SHENANDOAH Service Center
1557 Commerce Rd., Ste 201
Verona, VA 24482
540-248-0183

ROANOKE Service Center
3029-C Peters Creek Rd
Roanoke, VA 24019
540-777-1276

MORGANTOWN Service Center
16 Commerce Drive
Westover, WV 26501
304-241-5861

v13-0516 **REIC use ONLY** CLIENT ID GRE096 DATE _____ SHEET _____

Client: GREENE ENVIRONMENTAL SERVICES, LLC PO # _____

Contact Person Mr. Trev Greene Phone (540) 483-3311

Address 570 Redbud Hill Road City ROCKY MOUNT State VA Zip 24151

Billing Address (if different) _____

City _____ State _____ Zip _____

Site ID & State VIRGINIA Proj ID Chamblissburg Supply - CSVI **Sampler** AF

TURNAROUND TIME

[•] NORMAL

RUSH TURNAROUND*

[ ] 5 DAY [ ] 3 DAY [ ] 2 DAY [ ] 1 DAY

*Rush work needs prior laboratory approval and will incur additional charges

Send Results Via:

[•] Email

[ ] Fax

All analytical requests are subject to REIC's Standard Terms and Conditions.

ANALYSIS & METHOD REQUESTED

- TPH-GRO via 8015
- TPH-DRO via 8015
- BTEX, MTBE, Nap via 8021

SAMPLE ID	No. & Type of Containers	Sampling Date/Time	Matrix	Sample Comp/Grab	[a]0 [b]0	[a]0 [b]0	[a]0 [b]0	[a]0 [b]0	[a] [b]	[a] [b]	[a] [b]	[a] [b]	[a] [b]
B27-3	1 soil	08/14/18 @ 1028	Soil	Grab	X	X	X						
B27-4	1 soil	08/14/18 @ 1030	Soil	Grab	X	X	X						

ENTER PRESERVATIVE CODE(S):

0 None
1 Hydrochloric Acid
2 Nitric Acid
3 Sulfuric Acid
4 Sodium Thiosulfate
5 Sodium Hydroxide/ Sodium Arsenite
6 Sodium Hydroxide
7 Ascorbic Acid
8 Sodium Bisulfate/Methanol
9 Ammonium Chloride
10 CR6 Buffer
11 Sodium Sulfite/ Hydrochloric Acid
12 _____*

(Use blank for a preservative not listed.)

COMMENTS:

CUSTODY SEALS [ ] Y [✓] N

Corrected temp at arrival: 0.3°C ICED? Y ✓ N ___ IR # 3 Containers provided by: [✓] REIC [ ] Client Delivered by: [ ] Client [✓] REIC [ ] UPS [ ] FedEx [ ] USPS

REL'D	Date/Time	REL'D	Date/Time	REL'D	Date/Time
REC'D	Date/Time 8-17-18 1025	REC'D	Date/Time	REC'D	Date/Time
REL'D	Date/Time 8-17-18 1025	REL'D	Date/Time	REL'D	Date/Time
REC'D	Date/Time 8-17-18 1600	REC'D	Date/Time 8-17-18 1600	REC'D	Date/Time

Pace Analytical Services
PO Box 286
Beaver, WV 25813
TEL: (304) 255-2500
Website: www.reiclabs.com

782 North Lee Highway
Lexington, VA 24450
TEL: 540.464.1880

16 Commerce Drive
Westover, WV 26501
TEL: 304.241.5861

Thursday, August 30, 2018

Mr. Trev Greene
GREENE ENVIRONMENTAL SERVICES, LLC
570 REDBUD HILL ROAD
ROCKY MOUNT, VA 24151

TEL: (540) 483-3311
FAX:

RE: CHAMBLISSBURG SUPPLY - CSVI

Work Order #: 18083685

Dear Mr. Trev Greene:

Pace Analytical Services received 2 sample(s) on 8/24/2018 for the analyses presented in the following report.

Sincerely,

Billy Shirley
Project Manager
(304) 250-6214

Pace Analytical Services - Case Narrative

WO#: 18083685

Date Reported: 8/30/2018
Original

Client: GREENE ENVIRONMENTAL SERVICES, LLC

Project: CHAMBLISSBURG SUPPLY - CSVI

The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

All sample results for solid samples are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as TTHM and HAA5, may vary slightly from the sum of the individual parameter results, due to rounding of individual results, as required by EPA.

The test results in this report meet all NELAP and/or VELAP requirements for parameters clearly designated as PA, VA, PA/VA, or VELAP in the column labeled NELAP.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

All tests performed by REIC Service Centers are designated by an annotation on the test code. All other tests were performed by REIC's Main Laboratory in Beaver, WV.

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DEFINITIONS:
MCL: Maximum Contaminant Level
MDL: Method Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.
Mg/Kg or mg/L: Units of part per million (PPM) - milligram per Kilogram (weight/weight) or milligram per Liter (weight/volume).
NA: Not Applicable
ND: Not Detected at the PQL or MDL
PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.
Qual: Qualifier that applies to the analyte reported.
TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.
Ug/Kg or ug/L: Units of part per billion (PPB) - microgram per kilogram (weight/weight) or microgram per liter (weight/volume).

QUALIFIERS:
X: Reported value exceeds required MCL
B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL
E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.
H: Holding time for preparation or analysis has been exceeded.
J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.
S: % REC (% recovery) exceeds control limits

CERTIFICATIONS:
Beaver, WV: WVDHHR 00412CM, WVDEP 060, VADCLS 00281, KYDEP 90039, NCDWQ 466, PADEP 68-00839, VADCLS(VELAP) 460148
Bioassay (Beaver, WV): WVDEP 060, VADCLS(VELAP) 460148, PADEP 68-00839
Lexington, VA: VADCLS(VELAP) 460150
Morgantown, WV: WVDHHR 003112M, WVDEP 387

Pace Analytical Services - Analytical Report

WO#: 18083685

Date Reported: 8/30/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/23/2018 10:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	8/24/2018
Lab ID:	18083685-01A	**Matrix:**	Soil
Client Sample ID:	B28-3	**Site ID:**	VIRGINIA

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
PERCENT MOISTURE				**Method: SM2540 B-1997**			**Analyst: DF**	
Percent Moisture	14	NA	1.0	NA	wt%		08/28/18 6:31AM	
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CLS**	
TPH (Diesel Range: C10 - C28)	ND	3,970	7,950	NA	µg/Kg	08/29/18 12:19PM	08/29/18 9:26PM	PA/VA
Surr: o-Terphenyl	101	NA	49.2-135	NA	%Rec	08/29/18 12:19PM	08/29/18 9:26PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CB**	
TPH (Gasoline Range: C6 - C10)	ND	2,480	4,950	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:45PM	PA/VA
Surr: 2,5-Dibromotoluene	55.7	NA	51.3-138	NA	%Rec	08/27/18 11:06AM	08/28/18 3:45PM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**			**Analyst: JM**	
Benzene	ND	1.94	3.88	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:03PM	PA/VA
Ethylbenzene	ND	1.94	3.88	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:03PM	PA/VA
m,p-Xylene	ND	3.88	7.76	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:03PM	PA/VA
Methyl tert-butyl ether	ND	9.70	19.4	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:03PM	PA/VA
Naphthalene	ND	1.94	3.88	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:03PM	PA/VA
o-Xylene	ND	1.94	3.88	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:03PM	PA/VA
Toluene	ND	1.94	3.88	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:03PM	PA/VA
Surr: 1,2-Dichloroethane-d4	102	NA	79.9-120	NA	%Rec	08/27/18 11:06AM	08/28/18 3:03PM	
Surr: 4-Bromofluorobenzene	102	NA	77-148	NA	%Rec	08/27/18 11:06AM	08/28/18 3:03PM	
Surr: Dibromofluoromethane	96.9	NA	43.2-154	NA	%Rec	08/27/18 11:06AM	08/28/18 3:03PM	
Surr: Toluene-d8	99.0	NA	64.1-129	NA	%Rec	08/27/18 11:06AM	08/28/18 3:03PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

Pace Analytical Services - Analytical Report

WO#: 18083685

Date Reported: 8/30/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/23/2018 10:40:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	8/24/2018
Lab ID:	18083685-02A	**Matrix:**	Soil
Client Sample ID:	B28-4	**Site ID:**	VIRGINIA

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
PERCENT MOISTURE				**Method: SM2540 B-1997**			**Analyst: DF**	
Percent Moisture	10	NA	1.0	NA	wt%		08/28/18 6:31AM	
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CLS**	
TPH (Diesel Range: C10 - C28)	ND	3,970	7,940	NA	µg/Kg	08/29/18 12:19PM	08/29/18 9:57PM	PA/VA
Surr: o-Terphenyl	98.5	NA	49.2-135	NA	%Rec	08/29/18 12:19PM	08/29/18 9:57PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CB**	
TPH (Gasoline Range: C6 - C10)	ND	2,480	4,950	NA	µg/Kg	08/27/18 11:06AM	08/28/18 4:17PM	PA/VA
Surr: 2,5-Dibromotoluene	61.7	NA	51.3-138	NA	%Rec	08/27/18 11:06AM	08/28/18 4:17PM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**			**Analyst: JM**	
Benzene	ND	2.00	4.00	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:32PM	PA/VA
Ethylbenzene	ND	2.00	4.00	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:32PM	PA/VA
m,p-Xylene	ND	4.00	8.00	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:32PM	PA/VA
Methyl tert-butyl ether	ND	10.0	20.0	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:32PM	PA/VA
Naphthalene	ND	2.00	4.00	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:32PM	PA/VA
o-Xylene	ND	2.00	4.00	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:32PM	PA/VA
Toluene	ND	2.00	4.00	NA	µg/Kg	08/27/18 11:06AM	08/28/18 3:32PM	PA/VA
Surr: 1,2-Dichloroethane-d4	103	NA	79.9-120	NA	%Rec	08/27/18 11:06AM	08/28/18 3:32PM	
Surr: 4-Bromofluorobenzene	101	NA	77-148	NA	%Rec	08/27/18 11:06AM	08/28/18 3:32PM	
Surr: Dibromofluoromethane	96.6	NA	43.2-154	NA	%Rec	08/27/18 11:06AM	08/28/18 3:32PM	
Surr: Toluene-d8	99.4	NA	64.1-129	NA	%Rec	08/27/18 11:06AM	08/28/18 3:32PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

Pace Analytical Services, LLC.
PO Box 684056
Chicago, IL 60695-4056
TEL: (304)255-2500
Website: www.reiclabs.com

Sample Receipt Checklist

Client Name:	**GRE096**			Work Order Number:	**18083685**
RCPNo:	**1**	Date and Time Received:	**8/24/2018 6:10:00 PM**	Received by:	**Steven Cummins**
Completed By:	**Kim Pack**		Reviewed By:	**Billy Shirley**	
Completed Date:	**8/25/2018 11:01:08 AM**		Reviewed Date:	**8/27/2018 10:44 AM**	

Carrier Name: PACE

1.	Chain of custody present?	Yes [x]	No [ ]	
2.	Chain of custody signed when relinquished and received?	Yes [x]	No [ ]	
3.	Are matrices correctly identified on Chain of custody?	Yes [x]	No [ ]	
4.	Is it clear what analyses were requested?	Yes [x]	No [ ]	
5.	Custody seals intact?	Yes [ ]	No [ ]	Not Present [x]
6.	Samples in proper container type and preservative?	Yes [x]	No [ ]	
7.	Were correct preservatives noted on COC?	Yes [x]	No [ ]	NA [ ]
8.	Sample containers intact?	Yes [x]	No [ ]	
9.	Sufficient sample volume for indicated test?	Yes [x]	No [ ]	
10.	Were container labels complete?	Yes [x]	No [ ]	
11.	All samples received within holding time?	Yes [x]	No [ ]	
12.	Was an attempt made to cool the samples?	Yes [x]	No [ ]	NA [ ]
13.	Sample Temp. taken and recorded upon receipt?	Yes [x]	No [ ]	To 1.5 ºC
14.	Water - Were bubbles absent in VOC vials?	Yes [ ]	No [ ]	No Vials [x]
15.	Are Samples considered acceptable?	Yes [x]	No [ ]	
16.	COC filled out properly?	Yes [x]	No [ ]	

Client Notification/Response

Client Name: **GRE096** Work Order Number: **18083685**

Comment:

Client Contacted: Yes [ ] No [ ] NA [x] Person Contacted:

Contact Mode: Phone [ ] Fax: [ ] Email: [ ] In Person: [ ]

Date Contacted: Contacted By:

Regarding:

Client Instructions:

Corrective Action:

CHAIN OF CUSTODY RECORD

18083685

GRE096
GREENE ENVIRONMENTAL SE
Billy Shirley

EIC
al Consultants, Inc.

MAIN LABORATORY & CORPORATE HEADQUARTERS:
P.O. Box 286 • 225 Industrial Park Rd, Beaver, WV 25813
800-999-0105 • 304-255-2500 • www.reiclabs.com

SHENANDOAH Service Center
1557 Commerce Rd., Ste 201
Verona, VA 24482
540-248-0183

ROANOKE Service Center
3029-C Peters Creek Rd
Roanoke, VA 24019
540-777-1276

MORGANTOWN Service Center
16 Commerce Drive
Westover, WV 26501
304-241-5861

v13-0516 **REIC use ONLY** CLIENT ID GRE096 DATE _____ SHEET _____

Client: GREENE ENVIRONMENTAL SERVICES, LLC PO # _____
Contact Person Mr. Trev Greene Phone (540) 483-3311
Address 570 Redbud Hill Road City ROCKY MOUNT State VA Zip 24151
Billing Address (if different) _____
City _____ State _____ Zip _____
Site ID & State VIRGINIA Proj ID Chamblissburg Supply - CSVI **Sampler** AF

ANALYSIS & METHOD REQUESTED
- TPH-GRO via 8015
- TPH-DRO via 8015
- BTEX, MTBE, Nap via 8021

TURNAROUND TIME
[•] NORMAL
RUSH TURNAROUND*
[ ] 5 DAY [ ] 3 DAY [ ] 2 DAY [ ] 1 DAY
*Rush work needs prior laboratory approval and will incur additional charges

Send Results Via:
[•] Email
[ ] Fax

All analytical requests are subject to REIC's Standard Terms and Conditions.

SAMPLE ID	No. & Type of Containers	Sampling Date/Time	Matrix	Sample Comp/Grab	[a]0 [b]0	[a]0 [b]0	[a]0 [b]0	[a]0 [b]0	[a] [b]	[a] [b]	[a] [b]	[a] [b]	[a] [b]
B28-3	1 soil 4	08/23/18 @ 1030	Soil	Grab	X	X	X						
B28-4	1 soil 4	08/23/18 @ 1040	Soil	Grab	X	X	X						

ENTER PRESERVATIVE CODE(S):
0 None
1 Hydrochloric Acid
2 Nitric Acid
3 Sulfuric Acid
4 Sodium Thiosulfate
5 Sodium Hydroxide/ Sodium Arsenite
6 Sodium Hydroxide
7 Ascorbic Acid
8 Sodium Bisulfate/Methanol
9 Ammonium Chloride
10 CR6 Buffer
11 Sodium Sulfite/ Hydrochloric Acid
12 _____*
(Use blank for a preservative not listed.)

COMMENTS:

CUSTODY SEALS [ ] Y [✓] N

Corrected temp at arrival: 1.5 °C ICED? Y ✓ N___ IR # 3 Containers provided by: [✓] REIC [ ] Client Delivered by: [ ] Client [✓] REIC [ ] UPS [ ] FedEx [ ] USPS

REL'D	Date/Time 08/24/18 0730	REL'D	Date/Time	REL'D	Date/Time
REC'D	Date/Time 8-24-18	REC'D	Date/Time	REC'D	Date/Time
REL'D	Date/Time 14:10	REL'D	Date/Time	REL'D	Date/Time
REC'D	Date/Time 8-24-18 1640	REC'D	Date/Time 8-24-18 1810	REC'D	Date/Time

Pace Analytical Services
PO Box 286
Beaver, WV 25813
TEL: (304) 255-2500
Website: www.reiclabs.com

782 North Lee Highway
Lexington, VA 24450
TEL: 540.464.1880

16 Commerce Drive
Westover, WV 26501
TEL: 304.241.5861

Wednesday, September 12, 2018

Mr. Trev Greene
GREENE ENVIRONMENTAL SERVICES, LLC
570 REDBUD HILL ROAD
ROCKY MOUNT, VA 24151

TEL: (540) 483-3311
FAX:

RE: CHAMBLISSBURG SUPPLY

Work Order #: 18090292

Dear Mr. Trev Greene:

Pace Analytical Services received 2 sample(s) on 9/5/2018 for the analyses presented in the following report.

Sincerely,

Billy Shirley
Project Manager
(304) 250-6214

Pace Analytical Services - Case Narrative

WO#: 18090292

Date Reported: 9/12/2018
Original

Client: GREENE ENVIRONMENTAL SERVICES, LLC

Project: CHAMBLISSBURG SUPPLY

The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

All sample results for solid samples are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as TTHM and HAA5, may vary slightly from the sum of the individual parameter results, due to rounding of individual results, as required by EPA.

The test results in this report meet all NELAP and/or VELAP requirements for parameters clearly designated as PA, VA, PA/VA, or VELAP in the column labeled NELAP.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

All tests performed by REIC Service Centers are designated by an annotation on the test code. All other tests were performed by REIC's Main Laboratory in Beaver, WV.

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DEFINITIONS:
MCL: Maximum Contaminant Level
MDL: Method Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.
Mg/Kg or mg/L: Units of part per million (PPM) - milligram per Kilogram (weight/weight) or milligram per Liter (weight/volume).
NA: Not Applicable
ND: Not Detected at the PQL or MDL
PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.
Qual: Qualifier that applies to the analyte reported.
TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.
Ug/Kg or ug/L: Units of part per billion (PPB) - microgram per kilogram (weight/weight) or microgram per liter (weight/volume).

QUALIFIERS:
X: Reported value exceeds required MCL
B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL
E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.
H: Holding time for preparation or analysis has been exceeded.
J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.
S: % REC (% recovery) exceeds control limits

CERTIFICATIONS:
Beaver, WV: WVDHHR 00412CM, WVDEP 060, VADCLS 00281, KYDEP 90039, NCDWQ 466, PADEP 68-00839, VADCLS(VELAP) 460148
Bioassay (Beaver, WV): WVDEP 060, VADCLS(VELAP) 460148, PADEP 68-00839
Lexington, VA: VADCLS(VELAP) 460150
Morgantown, WV: WVDHHR 003112M, WVDEP 387

Pace Analytical Services - Analytical Report

WO#: 18090292

Date Reported: 9/12/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	9/4/2018 12:27:00 PM
Project:	CHAMBLISSBURG SUPPLY	**Date Received:**	9/5/2018
Lab ID:	18090292-01A	**Matrix:**	Solid
Client Sample ID:	B29-2	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
PERCENT MOISTURE				**Method: SM2540 B-1997**				**Analyst: DF**	
Percent Moisture	21	NA	1.0	NA		wt%		09/08/18 11:20AM	
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: CLS**	
TPH (Diesel Range: C10 - C28)	ND	3.98	7.96	NA		mg/Kg	09/10/18 3:30PM	09/11/18 1:47PM	PA/VA
Surr: o-Terphenyl	96.6	NA	49.2-135	NA		%Rec	09/10/18 3:30PM	09/11/18 1:47PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	2.48	4.95	NA		mg/Kg	09/06/18 10:35AM	09/06/18 2:29PM	PA/VA
Surr: 2,5-Dibromotoluene	48.2	NA	51.3-138	NA	S	%Rec	09/06/18 10:35AM	09/06/18 2:29PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

The surrogate recovery is outside laboratory control limits due to matrix interference.

VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**				**Analyst: JM**	
Benzene	ND	0.00174	0.00348	NA		mg/Kg	09/06/18 10:35AM	09/06/18 4:28PM	PA/VA
Ethylbenzene	ND	0.00174	0.00348	NA		mg/Kg	09/06/18 10:35AM	09/06/18 4:28PM	PA/VA
m,p-Xylene	ND	0.00348	0.00696	NA		mg/Kg	09/06/18 10:35AM	09/06/18 4:28PM	PA/VA
Methyl tert-butyl ether	ND	0.00870	0.0174	NA		mg/Kg	09/06/18 10:35AM	09/06/18 4:28PM	PA/VA
Naphthalene	ND	0.00174	0.00348	NA		mg/Kg	09/06/18 10:35AM	09/06/18 4:28PM	PA/VA
o-Xylene	ND	0.00174	0.00348	NA		mg/Kg	09/06/18 10:35AM	09/06/18 4:28PM	PA/VA
Toluene	ND	0.00174	0.00348	NA		mg/Kg	09/06/18 10:35AM	09/06/18 4:28PM	PA/VA
Surr: 1,2-Dichloroethane-d4	114	NA	79.9-120	NA		%Rec	09/06/18 10:35AM	09/06/18 4:28PM	
Surr: 4-Bromofluorobenzene	107	NA	77-148	NA		%Rec	09/06/18 10:35AM	09/06/18 4:28PM	
Surr: Dibromofluoromethane	106	NA	43.2-154	NA		%Rec	09/06/18 10:35AM	09/06/18 4:28PM	
Surr: Toluene-d8	90.4	NA	64.1-129	NA		%Rec	09/06/18 10:35AM	09/06/18 4:28PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

Pace Analytical Services - Analytical Report

WO#: 18090292

Date Reported: 9/12/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	9/4/2018 12:28:00 PM
Project:	CHAMBLISSBURG SUPPLY	**Date Received:**	9/5/2018
Lab ID:	18090292-02A	**Matrix:**	Solid
Client Sample ID:	B29-3	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
PERCENT MOISTURE				**Method: SM2540 B-1997**			**Analyst: DF**	
Percent Moisture	14	NA	1.0	NA	wt%		09/08/18 11:20AM	
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CLS**	
TPH (Diesel Range: C10 - C28)	ND	3.97	7.94	NA	mg/Kg	09/10/18 3:30PM	09/11/18 2:18PM	PA/VA
Surr: o-Terphenyl	96.7	NA	49.2-135	NA	%Rec	09/10/18 3:30PM	09/11/18 2:18PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	2.50	5.00	NA	mg/Kg	09/06/18 10:35AM	09/06/18 3:02PM	PA/VA
Surr: 2,5-Dibromotoluene	52.4	NA	51.3-138	NA	%Rec	09/06/18 10:35AM	09/06/18 3:02PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**			**Analyst: JM**	
Benzene	ND	0.00198	0.00396	NA	mg/Kg	09/06/18 10:35AM	09/06/18 4:57PM	PA/VA
Ethylbenzene	ND	0.00198	0.00396	NA	mg/Kg	09/06/18 10:35AM	09/06/18 4:57PM	PA/VA
m,p-Xylene	ND	0.00396	0.00792	NA	mg/Kg	09/06/18 10:35AM	09/06/18 4:57PM	PA/VA
Methyl tert-butyl ether	ND	0.00990	0.0198	NA	mg/Kg	09/06/18 10:35AM	09/06/18 4:57PM	PA/VA
Naphthalene	ND	0.00198	0.00396	NA	mg/Kg	09/06/18 10:35AM	09/06/18 4:57PM	PA/VA
o-Xylene	ND	0.00198	0.00396	NA	mg/Kg	09/06/18 10:35AM	09/06/18 4:57PM	PA/VA
Toluene	ND	0.00198	0.00396	NA	mg/Kg	09/06/18 10:35AM	09/06/18 4:57PM	PA/VA
Surr: 1,2-Dichloroethane-d4	113	NA	79.9-120	NA	%Rec	09/06/18 10:35AM	09/06/18 4:57PM	
Surr: 4-Bromofluorobenzene	104	NA	77-148	NA	%Rec	09/06/18 10:35AM	09/06/18 4:57PM	
Surr: Dibromofluoromethane	104	NA	43.2-154	NA	%Rec	09/06/18 10:35AM	09/06/18 4:57PM	
Surr: Toluene-d8	91.3	NA	64.1-129	NA	%Rec	09/06/18 10:35AM	09/06/18 4:57PM	

Notes:

Sample was received at the laboratory in a container that is not in accordance with method 5035 field sampling techniques. Results may not be acceptable for compliance purposes.

Pace Analytical Services, LLC.
PO Box 684056
Chicago, IL 60695-4056
TEL: (304)255-2500
Website: www.reiclabs.com

Sample Receipt Checklist

Client Name:	**GRE096**			Work Order Number:	**18090292**
RCPNo:	**1**	Date and Time Received:	**9/5/2018 10:49:29 PM**	Received by:	**James Lester**
Completed By:	**Amie Wilder**		Reviewed By:	**Billy Shirley**	
Completed Date:	**9/5/2018 11:01:40 PM**		Reviewed Date:	**9/6/2018 10:51 AM**	

Carrier Name: Pace

1.	Chain of custody present?	Yes [x]	No [ ]	
2.	Chain of custody signed when relinquished and received?	Yes [x]	No [ ]	
3.	Are matrices correctly identified on Chain of custody?	Yes [x]	No [ ]	
4.	Is it clear what analyses were requested?	Yes [x]	No [ ]	
5.	Custody seals intact?	Yes [ ]	No [ ]	Not Present [x]
6.	Samples in proper container type and preservative?	Yes [x]	No [ ]	
7.	Were correct preservatives noted on COC?	Yes [x]	No [ ]	NA [ ]
8.	Sample containers intact?	Yes [x]	No [ ]	
9.	Sufficient sample volume for indicated test?	Yes [x]	No [ ]	
10.	Were container labels complete?	Yes [x]	No [ ]	
11.	All samples received within holding time?	Yes [x]	No [ ]	
12.	Was an attempt made to cool the samples?	Yes [x]	No [ ]	NA [ ]
13.	Sample Temp. taken and recorded upon receipt?	Yes [x]	No [ ]	To 2.7 ºC
14.	Water - Were bubbles absent in VOC vials?	Yes [ ]	No [ ]	No Vials [x]
15.	Are Samples considered acceptable?	Yes [x]	No [ ]	
16.	COC filled out properly?	Yes [x]	No [ ]	

Client Notification/Response

Client Name: **GRE096** Work Order Number: **18090292**

Comment:

Client Contacted: Yes [ ] No [ ] NA [x] Person Contacted:

Contact Mode: Phone [ ] Fax: [ ] Email: [ ] In Person: [ ]

Date Contacted: Contacted By:

Regarding:

Client Instructions:

Corrective Action:

18090292

GRE096

GREENE ENVIRONMENTAL SE

Billy Shirley

:-CUSTODY Analytical Request Document

ustody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company: G

Address: 129 ... Mount, VA 24015

Billing Information: Mr. Trev Greene
570 Redbud Hill Road
Rocky Mount, VA 24151

Report To: Mr. Trev Greene

Email To: tgreene@greene-environmental.com

Copy To:

Site Collection Info/Address:

Customer Project Name/Number: Chamblissburg Supply - CSVI

State: / County/City: Time Zone Collected: [ ]PT [ ]MT [ ]CT [X]ET

Phone: 540-483-3311
Email: As above

Site/Facility ID #: Chamblissburg Supply

Compliance Monitoring? [ ] Yes [ ] No

Collected By (print): AF, TG, BM, AR

Purchase Order # :
Quote #:

DW PWS ID #:
DW Location Code:

Collected By (signature):

Turnaround Date Required:

Immediately Packed on Ice: [X] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive: _____
[ ] Hold: _____

Rush:
[ ] Same Day [ ] Next Day
[ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable): [ ] Yes [ ] No
Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: 3 | U | 3

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	TPH-GRO via 8015	TPH-DRO via 8015	BTEX, MTBE, Nap via 8021
B29-2	SL	G	9/4/2018	1227				1	X	X	X
B29-3	SL	G	9/4/2018	1228				1	X	X	X

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips: _____
Sample pH Acceptable Y N NA
pH Strips: _____
Sulfide Present Y N NA
Lead Acetate Strips: _____

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours) : Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 4
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: 2.7 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	9-5-18 / 0800		9-5-18 / 0800
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 9-5-18 / 1715
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 9-5-18 / 1900

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

Pace Analytical Services
PO Box 286
Beaver, WV 25813
TEL: (304) 255-2500
Website: www.reiclabs.com

782 North Lee Highway
Lexington, VA 24450
TEL: 540.464.1880

16 Commerce Drive
Westover, WV 26501
TEL: 304.241.5861

Thursday, October 04, 2018

Mr. Trev Greene
GREENE ENVIRONMENTAL SERVICES, LLC
570 REDBUD HILL ROAD
ROCKY MOUNT, VA 24151

TEL: (540) 483-3311
FAX:

RE: CHAMBLISSBURG SUPPLY - CSVI

Work Order #: 18090167

Dear Mr. Trev Greene:

Pace Analytical Services received 30 sample(s) on 9/5/2018 for the analyses presented in the following report.

Sincerely,

Billy Shirley
Project Manager
(304) 250-6214

Pace Analytical Services - Case Narrative

WO#: 18090167

Date Reported: 10/4/2018
Original

Client: GREENE ENVIRONMENTAL SERVICES, LLC

Project: CHAMBLISSBURG SUPPLY - CSVI

The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

All sample results for solid samples are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as TTHM and HAA5, may vary slightly from the sum of the individual parameter results, due to rounding of individual results, as required by EPA.

The test results in this report meet all NELAP and/or VELAP requirements for parameters clearly designated as PA, VA, PA/VA, or VELAP in the column labeled NELAP.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

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NA: Not Applicable
ND: Not Detected at the PQL or MDL
PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.
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TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.
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QUALIFIERS:
X: Reported value exceeds required MCL
B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL
E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.
H: Holding time for preparation or analysis has been exceeded.
J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.
S: % REC (% recovery) exceeds control limits

CERTIFICATIONS:
Beaver, WV: WVDHHR 00412CM, WVDEP 060, VADCLS 00281, KYDEP 90039, NCDWQ 466, PADEP 68-00839, VADCLS(VELAP) 460148
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Lexington, VA: VADCLS(VELAP) 460150
Morgantown, WV: WVDHHR 003112M, WVDEP 387

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ND: Not Detected at the PQL or MDL
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Qual: Qualifier that applies to the analyte reported.
TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.
Ug/Kg or ug/L: Units of part per billion (PPB) - microgram per kilogram (weight/weight) or microgram per liter (weight/volume).

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B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL
E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.
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Lexington, VA: VADCLS(VELAP) 460150
Morgantown, WV: WVDHHR 003112M, WVDEP 387

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 1:15:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-01A	**Matrix:**	Groundwater
Client Sample ID:	MW01	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	1,070	124	247	NA		µg/L	09/06/18 6:30AM	09/06/18 6:31PM	PA/VA
Surr: o-Terphenyl	85.8	NA	17.6-135	NA		%Rec	09/06/18 6:30AM	09/06/18 6:31PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	1,140	250	500	NA		µg/L	09/05/18 1:38PM	09/06/18 3:17AM	PA/VA
Surr: 2,5-Dibromotoluene	83.2	NA	41.8-138	NA		%Rec	09/05/18 1:38PM	09/06/18 3:17AM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**				**Analyst: TKC**	
Benzene	ND	0.500	1.00	NA		µg/L	09/05/18 1:38PM	09/13/18 5:28PM	PA/VA
Ethylbenzene	0.520	0.500	1.00	NA	J	µg/L	09/05/18 1:38PM	09/13/18 5:28PM	PA/VA
Methyl tert-butyl ether	45.7	1.00	5.00	NA		µg/L	09/05/18 1:38PM	09/13/18 5:28PM	PA/VA
Naphthalene	ND	0.500	1.00	NA		µg/L	09/05/18 1:38PM	09/13/18 5:28PM	PA/VA
Toluene	ND	0.500	1.00	NA		µg/L	09/05/18 1:38PM	09/13/18 5:28PM	PA/VA
Xylenes, Total	0.770	NA	0	NA		µg/L	09/05/18 1:38PM	09/13/18 5:28PM	PA/VA
Surr: 1,2-Dichloroethane-d4	103	NA	65-141	NA		%Rec	09/05/18 1:38PM	09/13/18 5:28PM	
Surr: 4-Bromofluorobenzene	102	NA	79.8-118	NA		%Rec	09/05/18 1:38PM	09/13/18 5:28PM	
Surr: Dibromofluoromethane	91.5	NA	78.2-114	NA		%Rec	09/05/18 1:38PM	09/13/18 5:28PM	
Surr: Toluene-d8	83.8	NA	74.1-133	NA		%Rec	09/05/18 1:38PM	09/13/18 5:28PM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 10:45:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-02A	**Matrix:**	Groundwater
Client Sample ID:	MW02	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	1,680	123	246	NA		µg/L	09/06/18 6:30AM	09/06/18 7:01PM	PA/VA
Surr: o-Terphenyl	90.1	NA	17.6-135	NA		%Rec	09/06/18 6:30AM	09/06/18 7:01PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	10,200	250	500	NA		µg/L	09/05/18 1:38PM	09/06/18 3:48AM	PA/VA
Surr: 2,5-Dibromotoluene	83.1	NA	41.8-138	NA		%Rec	09/05/18 1:38PM	09/06/18 3:48AM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**				**Analyst: JM**	
Benzene	104	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 2:09AM	PA/VA
Ethylbenzene	98.0	50.0	100	NA	J	µg/L	09/05/18 1:38PM	09/08/18 2:09AM	PA/VA
Methyl tert-butyl ether	1,950	100	500	NA		µg/L	09/05/18 1:38PM	09/08/18 2:09AM	PA/VA
Naphthalene	352	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 2:09AM	PA/VA
Toluene	141	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 2:09AM	PA/VA
Xylenes, Total	2,650	NA	0	NA		µg/L	09/05/18 1:38PM	09/08/18 2:09AM	PA/VA
Surr: 1,2-Dichloroethane-d4	105	NA	65-141	NA		%Rec	09/05/18 1:38PM	09/08/18 2:09AM	
Surr: 4-Bromofluorobenzene	99.2	NA	79.8-118	NA		%Rec	09/05/18 1:38PM	09/08/18 2:09AM	
Surr: Dibromofluoromethane	97.0	NA	78.2-114	NA		%Rec	09/05/18 1:38PM	09/08/18 2:09AM	
Surr: Toluene-d8	98.4	NA	74.1-133	NA		%Rec	09/05/18 1:38PM	09/08/18 2:09AM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 2:23:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-03A	**Matrix:**	Groundwater
Client Sample ID:	MW03	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	15,400	120	240	NA		µg/L	09/06/18 6:30AM	09/06/18 7:32PM	PA/VA
Surr: o-Terphenyl	88.2	NA	17.6-135	NA		%Rec	09/06/18 6:30AM	09/06/18 7:32PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	314,000	2,500	5,000	NA		µg/L	09/05/18 1:38PM	09/08/18 12:23AM	PA/VA
Surr: 2,5-Dibromotoluene	105	NA	41.8-138	NA		%Rec	09/05/18 1:38PM	09/08/18 12:23AM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**				**Analyst: JM**	
Benzene	9,650	500	1,000	NA		µg/L	09/05/18 1:38PM	09/12/18 12:39PM	PA/VA
Ethylbenzene	3,890	500	1,000	NA		µg/L	09/05/18 1:38PM	09/12/18 12:39PM	PA/VA
Methyl tert-butyl ether	14,400	1,000	5,000	NA		µg/L	09/05/18 1:38PM	09/12/18 12:39PM	PA/VA
Naphthalene	1,200	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 2:43AM	PA/VA
Toluene	40,300	500	1,000	NA	E	µg/L	09/05/18 1:38PM	09/12/18 12:39PM	PA/VA
Xylenes, Total	19,400	NA	0	NA		µg/L	09/05/18 1:38PM	09/12/18 12:39PM	PA/VA
Surr: 1,2-Dichloroethane-d4	115	NA	65-141	NA		%Rec	09/05/18 1:38PM	09/08/18 2:43AM	
Surr: 4-Bromofluorobenzene	94.2	NA	79.8-118	NA		%Rec	09/05/18 1:38PM	09/08/18 2:43AM	
Surr: Dibromofluoromethane	88.6	NA	78.2-114	NA		%Rec	09/05/18 1:38PM	09/08/18 2:43AM	
Surr: Toluene-d8	93.0	NA	74.1-133	NA		%Rec	09/05/18 1:38PM	09/08/18 2:43AM	

Notes:

Results are qualified as “E”, estimated. The sample could not be re-analyzed within the method holding time.

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 2:55:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-04A	**Matrix:**	Groundwater
Client Sample ID:	MW04	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	3,160	121	241	NA	µg/L	09/06/18 6:30AM	09/06/18 8:02PM	PA/VA
Surr: o-Terphenyl	87.5	NA	17.6-135	NA	%Rec	09/06/18 6:30AM	09/06/18 8:02PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	297,000	2,500	5,000	NA	µg/L	09/05/18 1:38PM	09/08/18 12:54AM	PA/VA
Surr: 2,5-Dibromotoluene	114	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/08/18 12:54AM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**			**Analyst: JM**	
Benzene	12,100	500	1,000	NA	µg/L	09/05/18 1:38PM	09/12/18 1:12PM	PA/VA
Ethylbenzene	3,320	500	1,000	NA	µg/L	09/05/18 1:38PM	09/12/18 1:12PM	PA/VA
Methyl tert-butyl ether	20,200	1,000	5,000	NA	µg/L	09/05/18 1:38PM	09/12/18 1:12PM	PA/VA
Naphthalene	2,120	50.0	100	NA	µg/L	09/05/18 1:38PM	09/08/18 3:17AM	PA/VA
Toluene	1,150	500	1,000	NA	µg/L	09/05/18 1:38PM	09/12/18 2:18PM	PA/VA
Xylenes, Total	16,100	NA	0	NA	µg/L	09/05/18 1:38PM	09/12/18 1:12PM	PA/VA
Surr: 1,2-Dichloroethane-d4	118	NA	65-141	NA	%Rec	09/05/18 1:38PM	09/08/18 3:17AM	
Surr: 4-Bromofluorobenzene	94.1	NA	79.8-118	NA	%Rec	09/05/18 1:38PM	09/08/18 3:17AM	
Surr: Dibromofluoromethane	86.0	NA	78.2-114	NA	%Rec	09/05/18 1:38PM	09/08/18 3:17AM	
Surr: Toluene-d8	96.2	NA	74.1-133	NA	%Rec	09/05/18 1:38PM	09/08/18 3:17AM	

Notes:

Results are qualified as “E”, estimated. The sample could not be re-analyzed within the method holding time.

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 11:45:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-05A	**Matrix:**	Groundwater
Client Sample ID:	MW05	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	ND	122	245	NA		µg/L	09/06/18 6:30AM	09/06/18 8:32PM	PA/VA
Surr: o-Terphenyl	86.5	NA	17.6-135	NA		%Rec	09/06/18 6:30AM	09/06/18 8:32PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA		µg/L	09/05/18 1:38PM	09/10/18 2:50PM	PA/VA
Surr: 2,5-Dibromotoluene	95.7	NA	41.8-138	NA		%Rec	09/05/18 1:38PM	09/10/18 2:50PM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**				**Analyst: JM**	
Benzene	190	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 3:51AM	PA/VA
Ethylbenzene	118	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 3:51AM	PA/VA
Methyl tert-butyl ether	177	100	500	NA	J	µg/L	09/05/18 1:38PM	09/08/18 3:51AM	PA/VA
Naphthalene	2,130	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 3:51AM	PA/VA
Toluene	816	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 3:51AM	PA/VA
Xylenes, Total	704	NA	0	NA		µg/L	09/05/18 1:38PM	09/08/18 3:51AM	PA/VA
Surr: 1,2-Dichloroethane-d4	107	NA	65-141	NA		%Rec	09/05/18 1:38PM	09/08/18 3:51AM	
Surr: 4-Bromofluorobenzene	96.8	NA	79.8-118	NA		%Rec	09/05/18 1:38PM	09/08/18 3:51AM	
Surr: Dibromofluoromethane	95.0	NA	78.2-114	NA		%Rec	09/05/18 1:38PM	09/08/18 3:51AM	
Surr: Toluene-d8	97.5	NA	74.1-133	NA		%Rec	09/05/18 1:38PM	09/08/18 3:51AM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 11:18:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-06A	**Matrix:**	Groundwater
Client Sample ID:	MW06	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	ND	121	242	NA	µg/L	09/06/18 6:30AM	09/06/18 9:03PM	PA/VA
Surr: o-Terphenyl	89.1	NA	17.6-135	NA	%Rec	09/06/18 6:30AM	09/06/18 9:03PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/06/18 12:53PM	PA/VA
Surr: 2,5-Dibromotoluene	122	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/06/18 12:53PM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**			**Analyst: JM**	
Benzene	ND	0.500	1.00	NA	µg/L	09/05/18 1:38PM	09/07/18 1:57PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L	09/05/18 1:38PM	09/07/18 1:57PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L	09/05/18 1:38PM	09/07/18 1:57PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L	09/05/18 1:38PM	09/07/18 1:57PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L	09/05/18 1:38PM	09/07/18 1:57PM	PA/VA
Xylenes, Total	ND	NA	0	NA	µg/L	09/05/18 1:38PM	09/07/18 1:57PM	PA/VA
Surr: 1,2-Dichloroethane-d4	101	NA	65-141	NA	%Rec	09/05/18 1:38PM	09/07/18 1:57PM	
Surr: 4-Bromofluorobenzene	90.3	NA	79.8-118	NA	%Rec	09/05/18 1:38PM	09/07/18 1:57PM	
Surr: Dibromofluoromethane	95.1	NA	78.2-114	NA	%Rec	09/05/18 1:38PM	09/07/18 1:57PM	
Surr: Toluene-d8	113	NA	74.1-133	NA	%Rec	09/05/18 1:38PM	09/07/18 1:57PM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:20:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-07A	**Matrix:**	Groundwater
Client Sample ID:	MW07	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	ND	122	243	NA	µg/L	09/06/18 6:30AM	09/06/18 9:33PM	PA/VA
Surr: o-Terphenyl	89.2	NA	17.6-135	NA	%Rec	09/06/18 6:30AM	09/06/18 9:33PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/06/18 1:25PM	PA/VA
Surr: 2,5-Dibromotoluene	107	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/06/18 1:25PM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**			**Analyst: JM**	
Benzene	ND	0.500	1.00	NA	µg/L	09/05/18 1:38PM	09/07/18 2:30PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L	09/05/18 1:38PM	09/07/18 2:30PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L	09/05/18 1:38PM	09/07/18 2:30PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L	09/05/18 1:38PM	09/07/18 2:30PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L	09/05/18 1:38PM	09/07/18 2:30PM	PA/VA
Xylenes, Total	ND	NA	0	NA	µg/L	09/05/18 1:38PM	09/07/18 2:30PM	PA/VA
Surr: 1,2-Dichloroethane-d4	98.5	NA	65-141	NA	%Rec	09/05/18 1:38PM	09/07/18 2:30PM	
Surr: 4-Bromofluorobenzene	92.0	NA	79.8-118	NA	%Rec	09/05/18 1:38PM	09/07/18 2:30PM	
Surr: Dibromofluoromethane	90.8	NA	78.2-114	NA	%Rec	09/05/18 1:38PM	09/07/18 2:30PM	
Surr: Toluene-d8	102	NA	74.1-133	NA	%Rec	09/05/18 1:38PM	09/07/18 2:30PM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 10:12:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-08A	**Matrix:**	Groundwater
Client Sample ID:	MW08	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	2,790	119	237	NA		µg/L	09/06/18 6:30AM	09/06/18 10:04PM	PA/VA
Surr: o-Terphenyl	81.6	NA	17.6-135	NA		%Rec	09/06/18 6:30AM	09/06/18 10:04PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA		µg/L	09/05/18 1:38PM	09/06/18 1:56PM	PA/VA
Surr: 2,5-Dibromotoluene	93.5	NA	41.8-138	NA		%Rec	09/05/18 1:38PM	09/06/18 1:56PM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**				**Analyst: JM**	
Benzene	ND	0.500	1.00	NA		µg/L	09/05/18 1:38PM	09/07/18 3:03PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA		µg/L	09/05/18 1:38PM	09/07/18 3:03PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA		µg/L	09/05/18 1:38PM	09/07/18 3:03PM	PA/VA
Naphthalene	ND	0.500	1.00	NA		µg/L	09/05/18 1:38PM	09/07/18 3:03PM	PA/VA
Toluene	0.870	0.500	1.00	NA	J	µg/L	09/05/18 1:38PM	09/07/18 3:03PM	PA/VA
Xylenes, Total	ND	NA	0	NA		µg/L	09/05/18 1:38PM	09/07/18 3:03PM	PA/VA
Surr: 1,2-Dichloroethane-d4	97.8	NA	65-141	NA		%Rec	09/05/18 1:38PM	09/07/18 3:03PM	
Surr: 4-Bromofluorobenzene	99.5	NA	79.8-118	NA		%Rec	09/05/18 1:38PM	09/07/18 3:03PM	
Surr: Dibromofluoromethane	82.3	NA	78.2-114	NA		%Rec	09/05/18 1:38PM	09/07/18 3:03PM	
Surr: Toluene-d8	108	NA	74.1-133	NA		%Rec	09/05/18 1:38PM	09/07/18 3:03PM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:50:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-09A	**Matrix:**	Groundwater
Client Sample ID:	MW09	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	1,420	121	243	NA	µg/L	09/06/18 6:30AM	09/06/18 10:34PM	PA/VA
Surr: o-Terphenyl	82.1	NA	17.6-135	NA	%Rec	09/06/18 6:30AM	09/06/18 10:34PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	24,600	250	500	NA	µg/L	09/05/18 1:38PM	09/06/18 2:28PM	PA/VA
Surr: 2,5-Dibromotoluene	97.4	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/06/18 2:28PM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**			**Analyst: JM**	
Benzene	1,200	50.0	100	NA	µg/L	09/05/18 1:38PM	09/08/18 4:25AM	PA/VA
Ethylbenzene	709	50.0	100	NA	µg/L	09/05/18 1:38PM	09/08/18 4:25AM	PA/VA
Methyl tert-butyl ether	10,400	100	500	NA	µg/L	09/05/18 1:38PM	09/08/18 4:25AM	PA/VA
Naphthalene	1,450	50.0	100	NA	µg/L	09/05/18 1:38PM	09/08/18 4:25AM	PA/VA
Toluene	4,000	500	1,000	NA	µg/L	09/05/18 1:38PM	09/12/18 2:51PM	PA/VA
Xylenes, Total	3,450	NA	0	NA	µg/L	09/05/18 1:38PM	09/08/18 4:25AM	PA/VA
Surr: 1,2-Dichloroethane-d4	109	NA	65-141	NA	%Rec	09/05/18 1:38PM	09/08/18 4:25AM	
Surr: 4-Bromofluorobenzene	100	NA	79.8-118	NA	%Rec	09/05/18 1:38PM	09/08/18 4:25AM	
Surr: Dibromofluoromethane	95.9	NA	78.2-114	NA	%Rec	09/05/18 1:38PM	09/08/18 4:25AM	
Surr: Toluene-d8	102	NA	74.1-133	NA	%Rec	09/05/18 1:38PM	09/08/18 4:25AM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 1:32:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-10A	**Matrix:**	Groundwater
Client Sample ID:	MW10	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	2,520	119	238	NA		µg/L	09/06/18 6:30AM	09/06/18 11:05PM	PA/VA
Surr: o-Terphenyl	92.3	NA	17.6-135	NA		%Rec	09/06/18 6:30AM	09/06/18 11:05PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	59,200	2,500	5,000	NA		µg/L	09/05/18 1:38PM	09/07/18 8:43PM	PA/VA
Surr: 2,5-Dibromotoluene	116	NA	41.8-138	NA		%Rec	09/05/18 1:38PM	09/07/18 8:43PM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**				**Analyst: JM**	
Benzene	710	500	1,000	NA	J	µg/L	09/05/18 1:38PM	09/12/18 3:24PM	PA/VA
Ethylbenzene	ND	500	1,000	NA		µg/L	09/05/18 1:38PM	09/12/18 3:24PM	PA/VA
Methyl tert-butyl ether	9,870	1,000	5,000	NA		µg/L	09/05/18 1:38PM	09/12/18 3:24PM	PA/VA
Naphthalene	1,310	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 4:58AM	PA/VA
Toluene	ND	500	1,000	NA		µg/L	09/05/18 1:38PM	09/12/18 3:24PM	PA/VA
Xylenes, Total	810	NA	0	NA		µg/L	09/05/18 1:38PM	09/12/18 3:24PM	PA/VA
Surr: 1,2-Dichloroethane-d4	114	NA	65-141	NA		%Rec	09/05/18 1:38PM	09/08/18 4:58AM	
Surr: 4-Bromofluorobenzene	99.7	NA	79.8-118	NA		%Rec	09/05/18 1:38PM	09/08/18 4:58AM	
Surr: Dibromofluoromethane	90.9	NA	78.2-114	NA		%Rec	09/05/18 1:38PM	09/08/18 4:58AM	
Surr: Toluene-d8	110	NA	74.1-133	NA		%Rec	09/05/18 1:38PM	09/08/18 4:58AM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 2:35:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-11A	**Matrix:**	Groundwater
Client Sample ID:	MW11	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
SEMI-VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: YT**	
TPH (Diesel Range: C10 - C28)	2,500	117	235	NA		µg/L	09/06/18 6:30AM	09/06/18 11:35PM	PA/VA
Surr: o-Terphenyl	83.1	NA	17.6-135	NA		%Rec	09/06/18 6:30AM	09/06/18 11:35PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	13,100	250	500	NA		µg/L	09/05/18 1:38PM	09/06/18 3:31PM	PA/VA
Surr: 2,5-Dibromotoluene	98.9	NA	41.8-138	NA		%Rec	09/05/18 1:38PM	09/06/18 3:31PM	
VOLATILE ORGANIC COMPOUNDS				**Method: SW8260B**				**Analyst: JM**	
Benzene	1,840	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 5:32AM	PA/VA
Ethylbenzene	419	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 5:32AM	PA/VA
Methyl tert-butyl ether	23,500	100	500	NA	E	µg/L	09/05/18 1:38PM	09/08/18 5:32AM	PA/VA
Naphthalene	1,950	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 5:32AM	PA/VA
Toluene	938	50.0	100	NA		µg/L	09/05/18 1:38PM	09/08/18 5:32AM	PA/VA
Xylenes, Total	2,680	NA	0	NA		µg/L	09/05/18 1:38PM	09/08/18 5:32AM	PA/VA
Surr: 1,2-Dichloroethane-d4	114	NA	65-141	NA		%Rec	09/05/18 1:38PM	09/08/18 5:32AM	
Surr: 4-Bromofluorobenzene	117	NA	79.8-118	NA		%Rec	09/05/18 1:38PM	09/08/18 5:32AM	
Surr: Dibromofluoromethane	88.1	NA	78.2-114	NA		%Rec	09/05/18 1:38PM	09/08/18 5:32AM	
Surr: Toluene-d8	104	NA	74.1-133	NA		%Rec	09/05/18 1:38PM	09/08/18 5:32AM	

Notes:

Results are qualified as “E”, estimated. The sample could not be re-analyzed within the method holding time.

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:55:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-12B	**Matrix:**	Groundwater
Client Sample ID:	DW01A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	1.34	0.200	1.00	NA	µg/L	09/06/18 1:30PM	09/07/18 3:21PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:55:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-12A	**Matrix:**	Groundwater
Client Sample ID:	DW01A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**					**Analyst: CGW**
Lead	3.04	0.200	1.00	15.0		µg/L	09/06/18 1:30PM	09/07/18 3:03PM	
EDB AND/OR DBCP				**Method: SW8011**					**Analyst: JH**
DBCP	0.0193	0.00733	0.0193	0.200		µg/L	09/11/18 12:24PM	09/12/18 12:00PM	PA/VA
EDB	0.401	0.00376	0.0193	0.050	X	µg/L	09/11/18 12:24PM	09/12/18 12:00PM	PA/VA

Notes:

Matrix spike recoveries were not within laboratory control limits due to matrix interference. Acceptable LCS recovery indicates the analysis was in control.

SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**					**Analyst: NC**
Acenaphthene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Acenaphthylene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Anthracene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Benzidine	ND	5.16	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Benzo(a)anthracene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Benzo(a)pyrene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Benzo(b)fluoranthene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Benzo(g,h,i)perylene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Benzo(k)fluoranthene	ND	3.10	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Bis(2-ethylhexyl)phthalate	8.58	5.16	10.3	NA	J	µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Butyl benzyl phthalate	ND	5.16	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
4-Chloro-3-methylphenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2-Chloronaphthalene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2-Chlorophenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Chrysene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
o-Cresol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
m,p-Cresol	2.95	2.07	10.3	NA	J	µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Di-n-butyl phthalate	ND	5.16	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
1,2-Dichlorobenzene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
1,3-Dichlorobenzene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
1,4-Dichlorobenzene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.16	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2,4-Dichlorophenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:55:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-12A	**Matrix:**	Groundwater
Client Sample ID:	DW01A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
Diethyl phthalate	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Dimethyl phthalate	ND	5.16	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2,4-Dimethylphenol	2.24	2.07	10.3	NA	J	µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
4,6-Dinitro-2-methylphenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2,4-Dinitrophenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2,4-Dinitrotoluene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2,6-Dinitrotoluene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Di-n-octyl phthalate	ND	5.16	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
1,2-Diphenylhydrazine	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Fluoranthene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Fluorene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Hexachlorobenzene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Hexachlorobutadiene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Hexachlorocyclopentadiene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Hexachloroethane	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Isophorone	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Naphthalene	24.7	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Nitrobenzene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2-Nitrophenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
4-Nitrophenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
N-Nitrosodimethylamine	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
N-Nitrosodiphenylamine	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Pentachlorophenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Phenanthrene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Phenol	16.4	5.16	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Pyrene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2,4,5-Trichlorophenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
2,4,6-Trichlorophenol	ND	2.07	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 4:52PM	PA/VA
Surr: 2-Fluorophenol	38.8	NA	17.6-120	NA		%Rec	09/05/18 4:05PM	09/10/18 4:52PM	
Surr: Phenol-d5	27.0	NA	11.4-120	NA		%Rec	09/05/18 4:05PM	09/10/18 4:52PM	
Surr: 2,4,6-Tribromophenol	68.4	NA	18-129	NA		%Rec	09/05/18 4:05PM	09/10/18 4:52PM	
Surr: Nitrobenzene-d5	56.3	NA	21.5-122	NA		%Rec	09/05/18 4:05PM	09/10/18 4:52PM	
Surr: 2-Fluorobiphenyl	55.3	NA	23.7-127	NA		%Rec	09/05/18 4:05PM	09/10/18 4:52PM	
Surr: 4-Terphenyl-d14	59.1	NA	39.9-124	NA		%Rec	09/05/18 4:05PM	09/10/18 4:52PM	

VOLATILE RANGE ORGANICS **Method: SW8015C** **Analyst: JM**

TPH (Gasoline Range: C6 - C10)	5,060	250	500	NA		µg/L	09/05/18 1:38PM	09/07/18 3:29PM	PA/VA
Surr: 2,5-Dibromotoluene	105	NA	41.8-138	NA		%Rec	09/05/18 1:38PM	09/07/18 3:29PM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:55:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-12A	**Matrix:**	Groundwater
Client Sample ID:	DW01A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	120	NA	0	NA	µg/L		09/13/18 10:49AM	PA/VA
Acetone	ND	5.00	10.0	NA	µg/L		09/08/18 10:33PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/08/18 10:33PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/08/18 10:33PM	PA/VA
Benzene	310	25.0	50.0	NA	µg/L		09/13/18 10:49AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/08/18 10:33PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
sec-Butylbenzene	2.28	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,2-Dichloropropane	1.93	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/08/18 10:33PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:55:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-12A	**Matrix:**	Groundwater
Client Sample ID:	DW01A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
cis-1,3-Dichloropropene	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
Ethylbenzene	11.1	5.00	10.0	NA		µg/L		09/13/18 3:17PM	PA/VA
Hexachlorobutadiene	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA		µg/L		09/08/18 10:33PM	PA/VA
Iodomethane	ND	5.00	10.0	NA		µg/L		09/08/18 10:33PM	PA/VA
Isopropylbenzene	11.2	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
4-Isopropyltoluene	3.85	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA		µg/L		09/08/18 10:33PM	PA/VA
Methyl tert-butyl ether	622	50.0	250	NA		µg/L		09/13/18 10:49AM	PA/VA
Naphthalene	63.0	25.0	50.0	NA		µg/L		09/13/18 10:49AM	PA/VA
n-Propylbenzene	12.2	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
Styrene	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
Toluene	1.16	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
1,2,4-Trimethylbenzene	76.5	25.0	50.0	NA		µg/L		09/13/18 10:49AM	PA/VA
1,3,5-Trimethylbenzene	19.3	5.00	10.0	NA		µg/L		09/13/18 3:17PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA		µg/L		09/08/18 10:33PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	PA/VA
Surr: 1,2-Dichloroethane-d4	157	NA	75.9-132	NA	S	%Rec		09/08/18 10:33PM	
Surr: 4-Bromofluorobenzene	96.3	NA	73.6-132	NA		%Rec		09/08/18 10:33PM	
Surr: Dibromofluoromethane	60.0	NA	80.1-127	NA	S	%Rec		09/08/18 10:33PM	
Surr: Toluene-d8	98.5	NA	72.4-119	NA		%Rec		09/08/18 10:33PM	

Notes:

The surrogate recovery is outside laboratory control limits due to matrix interference.

VOLATILE ORGANIC COMPOUNDS-ADDITIONAL **Method: SW8260B** **Analyst: DTC**

tert-Amyl alcohol	ND	0.500	1.00	NA		µg/L	09/08/18 10:33PM
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA		µg/L	09/08/18 10:33PM
tert-Amyl Methyl Ether	ND	0.500	1.00	NA		µg/L	09/08/18 10:33PM

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:55:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-12A	**Matrix:**	Groundwater
Client Sample ID:	DW01A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
tert-Butyl alcohol	ND	100	200	NA		µg/L		09/08/18 10:33PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/08/18 10:33PM	
Ethanol	ND	100	200	NA		µg/L		09/08/18 10:33PM	PA/VA
Isopropyl ether	46.1	2.50	5.00	NA		µg/L		09/08/18 10:33PM	PA/VA
Surr: 1,2-Dichloroethane-d4	166	NA	72.3-120	NA	S	%Rec		09/08/18 10:33PM	
Surr: 4-Bromofluorobenzene	103	NA	72.5-134	NA		%Rec		09/08/18 10:33PM	
Surr: Dibromofluoromethane	66.1	NA	75.9-141	NA	S	%Rec		09/08/18 10:33PM	
Surr: Toluene-d8	99.5	NA	72.6-119	NA		%Rec		09/08/18 10:33PM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 1:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-13B	**Matrix:**	Groundwater
Client Sample ID:	DW02A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	09/06/18 1:30PM	09/07/18 3:33PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 1:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-13A	**Matrix:**	Groundwater
Client Sample ID:	DW02A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	0.324	0.200	1.00	15.0	J	µg/L	09/06/18 1:30PM	09/07/18 3:27PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	ND	0.00761	0.0200	0.200		µg/L	09/11/18 1:42PM	09/12/18 3:07PM	PA/VA
EDB	0.00901	0.00390	0.0200	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 3:07PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Acenaphthylene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Anthracene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Benzidine	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Benzo(a)anthracene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Benzo(a)pyrene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Benzo(b)fluoranthene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Benzo(g,h,i)perylene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Benzo(k)fluoranthene	ND	3.06	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Butyl benzyl phthalate	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
4-Chloro-3-methylphenol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2-Chloronaphthalene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2-Chlorophenol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Chrysene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
o-Cresol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
m,p-Cresol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Di-n-butyl phthalate	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
1,2-Dichlorobenzene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
1,3-Dichlorobenzene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
1,4-Dichlorobenzene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2,4-Dichlorophenol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Diethyl phthalate	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Dimethyl phthalate	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2,4-Dimethylphenol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 1:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-13A	**Matrix:**	Groundwater
Client Sample ID:	DW02A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2,4-Dinitrophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2,4-Dinitrotoluene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2,6-Dinitrotoluene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Di-n-octyl phthalate	ND	5.10	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
1,2-Diphenylhydrazine	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Fluoranthene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Fluorene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Hexachlorobenzene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Hexachlorobutadiene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Hexachlorocyclopentadiene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Hexachloroethane	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Isophorone	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Naphthalene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Nitrobenzene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2-Nitrophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
4-Nitrophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
N-Nitrosodimethylamine	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
N-Nitrosodiphenylamine	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Pentachlorophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Phenanthrene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Phenol	ND	5.10	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Pyrene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2,4,5-Trichlorophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
2,4,6-Trichlorophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 3:50PM	PA/VA
Surr: 2-Fluorophenol	38.4	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/06/18 3:50PM	
Surr: Phenol-d5	28.8	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/06/18 3:50PM	
Surr: 2,4,6-Tribromophenol	58.7	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/06/18 3:50PM	
Surr: Nitrobenzene-d5	51.5	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/06/18 3:50PM	
Surr: 2-Fluorobiphenyl	54.6	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/06/18 3:50PM	
Surr: 4-Terphenyl-d14	59.7	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/06/18 3:50PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 4:01PM	PA/VA
Surr: 2,5-Dibromotoluene	101	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 4:01PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	1.23	NA	0	NA	µg/L		09/09/18 4:42AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 1:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-13A	**Matrix:**	Groundwater
Client Sample ID:	DW02A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA		µg/L		09/09/18 4:42AM	PA/VA
Acrolein	ND	5.00	10.0	NA		µg/L		09/09/18 4:42AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA		µg/L		09/09/18 4:42AM	PA/VA
Benzene	2.69	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Bromoform	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Bromomethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
2-Butanone	ND	5.00	10.0	NA		µg/L		09/09/18 4:42AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Chloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Chloroform	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Chloromethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
1,2-Dichloroethane	22.8	5.00	10.0	NA		µg/L		09/13/18 8:01AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
1,2-Dichloropropane	0.640	0.500	1.00	NA	J	µg/L		09/09/18 4:42AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 4:42AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 1:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-13A	**Matrix:**	Groundwater
Client Sample ID:	DW02A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 4:42AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 4:42AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 4:42AM	PA/VA
Methyl tert-butyl ether	148	10.0	50.0	NA	µg/L		09/13/18 8:01AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
1,2,4-Trimethylbenzene	15.0	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 4:42AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	PA/VA
Surr: 1,2-Dichloroethane-d4	117	NA	75.9-132	NA	%Rec		09/09/18 4:42AM	
Surr: 4-Bromofluorobenzene	94.5	NA	73.6-132	NA	%Rec		09/09/18 4:42AM	
Surr: Dibromofluoromethane	91.5	NA	80.1-127	NA	%Rec		09/09/18 4:42AM	
Surr: Toluene-d8	96.9	NA	72.4-119	NA	%Rec		09/09/18 4:42AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 4:42AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 4:42AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 4:42AM	PA/VA
Isopropyl ether	10.1	2.50	5.00	NA	µg/L		09/09/18 4:42AM	PA/VA
Surr: 1,2-Dichloroethane-d4	116	NA	72.3-120	NA	%Rec		09/09/18 4:42AM	
Surr: 4-Bromofluorobenzene	99.5	NA	72.5-134	NA	%Rec		09/09/18 4:42AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 1:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-13A	**Matrix:**	Groundwater
Client Sample ID:	DW02A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	98.0	NA	75.9-141	NA	%Rec		09/09/18 4:42AM	
Surr: Toluene-d8	97.9	NA	72.6-119	NA	%Rec		09/09/18 4:42AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-14B	**Matrix:**	Groundwater
Client Sample ID:	DW03A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**					**Analyst: CGW**
Lead	0.449	0.200	1.00	NA	J	µg/L	09/06/18 1:30PM	09/07/18 3:45PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-14A	**Matrix:**	Groundwater
Client Sample ID:	DW03A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	1.95	0.200	1.00	15.0		µg/L	09/06/18 1:30PM	09/07/18 3:39PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	ND	0.00757	0.0199	0.200		µg/L	09/11/18 1:42PM	09/12/18 3:23PM	PA/VA
EDB	0.00796	0.00388	0.0199	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 3:23PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Acenaphthylene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Anthracene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Benzidine	ND	5.12	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Benzo(a)anthracene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Benzo(a)pyrene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Benzo(b)fluoranthene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Benzo(g,h,i)perylene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Benzo(k)fluoranthene	ND	3.07	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.12	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Butyl benzyl phthalate	ND	5.12	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
4-Chloro-3-methylphenol	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2-Chloronaphthalene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2-Chlorophenol	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Chrysene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
o-Cresol	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
m,p-Cresol	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Di-n-butyl phthalate	ND	5.12	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
1,2-Dichlorobenzene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
1,3-Dichlorobenzene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
1,4-Dichlorobenzene	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.12	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2,4-Dichlorophenol	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Diethyl phthalate	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Dimethyl phthalate	ND	5.12	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2,4-Dimethylphenol	ND	2.05	10.2	NA		µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-14A	**Matrix:**	Groundwater
Client Sample ID:	DW03A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2,4-Dinitrophenol	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2,4-Dinitrotoluene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2,6-Dinitrotoluene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Di-n-octyl phthalate	ND	5.12	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
1,2-Diphenylhydrazine	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Fluoranthene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Fluorene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Hexachlorobenzene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Hexachlorobutadiene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Hexachlorocyclopentadiene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Hexachloroethane	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Isophorone	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Naphthalene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Nitrobenzene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2-Nitrophenol	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
4-Nitrophenol	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
N-Nitrosodimethylamine	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
N-Nitrosodiphenylamine	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Pentachlorophenol	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Phenanthrene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Phenol	ND	5.12	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Pyrene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2,4,5-Trichlorophenol	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
2,4,6-Trichlorophenol	ND	2.05	10.2	NA	µg/L	09/05/18 4:05PM	09/06/18 4:12PM	PA/VA
Surr: 2-Fluorophenol	34.1	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/06/18 4:12PM	
Surr: Phenol-d5	23.9	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/06/18 4:12PM	
Surr: 2,4,6-Tribromophenol	47.2	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/06/18 4:12PM	
Surr: Nitrobenzene-d5	45.8	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/06/18 4:12PM	
Surr: 2-Fluorobiphenyl	48.9	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/06/18 4:12PM	
Surr: 4-Terphenyl-d14	53.0	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/06/18 4:12PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 4:32PM	PA/VA
Surr: 2,5-Dibromotoluene	97.5	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 4:32PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 5:15AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-14A	**Matrix:**	Groundwater
Client Sample ID:	DW03A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA		µg/L		09/09/18 5:15AM	PA/VA
Acrolein	ND	5.00	10.0	NA		µg/L		09/09/18 5:15AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA		µg/L		09/09/18 5:15AM	PA/VA
Benzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Bromoform	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Bromomethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
2-Butanone	ND	5.00	10.0	NA		µg/L		09/09/18 5:15AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Chloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Chloroform	0.910	0.500	1.00	NA	J	µg/L		09/09/18 5:15AM	PA/VA
Chloromethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,2-Dichloroethane	7.40	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 5:15AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-14A	**Matrix:**	Groundwater
Client Sample ID:	DW03A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 5:15AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 5:15AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 5:15AM	PA/VA
Methyl tert-butyl ether	80.8	1.00	5.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
1,2,4-Trimethylbenzene	18.7	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
1,3,5-Trimethylbenzene	4.85	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 5:15AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Surr: 1,2-Dichloroethane-d4	101	NA	75.9-132	NA	%Rec		09/09/18 5:15AM	
Surr: 4-Bromofluorobenzene	94.2	NA	73.6-132	NA	%Rec		09/09/18 5:15AM	
Surr: Dibromofluoromethane	90.6	NA	80.1-127	NA	%Rec		09/09/18 5:15AM	
Surr: Toluene-d8	95.4	NA	72.4-119	NA	%Rec		09/09/18 5:15AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 5:15AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 5:15AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 5:15AM	PA/VA
Isopropyl ether	5.23	2.50	5.00	NA	µg/L		09/09/18 5:15AM	PA/VA
Surr: 1,2-Dichloroethane-d4	101	NA	72.3-120	NA	%Rec		09/09/18 5:15AM	
Surr: 4-Bromofluorobenzene	96.7	NA	72.5-134	NA	%Rec		09/09/18 5:15AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 12:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-14A	**Matrix:**	Groundwater
Client Sample ID:	DW03A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	96.1	NA	75.9-141	NA	%Rec		09/09/18 5:15AM	
Surr: Toluene-d8	96.9	NA	72.6-119	NA	%Rec		09/09/18 5:15AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 7:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-15B	**Matrix:**	Groundwater
Client Sample ID:	DW03B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	09/06/18 1:30PM	09/07/18 4:08PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 7:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-15A	**Matrix:**	Groundwater
Client Sample ID:	DW03B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	2.43	0.200	1.00	15.0		µg/L	09/06/18 1:30PM	09/07/18 4:02PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0186	0.00784	0.0206	0.200	J	µg/L	09/11/18 1:42PM	09/12/18 3:38PM	PA/VA
EDB	0.0124	0.00402	0.0206	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 3:38PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Acenaphthylene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Anthracene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Benzidine	ND	4.31	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Benzo(a)anthracene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Benzo(a)pyrene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Benzo(b)fluoranthene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Benzo(g,h,i)perylene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Benzo(k)fluoranthene	ND	2.58	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Bis(2-chloroethoxy)methane	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Bis(2-chloroethyl)ether	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	4.31	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
4-Bromophenyl phenyl ether	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Butyl benzyl phthalate	ND	4.31	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
4-Chloro-3-methylphenol	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2-Chloronaphthalene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2-Chlorophenol	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
4-Chlorophenyl phenyl ether	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Chrysene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
o-Cresol	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
m,p-Cresol	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Dibenzo(a,h)anthracene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Di-n-butyl phthalate	ND	4.31	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
1,2-Dichlorobenzene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
1,3-Dichlorobenzene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
1,4-Dichlorobenzene	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
3,3´-Dichlorobenzidine	ND	4.31	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2,4-Dichlorophenol	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Diethyl phthalate	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Dimethyl phthalate	ND	4.31	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2,4-Dimethylphenol	ND	1.72	8.62	NA		µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 7:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-15A	**Matrix:**	Groundwater
Client Sample ID:	DW03B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2,4-Dinitrophenol	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2,4-Dinitrotoluene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2,6-Dinitrotoluene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Di-n-octyl phthalate	ND	4.31	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
1,2-Diphenylhydrazine	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Fluoranthene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Fluorene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Hexachlorobenzene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Hexachlorobutadiene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Hexachlorocyclopentadiene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Hexachloroethane	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Isophorone	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Naphthalene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Nitrobenzene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2-Nitrophenol	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
4-Nitrophenol	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
N-Nitrosodimethylamine	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
N-Nitrosodiphenylamine	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
N-Nitrosodi-n-propylamine	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Pentachlorophenol	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Phenanthrene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Phenol	ND	4.31	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Pyrene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2,4,5-Trichlorophenol	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
2,4,6-Trichlorophenol	ND	1.72	8.62	NA	µg/L	09/05/18 4:05PM	09/10/18 5:14PM	PA/VA
Surr: 2-Fluorophenol	31.2	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 5:14PM	
Surr: Phenol-d5	20.5	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 5:14PM	
Surr: 2,4,6-Tribromophenol	52.1	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 5:14PM	
Surr: Nitrobenzene-d5	46.6	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 5:14PM	
Surr: 2-Fluorobiphenyl	47.0	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 5:14PM	
Surr: 4-Terphenyl-d14	48.5	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 5:14PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/06/18 11:22PM	PA/VA
Surr: 2,5-Dibromotoluene	90.6	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/06/18 11:22PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 5:49AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 7:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-15A	**Matrix:**	Groundwater
Client Sample ID:	DW03B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 5:49AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 5:49AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 5:49AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 5:49AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 7:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-15A	**Matrix:**	Groundwater
Client Sample ID:	DW03B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 5:49AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 5:49AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 5:49AM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 5:49AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Surr: 1,2-Dichloroethane-d4	99.4	NA	75.9-132	NA	%Rec		09/09/18 5:49AM	
Surr: 4-Bromofluorobenzene	96.6	NA	73.6-132	NA	%Rec		09/09/18 5:49AM	
Surr: Dibromofluoromethane	90.7	NA	80.1-127	NA	%Rec		09/09/18 5:49AM	
Surr: Toluene-d8	98.1	NA	72.4-119	NA	%Rec		09/09/18 5:49AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL				**Method: SW8260B**			**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 5:49AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 5:49AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 5:49AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 5:49AM	PA/VA
Surr: 1,2-Dichloroethane-d4	101	NA	72.3-120	NA	%Rec		09/09/18 5:49AM	
Surr: 4-Bromofluorobenzene	97.7	NA	72.5-134	NA	%Rec		09/09/18 5:49AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 7:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-15A	**Matrix:**	Groundwater
Client Sample ID:	DW03B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	97.7	NA	75.9-141	NA	%Rec		09/09/18 5:49AM	
Surr: Toluene-d8	98.9	NA	72.6-119	NA	%Rec		09/09/18 5:49AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 10:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-16B	**Matrix:**	Groundwater
Client Sample ID:	DW04A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	09/06/18 1:30PM	09/07/18 4:19PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 10:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-16A	**Matrix:**	Groundwater
Client Sample ID:	DW04A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	ND	0.200	1.00	15.0		µg/L	09/06/18 1:30PM	09/07/18 4:14PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	ND	0.00762	0.0201	0.200		µg/L	09/11/18 1:42PM	09/12/18 3:54PM	PA/VA
EDB	0.00602	0.00391	0.0201	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 3:54PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Acenaphthylene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Anthracene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Benzidine	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Benzo(a)anthracene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Benzo(a)pyrene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Benzo(b)fluoranthene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Benzo(g,h,i)perylene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Benzo(k)fluoranthene	ND	3.05	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Bis(2-ethylhexyl)phthalate	32.8	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Butyl benzyl phthalate	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
4-Chloro-3-methylphenol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2-Chloronaphthalene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2-Chlorophenol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Chrysene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
o-Cresol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
m,p-Cresol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Di-n-butyl phthalate	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
1,2-Dichlorobenzene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
1,3-Dichlorobenzene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
1,4-Dichlorobenzene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2,4-Dichlorophenol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Diethyl phthalate	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Dimethyl phthalate	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2,4-Dimethylphenol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 10:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-16A	**Matrix:**	Groundwater
Client Sample ID:	DW04A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2,4-Dinitrophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2,4-Dinitrotoluene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2,6-Dinitrotoluene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Di-n-octyl phthalate	ND	5.08	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
1,2-Diphenylhydrazine	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Fluoranthene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Fluorene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Hexachlorobenzene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Hexachlorobutadiene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Hexachlorocyclopentadiene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Hexachloroethane	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Isophorone	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Naphthalene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Nitrobenzene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2-Nitrophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
4-Nitrophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
N-Nitrosodimethylamine	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
N-Nitrosodiphenylamine	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Pentachlorophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Phenanthrene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Phenol	ND	5.08	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Pyrene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2,4,5-Trichlorophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
2,4,6-Trichlorophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:35PM	PA/VA
Surr: 2-Fluorophenol	38.7	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 5:35PM	
Surr: Phenol-d5	26.3	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 5:35PM	
Surr: 2,4,6-Tribromophenol	57.7	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 5:35PM	
Surr: Nitrobenzene-d5	51.1	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 5:35PM	
Surr: 2-Fluorobiphenyl	50.8	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 5:35PM	
Surr: 4-Terphenyl-d14	55.0	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 5:35PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/06/18 11:53PM	PA/VA
Surr: 2,5-Dibromotoluene	82.8	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/06/18 11:53PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 6:23AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 10:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-16A	**Matrix:**	Groundwater
Client Sample ID:	DW04A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 6:23AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 6:23AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 6:23AM	PA/VA
Benzene	3.66	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 6:23AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,2-Dichloroethane	3.43	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 10:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-16A	**Matrix:**	Groundwater
Client Sample ID:	DW04A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 6:23AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 6:23AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 6:23AM	PA/VA
Methyl tert-butyl ether	19.3	1.00	5.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 6:23AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Surr: 1,2-Dichloroethane-d4	102	NA	75.9-132	NA	%Rec		09/09/18 6:23AM	
Surr: 4-Bromofluorobenzene	90.6	NA	73.6-132	NA	%Rec		09/09/18 6:23AM	
Surr: Dibromofluoromethane	88.3	NA	80.1-127	NA	%Rec		09/09/18 6:23AM	
Surr: Toluene-d8	96.9	NA	72.4-119	NA	%Rec		09/09/18 6:23AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 6:23AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 6:23AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 6:23AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 6:23AM	PA/VA
Surr: 1,2-Dichloroethane-d4	102	NA	72.3-120	NA	%Rec		09/09/18 6:23AM	
Surr: 4-Bromofluorobenzene	94.4	NA	72.5-134	NA	%Rec		09/09/18 6:23AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 10:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-16A	**Matrix:**	Groundwater
Client Sample ID:	DW04A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	97.0	NA	75.9-141	NA	%Rec		09/09/18 6:23AM	
Surr: Toluene-d8	97.6	NA	72.6-119	NA	%Rec		09/09/18 6:23AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 11:10:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-17B	**Matrix:**	Groundwater
Client Sample ID:	DW04B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	09/06/18 1:30PM	09/07/18 4:31PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 11:10:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-17A	**Matrix:**	Groundwater
Client Sample ID:	DW04B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	7.18	0.200	1.00	15.0		µg/L	09/06/18 1:30PM	09/07/18 4:25PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0147	0.00747	0.0197	0.200	J	µg/L	09/11/18 1:42PM	09/12/18 4:10PM	PA/VA
EDB	0.0138	0.00383	0.0197	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 4:10PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Acenaphthylene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Anthracene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Benzidine	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Benzo(a)anthracene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Benzo(a)pyrene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Benzo(b)fluoranthene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Benzo(g,h,i)perylene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Benzo(k)fluoranthene	ND	3.05	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Butyl benzyl phthalate	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
4-Chloro-3-methylphenol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2-Chloronaphthalene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2-Chlorophenol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Chrysene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
o-Cresol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
m,p-Cresol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Di-n-butyl phthalate	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
1,2-Dichlorobenzene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
1,3-Dichlorobenzene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
1,4-Dichlorobenzene	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2,4-Dichlorophenol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Diethyl phthalate	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Dimethyl phthalate	ND	5.08	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2,4-Dimethylphenol	ND	2.03	10.2	NA		µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 11:10:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-17A	**Matrix:**	Groundwater
Client Sample ID:	DW04B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2,4-Dinitrophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2,4-Dinitrotoluene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2,6-Dinitrotoluene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Di-n-octyl phthalate	ND	5.08	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
1,2-Diphenylhydrazine	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Fluoranthene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Fluorene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Hexachlorobenzene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Hexachlorobutadiene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Hexachlorocyclopentadiene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Hexachloroethane	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Isophorone	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Naphthalene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Nitrobenzene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2-Nitrophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
4-Nitrophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
N-Nitrosodimethylamine	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
N-Nitrosodiphenylamine	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Pentachlorophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Phenanthrene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Phenol	ND	5.08	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Pyrene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2,4,5-Trichlorophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
2,4,6-Trichlorophenol	ND	2.03	10.2	NA	µg/L	09/05/18 4:05PM	09/10/18 5:57PM	PA/VA
Surr: 2-Fluorophenol	36.9	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 5:57PM	
Surr: Phenol-d5	25.2	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 5:57PM	
Surr: 2,4,6-Tribromophenol	55.8	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 5:57PM	
Surr: Nitrobenzene-d5	48.3	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 5:57PM	
Surr: 2-Fluorobiphenyl	50.6	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 5:57PM	
Surr: 4-Terphenyl-d14	55.0	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 5:57PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 12:24AM	PA/VA
Surr: 2,5-Dibromotoluene	81.6	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 12:24AM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 6:56AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 11:10:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-17A	**Matrix:**	Groundwater
Client Sample ID:	DW04B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 6:56AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 6:56AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 6:56AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 6:56AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:56AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 11:10:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-17A	**Matrix:**	Groundwater
Client Sample ID:	DW04B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA		µg/L		09/09/18 6:56AM	PA/VA
Iodomethane	ND	5.00	10.0	NA		µg/L		09/09/18 6:56AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA		µg/L		09/09/18 6:56AM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Naphthalene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Styrene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Toluene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA		µg/L		09/09/18 6:56AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Surr: 1,2-Dichloroethane-d4	95.7	NA	75.9-132	NA		%Rec		09/09/18 6:56AM	
Surr: 4-Bromofluorobenzene	94.6	NA	73.6-132	NA		%Rec		09/09/18 6:56AM	
Surr: Dibromofluoromethane	75.6	NA	80.1-127	NA	S	%Rec		09/09/18 6:56AM	
Surr: Toluene-d8	96.9	NA	72.4-119	NA		%Rec		09/09/18 6:56AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**					**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	
tert-Butyl alcohol	ND	100	200	NA		µg/L		09/09/18 6:56AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 6:56AM	
Ethanol	ND	100	200	NA		µg/L		09/09/18 6:56AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA		µg/L		09/09/18 6:56AM	PA/VA
Surr: 1,2-Dichloroethane-d4	94.2	NA	72.3-120	NA		%Rec		09/09/18 6:56AM	
Surr: 4-Bromofluorobenzene	97.0	NA	72.5-134	NA		%Rec		09/09/18 6:56AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 11:10:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-17A	**Matrix:**	Groundwater
Client Sample ID:	DW04B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	95.4	NA	75.9-141	NA	%Rec		09/09/18 6:56AM	
Surr: Toluene-d8	98.3	NA	72.6-119	NA	%Rec		09/09/18 6:56AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:45:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-18B	**Matrix:**	Groundwater
Client Sample ID:	DW05A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	09/06/18 1:30PM	09/07/18 4:43PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:45:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-18A	**Matrix:**	Groundwater
Client Sample ID:	DW05A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	ND	0.200	1.00	15.0		µg/L	09/06/18 1:30PM	09/07/18 4:37PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0200	0.00760	0.0200	0.200		µg/L	09/11/18 1:42PM	09/12/18 4:25PM	PA/VA
EDB	0.0170	0.00390	0.0200	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 4:25PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Acenaphthylene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Anthracene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Benzidine	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Benzo(a)anthracene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Benzo(a)pyrene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Benzo(b)fluoranthene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Benzo(g,h,i)perylene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Benzo(k)fluoranthene	ND	2.44	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Bis(2-chloroethoxy)methane	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Bis(2-chloroethyl)ether	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
4-Bromophenyl phenyl ether	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Butyl benzyl phthalate	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
4-Chloro-3-methylphenol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2-Chloronaphthalene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2-Chlorophenol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
4-Chlorophenyl phenyl ether	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Chrysene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
o-Cresol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
m,p-Cresol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Dibenzo(a,h)anthracene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Di-n-butyl phthalate	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
1,2-Dichlorobenzene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
1,3-Dichlorobenzene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
1,4-Dichlorobenzene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
3,3´-Dichlorobenzidine	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2,4-Dichlorophenol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Diethyl phthalate	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Dimethyl phthalate	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2,4-Dimethylphenol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:45:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-18A	**Matrix:**	Groundwater
Client Sample ID:	DW05A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2,4-Dinitrophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2,4-Dinitrotoluene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2,6-Dinitrotoluene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Di-n-octyl phthalate	ND	4.07	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
1,2-Diphenylhydrazine	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Fluoranthene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Fluorene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Hexachlorobenzene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Hexachlorobutadiene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Hexachlorocyclopentadiene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Hexachloroethane	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Isophorone	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Naphthalene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Nitrobenzene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2-Nitrophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
4-Nitrophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
N-Nitrosodimethylamine	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
N-Nitrosodiphenylamine	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
N-Nitrosodi-n-propylamine	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Pentachlorophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Phenanthrene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Phenol	ND	4.07	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Pyrene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2,4,5-Trichlorophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
2,4,6-Trichlorophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:19PM	PA/VA
Surr: 2-Fluorophenol	33.1	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 6:19PM	
Surr: Phenol-d5	21.8	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 6:19PM	
Surr: 2,4,6-Tribromophenol	55.2	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 6:19PM	
Surr: Nitrobenzene-d5	46.0	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 6:19PM	
Surr: 2-Fluorobiphenyl	45.3	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 6:19PM	
Surr: 4-Terphenyl-d14	55.6	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 6:19PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 12:56AM	PA/VA
Surr: 2,5-Dibromotoluene	84.3	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 12:56AM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**				**Analyst: DTC**
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 7:30AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:45:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-18A	**Matrix:**	Groundwater
Client Sample ID:	DW05A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 7:30AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 7:30AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 7:30AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 7:30AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:30AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:45:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-18A	**Matrix:**	Groundwater
Client Sample ID:	DW05A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA		µg/L		09/09/18 7:30AM	PA/VA
Iodomethane	ND	5.00	10.0	NA		µg/L		09/09/18 7:30AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA		µg/L		09/09/18 7:30AM	PA/VA
Methyl tert-butyl ether	2.85	1.00	5.00	NA	J	µg/L		09/09/18 7:30AM	PA/VA
Naphthalene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
Styrene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
Toluene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA		µg/L		09/09/18 7:30AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	PA/VA
Surr: 1,2-Dichloroethane-d4	97.2	NA	75.9-132	NA		%Rec		09/09/18 7:30AM	
Surr: 4-Bromofluorobenzene	92.7	NA	73.6-132	NA		%Rec		09/09/18 7:30AM	
Surr: Dibromofluoromethane	87.7	NA	80.1-127	NA		%Rec		09/09/18 7:30AM	
Surr: Toluene-d8	95.3	NA	72.4-119	NA		%Rec		09/09/18 7:30AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**					**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	
tert-Butyl alcohol	ND	100	200	NA		µg/L		09/09/18 7:30AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 7:30AM	
Ethanol	ND	100	200	NA		µg/L		09/09/18 7:30AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA		µg/L		09/09/18 7:30AM	PA/VA
Surr: 1,2-Dichloroethane-d4	98.7	NA	72.3-120	NA		%Rec		09/09/18 7:30AM	
Surr: 4-Bromofluorobenzene	92.7	NA	72.5-134	NA		%Rec		09/09/18 7:30AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:45:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-18A	**Matrix:**	Groundwater
Client Sample ID:	DW05A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	95.1	NA	75.9-141	NA	%Rec		09/09/18 7:30AM	
Surr: Toluene-d8	96.3	NA	72.6-119	NA	%Rec		09/09/18 7:30AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-19B	**Matrix:**	Groundwater
Client Sample ID:	DW06B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	1.64	0.200	1.00	NA	µg/L	09/06/18 1:30PM	09/07/18 4:55PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-19A	**Matrix:**	Groundwater
Client Sample ID:	DW06B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**					**Analyst: CGW**
Lead	33.8	0.200	1.00	15.0	X	µg/L	09/06/18 1:30PM	09/07/18 4:49PM	
EDB AND/OR DBCP				**Method: SW8011**					**Analyst: JH**
DBCP	0.0142	0.00773	0.0203	0.200	J	µg/L	09/11/18 1:42PM	09/12/18 4:41PM	PA/VA
EDB	0.0112	0.00397	0.0203	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 4:41PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**					**Analyst: NC**
Acenaphthene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Acenaphthylene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Anthracene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Benzidine	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Benzo(a)anthracene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Benzo(a)pyrene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Benzo(b)fluoranthene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Benzo(g,h,i)perylene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Benzo(k)fluoranthene	ND	2.44	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Bis(2-chloroethoxy)methane	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Bis(2-chloroethyl)ether	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
4-Bromophenyl phenyl ether	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Butyl benzyl phthalate	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
4-Chloro-3-methylphenol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2-Chloronaphthalene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2-Chlorophenol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
4-Chlorophenyl phenyl ether	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Chrysene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
o-Cresol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
m,p-Cresol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Dibenzo(a,h)anthracene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Di-n-butyl phthalate	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
1,2-Dichlorobenzene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
1,3-Dichlorobenzene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
1,4-Dichlorobenzene	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
3,3´-Dichlorobenzidine	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2,4-Dichlorophenol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Diethyl phthalate	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Dimethyl phthalate	ND	4.07	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2,4-Dimethylphenol	ND	1.63	8.14	NA		µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-19A	**Matrix:**	Groundwater
Client Sample ID:	DW06B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2,4-Dinitrophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2,4-Dinitrotoluene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2,6-Dinitrotoluene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Di-n-octyl phthalate	ND	4.07	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
1,2-Diphenylhydrazine	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Fluoranthene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Fluorene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Hexachlorobenzene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Hexachlorobutadiene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Hexachlorocyclopentadiene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Hexachloroethane	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Isophorone	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Naphthalene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Nitrobenzene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2-Nitrophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
4-Nitrophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
N-Nitrosodimethylamine	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
N-Nitrosodiphenylamine	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
N-Nitrosodi-n-propylamine	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Pentachlorophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Phenanthrene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Phenol	ND	4.07	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Pyrene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2,4,5-Trichlorophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
2,4,6-Trichlorophenol	ND	1.63	8.14	NA	µg/L	09/05/18 4:05PM	09/10/18 6:41PM	PA/VA
Surr: 2-Fluorophenol	39.3	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 6:41PM	
Surr: Phenol-d5	25.8	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 6:41PM	
Surr: 2,4,6-Tribromophenol	76.3	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 6:41PM	
Surr: Nitrobenzene-d5	62.7	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 6:41PM	
Surr: 2-Fluorobiphenyl	68.3	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 6:41PM	
Surr: 4-Terphenyl-d14	76.7	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 6:41PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 1:27AM	PA/VA
Surr: 2,5-Dibromotoluene	74.4	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 1:27AM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 8:03AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-19A	**Matrix:**	Groundwater
Client Sample ID:	DW06B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 8:03AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 8:03AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 8:03AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 8:03AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-19A	**Matrix:**	Groundwater
Client Sample ID:	DW06B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 8:03AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 8:03AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 8:03AM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 8:03AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Surr: 1,2-Dichloroethane-d4	95.5	NA	75.9-132	NA	%Rec		09/09/18 8:03AM	
Surr: 4-Bromofluorobenzene	90.2	NA	73.6-132	NA	%Rec		09/09/18 8:03AM	
Surr: Dibromofluoromethane	89.8	NA	80.1-127	NA	%Rec		09/09/18 8:03AM	
Surr: Toluene-d8	97.5	NA	72.4-119	NA	%Rec		09/09/18 8:03AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 8:03AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 8:03AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 8:03AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 8:03AM	PA/VA
Surr: 1,2-Dichloroethane-d4	95.6	NA	72.3-120	NA	%Rec		09/09/18 8:03AM	
Surr: 4-Bromofluorobenzene	91.2	NA	72.5-134	NA	%Rec		09/09/18 8:03AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-19A	**Matrix:**	Groundwater
Client Sample ID:	DW06B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	96.1	NA	75.9-141	NA	%Rec		09/09/18 8:03AM	
Surr: Toluene-d8	97.3	NA	72.6-119	NA	%Rec		09/09/18 8:03AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-20B	**Matrix:**	Groundwater
Client Sample ID:	DW06C	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	09/06/18 1:30PM	09/07/18 5:19PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-20A	**Matrix:**	Groundwater
Client Sample ID:	DW06C	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**					**Analyst: CGW**
Lead	80.6	0.200	1.00	15.0	X	µg/L	09/06/18 1:30PM	09/07/18 5:13PM	
EDB AND/OR DBCP				**Method: SW8011**					**Analyst: JH**
DBCP	0.0314	0.00771	0.0203	0.200		µg/L	09/11/18 1:42PM	09/12/18 4:57PM	PA/VA
EDB	0.0264	0.00396	0.0203	0.050		µg/L	09/11/18 1:42PM	09/12/18 4:57PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**					**Analyst: NC**
Acenaphthene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Acenaphthylene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Anthracene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Benzidine	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Benzo(a)anthracene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Benzo(a)pyrene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Benzo(b)fluoranthene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Benzo(g,h,i)perylene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Benzo(k)fluoranthene	ND	2.56	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Bis(2-chloroethoxy)methane	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Bis(2-chloroethyl)ether	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
4-Bromophenyl phenyl ether	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Butyl benzyl phthalate	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
4-Chloro-3-methylphenol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2-Chloronaphthalene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2-Chlorophenol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
4-Chlorophenyl phenyl ether	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Chrysene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
o-Cresol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
m,p-Cresol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Dibenzo(a,h)anthracene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Di-n-butyl phthalate	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
1,2-Dichlorobenzene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
1,3-Dichlorobenzene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
1,4-Dichlorobenzene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
3,3´-Dichlorobenzidine	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2,4-Dichlorophenol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Diethyl phthalate	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Dimethyl phthalate	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2,4-Dimethylphenol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-20A	**Matrix:**	Groundwater
Client Sample ID:	DW06C	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2,4-Dinitrophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2,4-Dinitrotoluene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2,6-Dinitrotoluene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Di-n-octyl phthalate	ND	4.26	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
1,2-Diphenylhydrazine	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Fluoranthene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Fluorene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Hexachlorobenzene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Hexachlorobutadiene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Hexachlorocyclopentadiene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Hexachloroethane	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Isophorone	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Naphthalene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Nitrobenzene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2-Nitrophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
4-Nitrophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
N-Nitrosodimethylamine	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
N-Nitrosodiphenylamine	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
N-Nitrosodi-n-propylamine	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Pentachlorophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Phenanthrene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Phenol	ND	4.26	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Pyrene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2,4,5-Trichlorophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
2,4,6-Trichlorophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/10/18 7:03PM	PA/VA
Surr: 2-Fluorophenol	42.4	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 7:03PM	
Surr: Phenol-d5	27.6	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 7:03PM	
Surr: 2,4,6-Tribromophenol	74.6	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 7:03PM	
Surr: Nitrobenzene-d5	65.1	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 7:03PM	
Surr: 2-Fluorobiphenyl	68.3	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 7:03PM	
Surr: 4-Terphenyl-d14	76.1	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 7:03PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 1:58AM	PA/VA
Surr: 2,5-Dibromotoluene	76.5	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 1:58AM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 8:37AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-20A	**Matrix:**	Groundwater
Client Sample ID:	DW06C	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 8:37AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 8:37AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 8:37AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 8:37AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:37AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-20A	**Matrix:**	Groundwater
Client Sample ID:	DW06C	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA		µg/L		09/09/18 8:37AM	PA/VA
Iodomethane	ND	5.00	10.0	NA		µg/L		09/09/18 8:37AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA		µg/L		09/09/18 8:37AM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Naphthalene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Styrene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Toluene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA		µg/L		09/09/18 8:37AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Surr: 1,2-Dichloroethane-d4	98.3	NA	75.9-132	NA		%Rec		09/09/18 8:37AM	
Surr: 4-Bromofluorobenzene	89.0	NA	73.6-132	NA		%Rec		09/09/18 8:37AM	
Surr: Dibromofluoromethane	77.7	NA	80.1-127	NA	S	%Rec		09/09/18 8:37AM	
Surr: Toluene-d8	99.3	NA	72.4-119	NA		%Rec		09/09/18 8:37AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**					**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	
tert-Butyl alcohol	ND	100	200	NA		µg/L		09/09/18 8:37AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 8:37AM	
Ethanol	ND	100	200	NA		µg/L		09/09/18 8:37AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA		µg/L		09/09/18 8:37AM	PA/VA
Surr: 1,2-Dichloroethane-d4	100	NA	72.3-120	NA		%Rec		09/09/18 8:37AM	
Surr: 4-Bromofluorobenzene	90.2	NA	72.5-134	NA		%Rec		09/09/18 8:37AM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-20A	**Matrix:**	Groundwater
Client Sample ID:	DW06C	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	90.7	NA	75.9-141	NA	%Rec		09/09/18 8:37AM	
Surr: Toluene-d8	101	NA	72.6-119	NA	%Rec		09/09/18 8:37AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-21B	**Matrix:**	Groundwater
Client Sample ID:	DW07A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	1.53	0.200	1.00	NA	µg/L	09/06/18 1:30PM	09/07/18 5:31PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-21A	**Matrix:**	Groundwater
Client Sample ID:	DW07A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	17.5	0.200	1.00	15.0	X	µg/L	09/06/18 1:30PM	09/07/18 5:25PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0138	0.00749	0.0197	0.200	J	µg/L	09/11/18 1:42PM	09/12/18 5:12PM	PA/VA
EDB	0.0108	0.00385	0.0197	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 5:12PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Acenaphthylene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Anthracene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Benzidine	ND	4.09	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Benzo(a)anthracene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Benzo(a)pyrene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Benzo(b)fluoranthene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Benzo(g,h,i)perylene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Benzo(k)fluoranthene	ND	2.46	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Bis(2-chloroethoxy)methane	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Bis(2-chloroethyl)ether	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	4.09	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
4-Bromophenyl phenyl ether	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Butyl benzyl phthalate	ND	4.09	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
4-Chloro-3-methylphenol	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2-Chloronaphthalene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2-Chlorophenol	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
4-Chlorophenyl phenyl ether	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Chrysene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
o-Cresol	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
m,p-Cresol	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Dibenzo(a,h)anthracene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Di-n-butyl phthalate	ND	4.09	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
1,2-Dichlorobenzene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
1,3-Dichlorobenzene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
1,4-Dichlorobenzene	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
3,3´-Dichlorobenzidine	ND	4.09	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2,4-Dichlorophenol	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Diethyl phthalate	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Dimethyl phthalate	ND	4.09	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2,4-Dimethylphenol	ND	1.64	8.19	NA		µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-21A	**Matrix:**	Groundwater
Client Sample ID:	DW07A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2,4-Dinitrophenol	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2,4-Dinitrotoluene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2,6-Dinitrotoluene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Di-n-octyl phthalate	ND	4.09	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
1,2-Diphenylhydrazine	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Fluoranthene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Fluorene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Hexachlorobenzene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Hexachlorobutadiene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Hexachlorocyclopentadiene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Hexachloroethane	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Isophorone	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Naphthalene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Nitrobenzene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2-Nitrophenol	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
4-Nitrophenol	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
N-Nitrosodimethylamine	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
N-Nitrosodiphenylamine	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
N-Nitrosodi-n-propylamine	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Pentachlorophenol	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Phenanthrene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Phenol	ND	4.09	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Pyrene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2,4,5-Trichlorophenol	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
2,4,6-Trichlorophenol	ND	1.64	8.19	NA	µg/L	09/05/18 4:05PM	09/10/18 7:25PM	PA/VA
Surr: 2-Fluorophenol	38.3	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 7:25PM	
Surr: Phenol-d5	25.9	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 7:25PM	
Surr: 2,4,6-Tribromophenol	79.1	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 7:25PM	
Surr: Nitrobenzene-d5	63.8	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 7:25PM	
Surr: 2-Fluorobiphenyl	68.5	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 7:25PM	
Surr: 4-Terphenyl-d14	83.0	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 7:25PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 2:30AM	PA/VA
Surr: 2,5-Dibromotoluene	78.3	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 2:30AM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 9:11AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-21A	**Matrix:**	Groundwater
Client Sample ID:	DW07A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 9:11AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 9:11AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 9:11AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 9:11AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-21A	**Matrix:**	Groundwater
Client Sample ID:	DW07A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 9:11AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 9:11AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 9:11AM	PA/VA
Methyl tert-butyl ether	5.55	1.00	5.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 9:11AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Surr: 1,2-Dichloroethane-d4	95.9	NA	75.9-132	NA	%Rec		09/09/18 9:11AM	
Surr: 4-Bromofluorobenzene	91.4	NA	73.6-132	NA	%Rec		09/09/18 9:11AM	
Surr: Dibromofluoromethane	87.4	NA	80.1-127	NA	%Rec		09/09/18 9:11AM	
Surr: Toluene-d8	96.2	NA	72.4-119	NA	%Rec		09/09/18 9:11AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 9:11AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 9:11AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 9:11AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 9:11AM	PA/VA
Surr: 1,2-Dichloroethane-d4	97.4	NA	72.3-120	NA	%Rec		09/09/18 9:11AM	
Surr: 4-Bromofluorobenzene	88.8	NA	72.5-134	NA	%Rec		09/09/18 9:11AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-21A	**Matrix:**	Groundwater
Client Sample ID:	DW07A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	95.7	NA	75.9-141	NA	%Rec		09/09/18 9:11AM	
Surr: Toluene-d8	97.1	NA	72.6-119	NA	%Rec		09/09/18 9:11AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:15:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-22B	**Matrix:**	Groundwater
Client Sample ID:	DW08A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	1.06	0.200	1.00	NA	µg/L	09/06/18 2:00PM	09/07/18 6:31PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:15:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-22A	**Matrix:**	Groundwater
Client Sample ID:	DW08A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	3.08	0.200	1.00	15.0		µg/L	09/06/18 2:00PM	09/07/18 6:01PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0135	0.00792	0.0208	0.200	J	µg/L	09/11/18 1:42PM	09/12/18 5:28PM	PA/VA
EDB	0.00729	0.00406	0.0208	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 5:28PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Acenaphthylene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Anthracene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Benzidine	ND	4.06	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Benzo(a)anthracene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Benzo(a)pyrene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Benzo(b)fluoranthene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Benzo(g,h,i)perylene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Benzo(k)fluoranthene	ND	2.44	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Bis(2-chloroethoxy)methane	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Bis(2-chloroethyl)ether	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	4.06	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
4-Bromophenyl phenyl ether	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Butyl benzyl phthalate	ND	4.06	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
4-Chloro-3-methylphenol	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2-Chloronaphthalene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2-Chlorophenol	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
4-Chlorophenyl phenyl ether	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Chrysene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
o-Cresol	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
m,p-Cresol	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Dibenzo(a,h)anthracene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Di-n-butyl phthalate	ND	4.06	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
1,2-Dichlorobenzene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
1,3-Dichlorobenzene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
1,4-Dichlorobenzene	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
3,3´-Dichlorobenzidine	ND	4.06	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2,4-Dichlorophenol	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Diethyl phthalate	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Dimethyl phthalate	ND	4.06	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2,4-Dimethylphenol	ND	1.62	8.12	NA		µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:15:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-22A	**Matrix:**	Groundwater
Client Sample ID:	DW08A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2,4-Dinitrophenol	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2,4-Dinitrotoluene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2,6-Dinitrotoluene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Di-n-octyl phthalate	ND	4.06	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
1,2-Diphenylhydrazine	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Fluoranthene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Fluorene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Hexachlorobenzene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Hexachlorobutadiene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Hexachlorocyclopentadiene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Hexachloroethane	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Isophorone	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Naphthalene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Nitrobenzene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2-Nitrophenol	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
4-Nitrophenol	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
N-Nitrosodimethylamine	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
N-Nitrosodiphenylamine	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
N-Nitrosodi-n-propylamine	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Pentachlorophenol	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Phenanthrene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Phenol	ND	4.06	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Pyrene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2,4,5-Trichlorophenol	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
2,4,6-Trichlorophenol	ND	1.62	8.12	NA	µg/L	09/05/18 4:05PM	09/10/18 7:47PM	PA/VA
Surr: 2-Fluorophenol	37.5	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 7:47PM	
Surr: Phenol-d5	24.8	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 7:47PM	
Surr: 2,4,6-Tribromophenol	68.0	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 7:47PM	
Surr: Nitrobenzene-d5	56.6	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 7:47PM	
Surr: 2-Fluorobiphenyl	59.6	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 7:47PM	
Surr: 4-Terphenyl-d14	74.6	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 7:47PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 3:01AM	PA/VA
Surr: 2,5-Dibromotoluene	80.5	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 3:01AM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 9:44AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:15:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-22A	**Matrix:**	Groundwater
Client Sample ID:	DW08A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 9:44AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 9:44AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 9:44AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 9:44AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:15:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-22A	**Matrix:**	Groundwater
Client Sample ID:	DW08A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 9:44AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 9:44AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 9:44AM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 9:44AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Surr: 1,2-Dichloroethane-d4	101	NA	75.9-132	NA	%Rec		09/09/18 9:44AM	
Surr: 4-Bromofluorobenzene	91.9	NA	73.6-132	NA	%Rec		09/09/18 9:44AM	
Surr: Dibromofluoromethane	92.1	NA	80.1-127	NA	%Rec		09/09/18 9:44AM	
Surr: Toluene-d8	96.4	NA	72.4-119	NA	%Rec		09/09/18 9:44AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 9:44AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 9:44AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 9:44AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 9:44AM	PA/VA
Surr: 1,2-Dichloroethane-d4	99.7	NA	72.3-120	NA	%Rec		09/09/18 9:44AM	
Surr: 4-Bromofluorobenzene	90.9	NA	72.5-134	NA	%Rec		09/09/18 9:44AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:15:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-22A	**Matrix:**	Groundwater
Client Sample ID:	DW08A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	93.1	NA	75.9-141	NA	%Rec		09/09/18 9:44AM	
Surr: Toluene-d8	97.4	NA	72.6-119	NA	%Rec		09/09/18 9:44AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-23B	**Matrix:**	Groundwater
Client Sample ID:	DW08B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	2.39	0.200	1.00	NA	µg/L	09/06/18 2:00PM	09/07/18 6:42PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-23A	**Matrix:**	Groundwater
Client Sample ID:	DW08B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	5.90	0.200	1.00	15.0		µg/L	09/06/18 2:00PM	09/07/18 6:37PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0176	0.00787	0.0207	0.200	J	µg/L	09/11/18 1:42PM	09/12/18 5:43PM	PA/VA
EDB	0.0124	0.00404	0.0207	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 5:43PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Acenaphthylene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Anthracene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Benzidine	ND	5.14	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Benzo(a)anthracene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Benzo(a)pyrene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Benzo(b)fluoranthene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Benzo(g,h,i)perylene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Benzo(k)fluoranthene	ND	3.09	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.14	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Butyl benzyl phthalate	ND	5.14	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
4-Chloro-3-methylphenol	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2-Chloronaphthalene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2-Chlorophenol	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Chrysene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
o-Cresol	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
m,p-Cresol	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Di-n-butyl phthalate	ND	5.14	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
1,2-Dichlorobenzene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
1,3-Dichlorobenzene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
1,4-Dichlorobenzene	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.14	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2,4-Dichlorophenol	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Diethyl phthalate	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Dimethyl phthalate	ND	5.14	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2,4-Dimethylphenol	ND	2.06	10.3	NA		µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-23A	**Matrix:**	Groundwater
Client Sample ID:	DW08B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2,4-Dinitrophenol	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2,4-Dinitrotoluene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2,6-Dinitrotoluene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Di-n-octyl phthalate	ND	5.14	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
1,2-Diphenylhydrazine	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Fluoranthene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Fluorene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Hexachlorobenzene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Hexachlorobutadiene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Hexachlorocyclopentadiene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Hexachloroethane	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Isophorone	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Naphthalene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Nitrobenzene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2-Nitrophenol	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
4-Nitrophenol	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
N-Nitrosodimethylamine	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
N-Nitrosodiphenylamine	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Pentachlorophenol	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Phenanthrene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Phenol	ND	5.14	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Pyrene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2,4,5-Trichlorophenol	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
2,4,6-Trichlorophenol	ND	2.06	10.3	NA	µg/L	09/05/18 4:05PM	09/10/18 8:09PM	PA/VA
Surr: 2-Fluorophenol	44.0	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 8:09PM	
Surr: Phenol-d5	31.0	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 8:09PM	
Surr: 2,4,6-Tribromophenol	69.3	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 8:09PM	
Surr: Nitrobenzene-d5	58.2	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 8:09PM	
Surr: 2-Fluorobiphenyl	62.4	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 8:09PM	
Surr: 4-Terphenyl-d14	81.2	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 8:09PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 3:32AM	PA/VA
Surr: 2,5-Dibromotoluene	83.8	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 3:32AM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 10:18AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-23A	**Matrix:**	Groundwater
Client Sample ID:	DW08B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 10:18AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 10:18AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 10:18AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 10:18AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-23A	**Matrix:**	Groundwater
Client Sample ID:	DW08B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 10:18AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 10:18AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 10:18AM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 10:18AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Surr: 1,2-Dichloroethane-d4	95.6	NA	75.9-132	NA	%Rec		09/09/18 10:18AM	
Surr: 4-Bromofluorobenzene	91.8	NA	73.6-132	NA	%Rec		09/09/18 10:18AM	
Surr: Dibromofluoromethane	80.5	NA	80.1-127	NA	%Rec		09/09/18 10:18AM	
Surr: Toluene-d8	96.3	NA	72.4-119	NA	%Rec		09/09/18 10:18AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 10:18AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 10:18AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 10:18AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 10:18AM	PA/VA
Surr: 1,2-Dichloroethane-d4	96.9	NA	72.3-120	NA	%Rec		09/09/18 10:18AM	
Surr: 4-Bromofluorobenzene	90.6	NA	72.5-134	NA	%Rec		09/09/18 10:18AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 9:30:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-23A	**Matrix:**	Groundwater
Client Sample ID:	DW08B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	94.1	NA	75.9-141	NA	%Rec		09/09/18 10:18AM	
Surr: Toluene-d8	96.8	NA	72.6-119	NA	%Rec		09/09/18 10:18AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:20:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-24B	**Matrix:**	Groundwater
Client Sample ID:	DW09A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**					**Analyst: CGW**
Lead	0.243	0.200	1.00	NA	J	µg/L	09/06/18 2:00PM	09/07/18 6:54PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:20:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-24A	**Matrix:**	Groundwater
Client Sample ID:	DW09A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	0.402	0.200	1.00	15.0	J	µg/L	09/06/18 2:00PM	09/07/18 6:48PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0225	0.00776	0.0204	0.200		µg/L	09/11/18 1:42PM	09/12/18 5:59PM	PA/VA
EDB	0.0123	0.00398	0.0204	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 5:59PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Acenaphthylene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Anthracene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Benzidine	ND	5.21	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Benzo(a)anthracene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Benzo(a)pyrene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Benzo(b)fluoranthene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Benzo(g,h,i)perylene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Benzo(k)fluoranthene	ND	3.13	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.21	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Butyl benzyl phthalate	ND	5.21	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
4-Chloro-3-methylphenol	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2-Chloronaphthalene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2-Chlorophenol	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Chrysene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
o-Cresol	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
m,p-Cresol	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Di-n-butyl phthalate	ND	5.21	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
1,2-Dichlorobenzene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
1,3-Dichlorobenzene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
1,4-Dichlorobenzene	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.21	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2,4-Dichlorophenol	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Diethyl phthalate	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Dimethyl phthalate	ND	5.21	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2,4-Dimethylphenol	ND	2.08	10.4	NA		µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:20:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-24A	**Matrix:**	Groundwater
Client Sample ID:	DW09A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2,4-Dinitrophenol	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2,4-Dinitrotoluene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2,6-Dinitrotoluene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Di-n-octyl phthalate	ND	5.21	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
1,2-Diphenylhydrazine	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Fluoranthene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Fluorene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Hexachlorobenzene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Hexachlorobutadiene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Hexachlorocyclopentadiene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Hexachloroethane	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Isophorone	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Naphthalene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Nitrobenzene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2-Nitrophenol	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
4-Nitrophenol	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
N-Nitrosodimethylamine	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
N-Nitrosodiphenylamine	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Pentachlorophenol	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Phenanthrene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Phenol	ND	5.21	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Pyrene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2,4,5-Trichlorophenol	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
2,4,6-Trichlorophenol	ND	2.08	10.4	NA	µg/L	09/05/18 4:05PM	09/10/18 8:31PM	PA/VA
Surr: 2-Fluorophenol	44.5	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/10/18 8:31PM	
Surr: Phenol-d5	31.6	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/10/18 8:31PM	
Surr: 2,4,6-Tribromophenol	75.3	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/10/18 8:31PM	
Surr: Nitrobenzene-d5	61.5	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/10/18 8:31PM	
Surr: 2-Fluorobiphenyl	64.5	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/10/18 8:31PM	
Surr: 4-Terphenyl-d14	85.0	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/10/18 8:31PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 4:04AM	PA/VA
Surr: 2,5-Dibromotoluene	73.8	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 4:04AM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 10:52AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:20:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-24A	**Matrix:**	Groundwater
Client Sample ID:	DW09A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 10:52AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 10:52AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 10:52AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 10:52AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:20:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-24A	**Matrix:**	Groundwater
Client Sample ID:	DW09A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 10:52AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 10:52AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 10:52AM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 10:52AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Surr: 1,2-Dichloroethane-d4	92.9	NA	75.9-132	NA	%Rec		09/09/18 10:52AM	
Surr: 4-Bromofluorobenzene	95.4	NA	73.6-132	NA	%Rec		09/09/18 10:52AM	
Surr: Dibromofluoromethane	89.6	NA	80.1-127	NA	%Rec		09/09/18 10:52AM	
Surr: Toluene-d8	96.8	NA	72.4-119	NA	%Rec		09/09/18 10:52AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 10:52AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 10:52AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 10:52AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 10:52AM	PA/VA
Surr: 1,2-Dichloroethane-d4	97.3	NA	72.3-120	NA	%Rec		09/09/18 10:52AM	
Surr: 4-Bromofluorobenzene	93.8	NA	72.5-134	NA	%Rec		09/09/18 10:52AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:20:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-24A	**Matrix:**	Groundwater
Client Sample ID:	DW09A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	98.4	NA	75.9-141	NA	%Rec		09/09/18 10:52AM	
Surr: Toluene-d8	98.2	NA	72.6-119	NA	%Rec		09/09/18 10:52AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:40:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-25B	**Matrix:**	Groundwater
Client Sample ID:	DW09B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	09/06/18 2:00PM	09/07/18 7:06PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:40:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-25A	**Matrix:**	Groundwater
Client Sample ID:	DW09B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	0.282	0.200	1.00	15.0	J	µg/L	09/06/18 2:00PM	09/07/18 7:00PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0201	0.00763	0.0201	0.200	J	µg/L	09/11/18 1:42PM	09/12/18 6:15PM	PA/VA
EDB	0.0191	0.00392	0.0201	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 6:15PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Acenaphthylene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Anthracene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Benzidine	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Benzo(a)anthracene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Benzo(a)pyrene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Benzo(b)fluoranthene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Benzo(g,h,i)perylene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Benzo(k)fluoranthene	ND	3.06	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Butyl benzyl phthalate	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
4-Chloro-3-methylphenol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2-Chloronaphthalene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2-Chlorophenol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Chrysene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
o-Cresol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
m,p-Cresol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Di-n-butyl phthalate	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
1,2-Dichlorobenzene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
1,3-Dichlorobenzene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
1,4-Dichlorobenzene	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2,4-Dichlorophenol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Diethyl phthalate	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Dimethyl phthalate	ND	5.10	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2,4-Dimethylphenol	ND	2.04	10.2	NA		µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:40:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-25A	**Matrix:**	Groundwater
Client Sample ID:	DW09B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2,4-Dinitrophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2,4-Dinitrotoluene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2,6-Dinitrotoluene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Di-n-octyl phthalate	ND	5.10	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
1,2-Diphenylhydrazine	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Fluoranthene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Fluorene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Hexachlorobenzene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Hexachlorobutadiene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Hexachlorocyclopentadiene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Hexachloroethane	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Isophorone	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Naphthalene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Nitrobenzene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2-Nitrophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
4-Nitrophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
N-Nitrosodimethylamine	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
N-Nitrosodiphenylamine	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Pentachlorophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Phenanthrene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Phenol	ND	5.10	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Pyrene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2,4,5-Trichlorophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
2,4,6-Trichlorophenol	ND	2.04	10.2	NA	µg/L	09/05/18 4:05PM	09/12/18 7:47PM	PA/VA
Surr: 2-Fluorophenol	38.2	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/12/18 7:47PM	
Surr: Phenol-d5	25.8	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/12/18 7:47PM	
Surr: 2,4,6-Tribromophenol	57.7	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/12/18 7:47PM	
Surr: Nitrobenzene-d5	55.6	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/12/18 7:47PM	
Surr: 2-Fluorobiphenyl	65.4	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/12/18 7:47PM	
Surr: 4-Terphenyl-d14	81.6	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/12/18 7:47PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 1:54PM	PA/VA
Surr: 2,5-Dibromotoluene	107	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 1:54PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 11:25AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:40:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-25A	**Matrix:**	Groundwater
Client Sample ID:	DW09B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 11:25AM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 11:25AM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 11:25AM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 11:25AM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:40:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-25A	**Matrix:**	Groundwater
Client Sample ID:	DW09B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 11:25AM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 11:25AM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 11:25AM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 11:25AM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Surr: 1,2-Dichloroethane-d4	97.3	NA	75.9-132	NA	%Rec		09/09/18 11:25AM	
Surr: 4-Bromofluorobenzene	89.7	NA	73.6-132	NA	%Rec		09/09/18 11:25AM	
Surr: Dibromofluoromethane	85.6	NA	80.1-127	NA	%Rec		09/09/18 11:25AM	
Surr: Toluene-d8	97.1	NA	72.4-119	NA	%Rec		09/09/18 11:25AM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 11:25AM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 11:25AM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 11:25AM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 11:25AM	PA/VA
Surr: 1,2-Dichloroethane-d4	100	NA	72.3-120	NA	%Rec		09/09/18 11:25AM	
Surr: 4-Bromofluorobenzene	94.0	NA	72.5-134	NA	%Rec		09/09/18 11:25AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:40:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-25A	**Matrix:**	Groundwater
Client Sample ID:	DW09B	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	94.4	NA	75.9-141	NA	%Rec		09/09/18 11:25AM	
Surr: Toluene-d8	97.9	NA	72.6-119	NA	%Rec		09/09/18 11:25AM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-26B	**Matrix:**	Groundwater
Client Sample ID:	DW10A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**					**Analyst: CGW**
Lead	0.606	0.200	1.00	NA	J	µg/L	09/06/18 2:00PM	09/07/18 7:17PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-26A	**Matrix:**	Groundwater
Client Sample ID:	DW10A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	4.31	0.200	1.00	15.0		µg/L	09/06/18 2:00PM	09/07/18 7:11PM	
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0163	0.00774	0.0204	0.200	J	µg/L	09/11/18 1:42PM	09/12/18 6:30PM	PA/VA
EDB	0.0132	0.00397	0.0204	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 6:30PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Acenaphthylene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Anthracene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Benzidine	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Benzo(a)anthracene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Benzo(a)pyrene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Benzo(b)fluoranthene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Benzo(g,h,i)perylene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Benzo(k)fluoranthene	ND	2.56	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Bis(2-chloroethoxy)methane	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Bis(2-chloroethyl)ether	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
4-Bromophenyl phenyl ether	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Butyl benzyl phthalate	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
4-Chloro-3-methylphenol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2-Chloronaphthalene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2-Chlorophenol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
4-Chlorophenyl phenyl ether	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Chrysene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
o-Cresol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
m,p-Cresol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Dibenzo(a,h)anthracene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Di-n-butyl phthalate	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
1,2-Dichlorobenzene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
1,3-Dichlorobenzene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
1,4-Dichlorobenzene	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
3,3´-Dichlorobenzidine	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2,4-Dichlorophenol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Diethyl phthalate	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Dimethyl phthalate	ND	4.26	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2,4-Dimethylphenol	ND	1.71	8.53	NA		µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-26A	**Matrix:**	Groundwater
Client Sample ID:	DW10A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2,4-Dinitrophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2,4-Dinitrotoluene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2,6-Dinitrotoluene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Di-n-octyl phthalate	ND	4.26	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
1,2-Diphenylhydrazine	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Fluoranthene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Fluorene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Hexachlorobenzene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Hexachlorobutadiene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Hexachlorocyclopentadiene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Hexachloroethane	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Isophorone	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Naphthalene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Nitrobenzene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2-Nitrophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
4-Nitrophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
N-Nitrosodimethylamine	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
N-Nitrosodiphenylamine	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
N-Nitrosodi-n-propylamine	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Pentachlorophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Phenanthrene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Phenol	ND	4.26	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Pyrene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2,4,5-Trichlorophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
2,4,6-Trichlorophenol	ND	1.71	8.53	NA	µg/L	09/05/18 4:05PM	09/12/18 8:09PM	PA/VA
Surr: 2-Fluorophenol	32.3	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/12/18 8:09PM	
Surr: Phenol-d5	20.7	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/12/18 8:09PM	
Surr: 2,4,6-Tribromophenol	47.3	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/12/18 8:09PM	
Surr: Nitrobenzene-d5	50.3	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/12/18 8:09PM	
Surr: 2-Fluorobiphenyl	56.0	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/12/18 8:09PM	
Surr: 4-Terphenyl-d14	81.6	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/12/18 8:09PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 2:26PM	PA/VA
Surr: 2,5-Dibromotoluene	105	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 2:26PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 6:43PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-26A	**Matrix:**	Groundwater
Client Sample ID:	DW10A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 6:43PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 6:43PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 6:43PM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 6:43PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-26A	**Matrix:**	Groundwater
Client Sample ID:	DW10A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 6:43PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 6:43PM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 6:43PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 6:43PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Surr: 1,2-Dichloroethane-d4	101	NA	75.9-132	NA	%Rec		09/09/18 6:43PM	
Surr: 4-Bromofluorobenzene	91.1	NA	73.6-132	NA	%Rec		09/09/18 6:43PM	
Surr: Dibromofluoromethane	83.0	NA	80.1-127	NA	%Rec		09/09/18 6:43PM	
Surr: Toluene-d8	97.6	NA	72.4-119	NA	%Rec		09/09/18 6:43PM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 6:43PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 6:43PM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 6:43PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 6:43PM	PA/VA
Surr: 1,2-Dichloroethane-d4	101	NA	72.3-120	NA	%Rec		09/09/18 6:43PM	
Surr: 4-Bromofluorobenzene	91.1	NA	72.5-134	NA	%Rec		09/09/18 6:43PM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 3:30:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-26A	**Matrix:**	Groundwater
Client Sample ID:	DW10A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	83.0	NA	75.9-141	NA	%Rec		09/09/18 6:43PM	
Surr: Toluene-d8	97.6	NA	72.6-119	NA	%Rec		09/09/18 6:43PM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-27B	**Matrix:**	Groundwater
Client Sample ID:	DW11A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	09/06/18 2:00PM	09/07/18 7:40PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-27A	**Matrix:**	Groundwater
Client Sample ID:	DW11A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**					**Analyst: CGW**
Lead	1.39	0.200	1.00	15.0		µg/L	09/06/18 2:00PM	09/07/18 7:34PM	
EDB AND/OR DBCP				**Method: SW8011**					**Analyst: JH**
DBCP	0.0232	0.00766	0.0201	0.200		µg/L	09/11/18 1:42PM	09/12/18 6:46PM	PA/VA
EDB	0.0151	0.00393	0.0201	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 6:46PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**					**Analyst: NC**
Acenaphthene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Acenaphthylene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Anthracene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Benzidine	ND	5.30	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Benzo(a)anthracene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Benzo(a)pyrene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Benzo(b)fluoranthene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Benzo(g,h,i)perylene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Benzo(k)fluoranthene	ND	3.18	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Bis(2-chloroethyl)ether	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.30	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
4-Bromophenyl phenyl ether	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Butyl benzyl phthalate	ND	5.30	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
4-Chloro-3-methylphenol	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2-Chloronaphthalene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2-Chlorophenol	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Chrysene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
o-Cresol	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
m,p-Cresol	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Dibenzo(a,h)anthracene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Di-n-butyl phthalate	ND	5.30	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
1,2-Dichlorobenzene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
1,3-Dichlorobenzene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
1,4-Dichlorobenzene	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
3,3´-Dichlorobenzidine	ND	5.30	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2,4-Dichlorophenol	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Diethyl phthalate	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Dimethyl phthalate	ND	5.30	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2,4-Dimethylphenol	ND	2.12	10.6	NA		µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-27A	**Matrix:**	Groundwater
Client Sample ID:	DW11A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2,4-Dinitrophenol	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2,4-Dinitrotoluene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2,6-Dinitrotoluene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Di-n-octyl phthalate	ND	5.30	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
1,2-Diphenylhydrazine	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Fluoranthene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Fluorene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Hexachlorobenzene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Hexachlorobutadiene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Hexachlorocyclopentadiene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Hexachloroethane	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Isophorone	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Naphthalene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Nitrobenzene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2-Nitrophenol	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
4-Nitrophenol	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
N-Nitrosodimethylamine	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
N-Nitrosodiphenylamine	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Pentachlorophenol	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Phenanthrene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Phenol	ND	5.30	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Pyrene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
1,2,4-Trichlorobenzene	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2,4,5-Trichlorophenol	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
2,4,6-Trichlorophenol	ND	2.12	10.6	NA	µg/L	09/05/18 4:05PM	09/14/18 11:54AM	PA/VA
Surr: 2-Fluorophenol	37.3	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/14/18 11:54AM	
Surr: Phenol-d5	25.1	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/14/18 11:54AM	
Surr: 2,4,6-Tribromophenol	49.7	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/14/18 11:54AM	
Surr: Nitrobenzene-d5	50.5	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/14/18 11:54AM	
Surr: 2-Fluorobiphenyl	58.7	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/14/18 11:54AM	
Surr: 4-Terphenyl-d14	72.5	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/14/18 11:54AM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/07/18 2:57PM	PA/VA
Surr: 2,5-Dibromotoluene	95.8	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/07/18 2:57PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 7:17PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-27A	**Matrix:**	Groundwater
Client Sample ID:	DW11A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 7:17PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 7:17PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 7:17PM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 7:17PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-27A	**Matrix:**	Groundwater
Client Sample ID:	DW11A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 7:17PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 7:17PM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 7:17PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 7:17PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Surr: 1,2-Dichloroethane-d4	101	NA	75.9-132	NA	%Rec		09/09/18 7:17PM	
Surr: 4-Bromofluorobenzene	95.4	NA	73.6-132	NA	%Rec		09/09/18 7:17PM	
Surr: Dibromofluoromethane	88.5	NA	80.1-127	NA	%Rec		09/09/18 7:17PM	
Surr: Toluene-d8	95.5	NA	72.4-119	NA	%Rec		09/09/18 7:17PM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 7:17PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 7:17PM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 7:17PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 7:17PM	PA/VA
Surr: 1,2-Dichloroethane-d4	101	NA	72.3-120	NA	%Rec		09/09/18 7:17PM	
Surr: 4-Bromofluorobenzene	95.4	NA	72.5-134	NA	%Rec		09/09/18 7:17PM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/30/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-27A	**Matrix:**	Groundwater
Client Sample ID:	DW11A	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	88.5	NA	75.9-141	NA	%Rec		09/09/18 7:17PM	
Surr: Toluene-d8	95.5	NA	72.6-119	NA	%Rec		09/09/18 7:17PM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-28A	**Matrix:**	Groundwater
Client Sample ID:	POND01	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**	
DBCP	0.0206	0.00784	0.0206	0.200		µg/L	09/11/18 1:42PM	09/12/18 7:01PM	PA/VA
EDB	0.0124	0.00402	0.0206	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 7:01PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**	
Acenaphthene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Acenaphthylene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Anthracene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Benzidine	ND	4.18	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Benzo(a)anthracene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Benzo(a)pyrene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Benzo(b)fluoranthene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Benzo(g,h,i)perylene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Benzo(k)fluoranthene	ND	2.51	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Bis(2-chloroethoxy)methane	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Bis(2-chloroethyl)ether	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	4.18	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
4-Bromophenyl phenyl ether	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Butyl benzyl phthalate	ND	4.18	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
4-Chloro-3-methylphenol	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
2-Chloronaphthalene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
2-Chlorophenol	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
4-Chlorophenyl phenyl ether	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Chrysene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
o-Cresol	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
m,p-Cresol	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Dibenzo(a,h)anthracene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Di-n-butyl phthalate	ND	4.18	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
1,2-Dichlorobenzene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
1,3-Dichlorobenzene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
1,4-Dichlorobenzene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
3,3´-Dichlorobenzidine	ND	4.18	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
2,4-Dichlorophenol	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Diethyl phthalate	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Dimethyl phthalate	ND	4.18	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
2,4-Dimethylphenol	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
4,6-Dinitro-2-methylphenol	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
2,4-Dinitrophenol	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
2,4-Dinitrotoluene	ND	1.67	8.36	NA		µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-28A	**Matrix:**	Groundwater
Client Sample ID:	POND01	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
2,6-Dinitrotoluene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Di-n-octyl phthalate	ND	4.18	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
1,2-Diphenylhydrazine	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Fluoranthene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Fluorene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Hexachlorobenzene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Hexachlorobutadiene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Hexachlorocyclopentadiene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Hexachloroethane	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Isophorone	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Naphthalene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Nitrobenzene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
2-Nitrophenol	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
4-Nitrophenol	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
N-Nitrosodimethylamine	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
N-Nitrosodiphenylamine	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
N-Nitrosodi-n-propylamine	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Pentachlorophenol	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Phenanthrene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Phenol	ND	4.18	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Pyrene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
2,4,5-Trichlorophenol	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
2,4,6-Trichlorophenol	ND	1.67	8.36	NA	µg/L	09/05/18 4:05PM	09/14/18 12:16PM	PA/VA
Surr: 2-Fluorophenol	31.5	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/14/18 12:16PM	
Surr: Phenol-d5	21.1	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/14/18 12:16PM	
Surr: 2,4,6-Tribromophenol	55.2	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/14/18 12:16PM	
Surr: Nitrobenzene-d5	56.1	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/14/18 12:16PM	
Surr: 2-Fluorobiphenyl	64.3	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/14/18 12:16PM	
Surr: 4-Terphenyl-d14	78.3	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/14/18 12:16PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: JM**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/06/18 4:02PM	PA/VA
Surr: 2,5-Dibromotoluene	103	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/06/18 4:02PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 7:50PM	PA/VA
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 7:50PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 7:50PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 7:50PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-28A	**Matrix:**	Groundwater
Client Sample ID:	POND01	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 7:50PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 7:50PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 7:50PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 7:50PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-28A	**Matrix:**	Groundwater
Client Sample ID:	POND01	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
Isopropylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA		µg/L		09/09/18 7:50PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Naphthalene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Styrene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Toluene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA		µg/L		09/09/18 7:50PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Surr: 1,2-Dichloroethane-d4	89.1	NA	75.9-132	NA		%Rec		09/09/18 7:50PM	
Surr: 4-Bromofluorobenzene	92.4	NA	73.6-132	NA		%Rec		09/09/18 7:50PM	
Surr: Dibromofluoromethane	78.7	NA	80.1-127	NA	S	%Rec		09/09/18 7:50PM	
Surr: Toluene-d8	97.0	NA	72.4-119	NA		%Rec		09/09/18 7:50PM	

VOLATILE ORGANIC COMPOUNDS-ADDITIONAL — **Method: SW8260B** — **Analyst: DTC**

tert-Amyl alcohol	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	
tert-Butyl alcohol	ND	100	200	NA		µg/L		09/09/18 7:50PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 7:50PM	
Ethanol	ND	100	200	NA		µg/L		09/09/18 7:50PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA		µg/L		09/09/18 7:50PM	PA/VA
Surr: 1,2-Dichloroethane-d4	89.1	NA	72.3-120	NA		%Rec		09/09/18 7:50PM	
Surr: 4-Bromofluorobenzene	92.4	NA	72.5-134	NA		%Rec		09/09/18 7:50PM	
Surr: Dibromofluoromethane	78.7	NA	75.9-141	NA		%Rec		09/09/18 7:50PM	
Surr: Toluene-d8	97.0	NA	72.6-119	NA		%Rec		09/09/18 7:50PM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-29A	**Matrix:**	Groundwater
Client Sample ID:	ST01	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
EDB AND/OR DBCP				**Method: SW8011**					**Analyst: JH**
DBCP	0.0182	0.00769	0.0202	0.200	J	µg/L	09/11/18 1:42PM	09/12/18 7:17PM	PA/VA
EDB	0.0111	0.00395	0.0202	0.050	J	µg/L	09/11/18 1:42PM	09/12/18 7:17PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**					**Analyst: NC**
Acenaphthene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Acenaphthylene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Anthracene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Benzidine	ND	4.20	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Benzo(a)anthracene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Benzo(a)pyrene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Benzo(b)fluoranthene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Benzo(g,h,i)perylene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Benzo(k)fluoranthene	ND	2.52	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Bis(2-chloroethoxy)methane	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Bis(2-chloroethyl)ether	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	4.20	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
4-Bromophenyl phenyl ether	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Butyl benzyl phthalate	ND	4.20	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
4-Chloro-3-methylphenol	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
2-Chloronaphthalene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
2-Chlorophenol	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
4-Chlorophenyl phenyl ether	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Chrysene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
o-Cresol	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
m,p-Cresol	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Dibenzo(a,h)anthracene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Di-n-butyl phthalate	ND	4.20	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
1,2-Dichlorobenzene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
1,3-Dichlorobenzene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
1,4-Dichlorobenzene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
3,3´-Dichlorobenzidine	ND	4.20	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
2,4-Dichlorophenol	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Diethyl phthalate	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Dimethyl phthalate	ND	4.20	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
2,4-Dimethylphenol	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
4,6-Dinitro-2-methylphenol	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
2,4-Dinitrophenol	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
2,4-Dinitrotoluene	ND	1.68	8.40	NA		µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-29A	**Matrix:**	Groundwater
Client Sample ID:	ST01	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
2,6-Dinitrotoluene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Di-n-octyl phthalate	ND	4.20	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
1,2-Diphenylhydrazine	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Fluoranthene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Fluorene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Hexachlorobenzene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Hexachlorobutadiene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Hexachlorocyclopentadiene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Hexachloroethane	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Isophorone	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Naphthalene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Nitrobenzene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
2-Nitrophenol	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
4-Nitrophenol	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
N-Nitrosodimethylamine	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
N-Nitrosodiphenylamine	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
N-Nitrosodi-n-propylamine	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Pentachlorophenol	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Phenanthrene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Phenol	ND	4.20	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Pyrene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
1,2,4-Trichlorobenzene	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
2,4,5-Trichlorophenol	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
2,4,6-Trichlorophenol	ND	1.68	8.40	NA	µg/L	09/05/18 4:05PM	09/14/18 12:38PM	PA/VA
Surr: 2-Fluorophenol	34.4	NA	17.6-120	NA	%Rec	09/05/18 4:05PM	09/14/18 12:38PM	
Surr: Phenol-d5	23.4	NA	11.4-120	NA	%Rec	09/05/18 4:05PM	09/14/18 12:38PM	
Surr: 2,4,6-Tribromophenol	58.6	NA	18-129	NA	%Rec	09/05/18 4:05PM	09/14/18 12:38PM	
Surr: Nitrobenzene-d5	54.2	NA	21.5-122	NA	%Rec	09/05/18 4:05PM	09/14/18 12:38PM	
Surr: 2-Fluorobiphenyl	61.2	NA	23.7-127	NA	%Rec	09/05/18 4:05PM	09/14/18 12:38PM	
Surr: 4-Terphenyl-d14	80.1	NA	39.9-124	NA	%Rec	09/05/18 4:05PM	09/14/18 12:38PM	

VOLATILE RANGE ORGANICS **Method: SW8015C** **Analyst: JM**

TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 1:38PM	09/06/18 4:33PM	PA/VA
Surr: 2,5-Dibromotoluene	100	NA	41.8-138	NA	%Rec	09/05/18 1:38PM	09/06/18 4:33PM	

VOLATILE ORGANIC COMPOUNDS-8260 **Method: SW8260B** **Analyst: DTC**

Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 8:24PM	PA/VA
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 8:24PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 8:24PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 8:24PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-29A	**Matrix:**	Groundwater
Client Sample ID:	ST01	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 8:24PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 8:24PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 8:24PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 8:24PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

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Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 3:00:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-29A	**Matrix:**	Groundwater
Client Sample ID:	ST01	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
Isopropylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA		µg/L		09/09/18 8:24PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Naphthalene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Styrene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Toluene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA		µg/L		09/09/18 8:24PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Surr: 1,2-Dichloroethane-d4	96.4	NA	75.9-132	NA		%Rec		09/09/18 8:24PM	
Surr: 4-Bromofluorobenzene	88.6	NA	73.6-132	NA		%Rec		09/09/18 8:24PM	
Surr: Dibromofluoromethane	87.1	NA	80.1-127	NA		%Rec		09/09/18 8:24PM	
Surr: Toluene-d8	80.4	NA	72.4-119	NA		%Rec		09/09/18 8:24PM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**					**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	
tert-Butyl alcohol	ND	100	200	NA		µg/L		09/09/18 8:24PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA		µg/L		09/09/18 8:24PM	
Ethanol	ND	100	200	NA		µg/L		09/09/18 8:24PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA		µg/L		09/09/18 8:24PM	PA/VA
Surr: 1,2-Dichloroethane-d4	96.4	NA	72.3-120	NA		%Rec		09/09/18 8:24PM	
Surr: 4-Bromofluorobenzene	88.6	NA	72.5-134	NA		%Rec		09/09/18 8:24PM	
Surr: Dibromofluoromethane	87.1	NA	75.9-141	NA		%Rec		09/09/18 8:24PM	
Surr: Toluene-d8	0.400	NA	72.6-119	NA	S	%Rec		09/09/18 8:24PM	

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 12:00:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-30A	**Matrix:**	Trip Blank
Client Sample ID:	TRIP BLANK	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**
DBCP	ND	0.00753	0.0198	0.200	µg/L	09/12/18 2:44PM	09/12/18 11:58PM	PA/VA
EDB	ND	0.00386	0.0198	0.050	µg/L	09/12/18 2:44PM	09/12/18 11:58PM	PA/VA
VOLATILE RANGE ORGANICS				**Method: SW8015C**				**Analyst: JM**
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	09/05/18 3:05PM	09/06/18 10:19PM	PA/VA
Surr: 2,5-Dibromotoluene	110	NA	41.8-138	NA	%Rec	09/05/18 3:05PM	09/06/18 10:19PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**				**Analyst: DTC**
Xylenes, Total	ND	NA	0	NA	µg/L		09/09/18 8:58PM	PA/VA
Acetone	ND	5.00	10.0	NA	µg/L		09/09/18 8:58PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		09/09/18 8:58PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		09/09/18 8:58PM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		09/09/18 8:58PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18090167

Date Reported: 10/4/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 12:00:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-30A	**Matrix:**	Trip Blank
Client Sample ID:	TRIP BLANK	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		09/09/18 8:58PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		09/09/18 8:58PM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		09/09/18 8:58PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		09/09/18 8:58PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Surr: 1,2-Dichloroethane-d4	97.0	NA	75.9-132	NA	%Rec		09/09/18 8:58PM	
Surr: 4-Bromofluorobenzene	93.5	NA	73.6-132	NA	%Rec		09/09/18 8:58PM	
Surr: Dibromofluoromethane	82.1	NA	80.1-127	NA	%Rec		09/09/18 8:58PM	
Surr: Toluene-d8	98.1	NA	72.4-119	NA	%Rec		09/09/18 8:58PM	

Pace Analytical Services - Analytical Report

WO#: **18090167**

Date Reported: **10/4/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	8/31/2018 12:00:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	9/5/2018
Lab ID:	18090167-30A	**Matrix:**	Trip Blank
Client Sample ID:	TRIP BLANK	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		09/09/18 8:58PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		09/09/18 8:58PM	
Ethanol	ND	100	200	NA	µg/L		09/09/18 8:58PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		09/09/18 8:58PM	PA/VA
Surr: 1,2-Dichloroethane-d4	97.0	NA	72.3-120	NA	%Rec		09/09/18 8:58PM	
Surr: 4-Bromofluorobenzene	93.5	NA	72.5-134	NA	%Rec		09/09/18 8:58PM	
Surr: Dibromofluoromethane	82.1	NA	75.9-141	NA	%Rec		09/09/18 8:58PM	
Surr: Toluene-d8	98.1	NA	72.6-119	NA	%Rec		09/09/18 8:58PM	

Pace Analytical Services, LLC.
PO Box 684056
Chicago, IL 60695-4056
TEL: (304)255-2500
Website: www.reiclabs.com

Sample Receipt Checklist

Client Name:	**GRE096**			Work Order Number:	**18090167**
RCPNo:	**1**	Date and Time Received:	**9/5/2018 10:13:31 AM**	Received by:	**Randy Rose**
Completed By:	**Doug Arthur**		Reviewed By:	**Billy Shirley**	
Completed Date:	**9/5/2018 10:19:01 AM**		Reviewed Date:	**9/5/2018 2:32 PM**	

Carrier Name: Pace

1.	Chain of custody present?	Yes [x]	No [ ]	
2.	Chain of custody signed when relinquished and received?	Yes [x]	No [ ]	
3.	Are matrices correctly identified on Chain of custody?	Yes [x]	No [ ]	
4.	Is it clear what analyses were requested?	Yes [x]	No [ ]	
5.	Custody seals intact?	Yes [ ]	No [ ]	Not Present [x]
6.	Samples in proper container type and preservative?	Yes [x]	No [ ]	
7.	Were correct preservatives noted on COC?	Yes [x]	No [ ]	NA [ ]
8.	Sample containers intact?	Yes [x]	No [ ]	
9.	Sufficient sample volume for indicated test?	Yes [x]	No [ ]	
10.	Were container labels complete?	Yes [x]	No [ ]	
11.	All samples received within holding time?	Yes [x]	No [ ]	
12.	Was an attempt made to cool the samples?	Yes [x]	No [ ]	NA [ ]
13.	Sample Temp. taken and recorded upon receipt?	Yes [x]	No [ ]	To 2 ºC
14.	Water - Were bubbles absent in VOC vials?	Yes [x]	No [ ]	No Vials [ ]
15.	Are Samples considered acceptable?	Yes [x]	No [ ]	
16.	COC filled out properly?	Yes [x]	No [ ]	

Client Notification/Response

Client Name: **GRE096** Work Order Number: **18090167**

Comment: No container types on chain of custody

Client Contacted: Yes [ ] No [ ] NA [x] Person Contacted:

Contact Mode: Phone [ ] Fax: [ ] Email: [ ] In Person: [ ]

Date Contacted: Contacted By:

Regarding:

Client Instructions:

Corrective Action:

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

18090167

GRE096
GREENE ENVIRONMENTAL SE
Billy Shirley

Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

AREAS are for LAB USE ONLY

Company: Greene Environmental Services, LLC	Billing Information: Mr. Trev Greene 570 Redbud Hill Road Rocky Mount, VA 24151
Address: 129 Bunny Ridge Lane Rocky Mount, VA 24015	
Report To: Mr. Trev Greene	Email To: tgreene@greene-environmental.com
Copy To:	Site Collection Info/Address:
Customer Project Name/Number: Chamblissburg Supply - CSVI	State: County/City: / Time Zone Collected: [ ]PT [ ]MT [ ]CT [X]ET
Phone: 540-483-3311 Email: As above	Site/Facility ID #: Chamblissburg Supply Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): AF, TG, BM, AR	Purchase Order # : Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: 3 U 3 3 U U 1 1

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Project Manager:

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	TPH-GRO via 8015	TPH-DRO via 8015	BTEX, MTBE, Nap via 8260	VOCs via 8260 including oxygenates	SVOCs via 8270	EDB/DBCP via 8011	Total Lead via 200.8	Dissolved Lead via 200.8		
MW01	GW	G	8/30/2018	1315				5	X	X	X							
MW02	GW	G	8/30/2018	1045				5	X	X	X							
MW03	GW	G	8/30/2018	1423				5	X	X	X							
MW04	GW	G	8/30/2018	1455				5	X	X	X							
MW05	GW	G	8/30/2018	1145				5	X	X	X							
MW06	GW	G	8/30/2018	1118				5	X	X	X							
MW07	GW	G	8/30/2018	1220				5	X	X	X							
MW08	GW	G	8/30/2018	1012				5	X	X	X							
MW09	GW	G	8/30/2018	1250				5	X	X	X							
MW10	GW	G	8/30/2018	1332				5	X	X	X							

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips: _____
Sample pH Acceptable Y N NA
pH Strips: _____
Sulfide Present Y N NA
Lead Acetate Strips: _____

LAB USE ONLY:
Lab Sample # / Comments:

2.0

Customer Remarks / Special Conditions / Possible Hazards:
For 8260 include oxygenates: ethanol, TAA, TAEE, TBA, TAME, ETBE, DIPE. Min 1ppb MDL benzene and MTBE.
Page 1 of 3

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours) : Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 2
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: _____oC
Comments:

Relinquished by/Company: (Signature)	Date/Time: 09/04/18 1035	Received by/Company: (Signature)	Date/Time: 9-4-18 1045	MTJL LAB USE ONLY Table #:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 9-4-18 1645	Acctnum: Template: Prelogin:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 9-4-18 1830	PM: PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company: Greene Environmental Services, LLC	Billing Information: Mr. Trev Greene 570 Redbud Hill Road Rocky Mount, VA 24151
Address: 129 Bunny Ridge Lane Rocky Mount, VA 24015	
Report To: Mr. Trev Greene	Email To: tgreene@greene-environmental.com
Copy To:	Site Collection Info/Address:
Customer Project Name/Number: Chamblissburg Supply - CSVI	State: / County/City: Time Zone Collected: [ ]PT [ ]MT [ ]CT [X]ET
Phone: 540-483-3311 Email: As above	Site/Facility ID #: Chamblissburg Supply Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): AF, TG, BM, AR	Purchase Order # : Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **: 3 U 3 3 U U 1 1

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips: _____
Sample pH Acceptable Y N NA
pH Strips: _____
Sulfide Present Y N NA
Lead Acetate Strips: _____

LAB USE ONLY:
Lab Sample # / Comments:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	TPH-GRO via 8015	TPH-DRO via 8015	BTEX, MTBE, Nap via 8260	VOCs via 8260 including oxygenates	SVOCs via 8270	EDB/DBCP via 8011	Total Lead via 200.8	Dissolved Lead via 200.8		
MW11	GW	G	8/30/2018	1435				5	X	X	X							
DW01A	GW	G	8/30/2018	1255				12	X			X	X	X	X	X		
DW02A	GW	G	8/30/2018	1330				12	X			X	X	X	X	X		
DW03A	GW	G	8/30/2018	1230				12	X			X	X	X	X	X		
DW03B	GW	G	8/30/2018	1930				12	X			X	X	X	X	X		
DW04A	GW	G	8/31/2018	1030				12	X			X	X	X	X	X		
DW04B	GW	G	8/31/2018	1110				12	X			X	X	X	X	X		
DW05A	GW	G	8/30/2018	1645				12	X			X	X	X	X	X		
DW06B	GW	G	8/30/2018	1530				12	X			X	X	X	X	X		
DW06C	GW	G	8/30/2018	1500				12	X			X	X	X	X	X		

2°

Customer Remarks / Special Conditions / Possible Hazards:
For 8260 include oxygenates: ethanol, TAA, TAEE, TBA, TAME, ETBE, DIPE. Min 1ppb MDL benzene and MTBE.
Page 2 of 3

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 2
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: ____oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
[signature]	09/04/18 1035	[signature]	9-4-18 1045
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
		[signature]	9-4-18 1645
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
			9-4-18 1830

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL SHADED AREAS are for LAB USE ONLY

Company: Greene Environmental Services, LLC	Billing Information: Mr. Trev Greene 570 Redbud Hill Road Rocky Mount, VA 24151
Address: 129 Bunny Ridge Lane Rocky Mount, VA 24015	
Report To: Mr. Trev Greene	Email To: tgreene@greene-environmental.com
Copy To:	Site Collection Info/Address:
Customer Project Name/Number: Chamblissburg Supply - CSVI	State: County/City: / Time Zone Collected: [ ]PT [ ]MT [ ]CT [X]ET
Phone: 540-483-3311 Email: As above	Site/Facility ID #: Chamblissburg Supply Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): AF, TG, BM, AR	Purchase Order # : Quote #: DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required: Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: 3 U 3 3 U U 1 1

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Project Manager:

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	TPH-GRO via 8015	TPH-DRO via 8015	BTEX, MTBE, Nap via 8260	VOCs via 8260 including oxygenates	SVOCs via 8270	EDB/DBCP via 8011	Total Lead via 200.8	Dissolved Lead via 200.8		
DW07A	GW	G	8/30/2018	1600				12	X			X	X	X	X	X		
DW08A	GW	G	8/31/2018	915				12	X			X	X	X	X	X		
DW08B	GW	G	8/31/2018	930				12	X			X	X	X	X	X		
DW09A	GW	G	8/31/2018	1320				12	X			X	X	X	X	X		
DW09B	GW	G	8/31/2018	1340				12	X			X	X	X	X	X		
DW10A	GW	G	8/30/2018	1530				12	X			X	X	X	X	X		
DW11A	GW	G	8/30/2018	1600				12	X			X	X	X	X	X		
Pond01	GW	G	8/31/2018	1300				10	X			X	X	X				
ST01	GW	G	8/31/2018	1500				10	X			X	X	X				

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips: _____
Sample pH Acceptable Y N NA
pH Strips: _____
Sulfide Present Y N NA
Lead Acetate Strips: _____

LAB USE ONLY:
Lab Sample # / Comments:

2.0

Customer Remarks / Special Conditions / Possible Hazards:
For 8260 include oxygenates: ethanol, TAA, TAEE, TBA, TAME, ETBE, DIPE. Min 1ppb MDL benzene and MTBE.
Page 3 of 3

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours) : Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 2
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: ____oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
[signature]	09/04/18 1035	[signature]	9-4-18 1045
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
		[signature]	9-4-18 1645
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
			9-4-18 1830

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

Pace Analytical Services
PO Box 286
Beaver, WV 25813
TEL: (304) 255-2500
Website: www.reiclabs.com

782 North Lee Highway
Lexington, VA 24450
TEL: 540.464.1880

16 Commerce Drive
Westover, WV 26501
TEL: 304.241.5861

Mr. Trev Greene
GREENE ENVIRONMENTAL SERVICES, LLC
570 REDBUD HILL ROAD
ROCKY MOUNT, VA 24151

Friday, October 19, 2018

TEL: (540) 483-3311
FAX:

RE: CHAMBLISSBURG SUPPLY - CSVI

Work Order #: 18101896

Dear Mr. Trev Greene:

Pace Analytical Services received 5 sample(s) on 10/12/2018 for the analyses presented in the following report.

Sincerely,

Billy Shirley
Project Manager
(304) 250-6214

Pace Analytical Services - Case Narrative

WO#: 18101896

Date Reported: 10/19/2018
Original

Client: GREENE ENVIRONMENTAL SERVICES, LLC

Project: CHAMBLISSBURG SUPPLY - CSVI

The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

All sample results for solid samples are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as TTHM and HAA5, may vary slightly from the sum of the individual parameter results, due to rounding of individual results, as required by EPA.

The test results in this report meet all NELAP and/or VELAP requirements for parameters clearly designated as PA, VA, PA/VA, or VELAP in the column labeled NELAP.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

All tests performed by REIC Service Centers are designated by an annotation on the test code. All other tests were performed by REIC's Main Laboratory in Beaver, WV.

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

DEFINITIONS:
MCL: Maximum Contaminant Level
MDL: Method Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.
Mg/Kg or mg/L: Units of part per million (PPM) - milligram per Kilogram (weight/weight) or milligram per Liter (weight/volume).
NA: Not Applicable
ND: Not Detected at the PQL or MDL
PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.
Qual: Qualifier that applies to the analyte reported.
TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.
Ug/Kg or ug/L: Units of part per billion (PPB) - microgram per kilogram (weight/weight) or microgram per liter (weight/volume).

QUALIFIERS:
X: Reported value exceeds required MCL
B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL
E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.
H: Holding time for preparation or analysis has been exceeded.
J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.
S: % REC (% recovery) exceeds control limits

CERTIFICATIONS:
Beaver, WV: WVDHHR 00412CM, WVDEP 060, VADCLS 00281, KYDEP 90039, NCDWQ 466, PADEP 68-00839, VADCLS(VELAP) 460148
Bioassay (Beaver, WV): WVDEP 060, VADCLS(VELAP) 460148, PADEP 68-00839
Lexington, VA: VADCLS(VELAP) 460150
Morgantown, WV: WVDHHR 003112M, WVDEP 387

Pace Analytical Services - Analytical Report

WO#: 18101896

Date Reported: 10/19/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	10/10/2018 1:50:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	10/12/2018
Lab ID:	18101896-01A	**Matrix:**	Liquid
Client Sample ID:	S1	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**
DBCP	ND	0.00744	0.0196	NA	µg/L	10/18/18 8:29AM	10/18/18 1:25PM	PA/VA
EDB	0.530	0.00382	0.0196	NA	µg/L	10/18/18 8:29AM	10/18/18 1:25PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18101896

Date Reported: 10/19/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	10/10/2018 12:35:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	10/12/2018
Lab ID:	18101896-02A	**Matrix:**	Liquid
Client Sample ID:	S2	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**
DBCP	ND	0.00751	0.0198	NA	µg/L	10/18/18 8:29AM	10/18/18 1:41PM	PA/VA
EDB	ND	0.00385	0.0198	NA	µg/L	10/18/18 8:29AM	10/18/18 1:41PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18101896

Date Reported: 10/19/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	10/10/2018 10:12:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	10/12/2018
Lab ID:	18101896-03A	**Matrix:**	Liquid
Client Sample ID:	S3	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**
DBCP	ND	0.00765	0.0201	NA	µg/L	10/18/18 8:29AM	10/18/18 1:57PM	PA/VA
EDB	ND	0.00393	0.0201	NA	µg/L	10/18/18 8:29AM	10/18/18 1:57PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18101896

Date Reported: 10/19/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	10/10/2018 11:25:00 AM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	10/12/2018
Lab ID:	18101896-04A	**Matrix:**	Liquid
Client Sample ID:	S4	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**
DBCP	ND	0.00758	0.0200	NA	µg/L	10/18/18 8:29AM	10/18/18 2:12PM	PA/VA
EDB	ND	0.00389	0.0200	NA	µg/L	10/18/18 8:29AM	10/18/18 2:12PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18101896

Date Reported: 10/19/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	10/10/2018 2:20:00 PM
Project:	CHAMBLISSBURG SUPPLY - CSVI	**Date Received:**	10/12/2018
Lab ID:	18101896-05A	**Matrix:**	Liquid
Client Sample ID:	S5	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: JH**
DBCP	ND	0.00766	0.0202	NA	µg/L	10/18/18 8:29AM	10/18/18 2:28PM	PA/VA
EDB	ND	0.00393	0.0202	NA	µg/L	10/18/18 8:29AM	10/18/18 2:28PM	PA/VA

Pace Analytical Services, LLC.
PO Box 684056
Chicago, IL 60695-4056
TEL: (304)255-2500
Website: www.reiclabs.com

Sample Receipt Checklist

Client Name:	**GRE096**			Work Order Number:	**18101896**
RCPNo:	**1**	Date and Time Received:	**10/12/2018 7:10:00 PM**	Received by:	**Randy Rose**
Completed By:	**Kim Pack**		Reviewed By:		
Completed Date:	**10/13/2018 7:35:13 AM**		Reviewed Date:		

Carrier Name: Pace

1.	Chain of custody present?	Yes [x]	No [ ]	
2.	Chain of custody signed when relinquished and received?	Yes [x]	No [ ]	
3.	Are matrices correctly identified on Chain of custody?	Yes [x]	No [ ]	
4.	Is it clear what analyses were requested?	Yes [x]	No [ ]	
5.	Custody seals intact?	Yes [ ]	No [ ]	Not Present [x]
6.	Samples in proper container type and preservative?	Yes [x]	No [ ]	
7.	Were correct preservatives noted on COC?	Yes [x]	No [ ]	NA [ ]
8.	Sample containers intact?	Yes [x]	No [ ]	
9.	Sufficient sample volume for indicated test?	Yes [x]	No [ ]	
10.	Were container labels complete?	Yes [x]	No [ ]	
11.	All samples received within holding time?	Yes [x]	No [ ]	
12.	Was an attempt made to cool the samples?	Yes [x]	No [ ]	NA [ ]
13.	Sample Temp. taken and recorded upon receipt?	Yes [x]	No [ ]	To 1.1 ºC
14.	Water - Were bubbles absent in VOC vials?	Yes [x]	No [ ]	No Vials [ ]
15.	Are Samples considered acceptable?	Yes [x]	No [ ]	
16.	COC filled out properly?	Yes [x]	No [ ]	

Client Notification/Response

Client Name: **GRE096** Work Order Number: **18101896**

Comment:

Client Contacted: Yes [ ] No [ ] NA [x] Person Contacted:

Contact Mode: Phone [ ] Fax: [ ] Email: [ ] In Person: [ ]

Date Contacted: Contacted By:

Regarding:

Client Instructions:

Corrective Action:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Numbe

18101896

GRE096
GREENE ENVIRONMENTAL SE
Billy Shirley

ALL SHADED AREAS are f

Company: Greene Environmental Services, LLC	Billing Information: Mr. Trev Greene
Address: 129 Bunny Ridge Lane Rocky Mount, VA 24015	570 Redbud Hill Road Rocky Mount, VA 24151
Report To: Mr. Trev Greene	Email To: tgreene@greene-environmental.com
Copy To:	Site Collection Info/Address:
Customer Project Name/Number: Chamblissburg Supply - CSVI	State: County/City: Time Zone Collected: / [ ]PT [ ]MT [ ]CT [X]ET

Phone: 540-483-3311 Email: As above	Site/Facility ID #: Chamblissburg Supply	Compliance Monitoring? [ ] Yes [ ] No
Collected By (print): AF	Purchase Order # : Quote #:	DW PWS ID #: DW Location Code:
Collected By (signature):	Turnaround Date Required:	Immediately Packed on Ice: [X] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: U

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses: EDB/DBCP via 8011

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns
S1	GW	G	10/10/2018	1350				2
S2	GW	G	10/10/2018	1235				2
S3	GW	G	10/10/2018	1012				2
S4	GW	G	10/10/2018	1125				2
S5	GW	G	10/10/2018	1420				2

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips: _____
Sample pH Acceptable Y N NA
pH Strips: _____
Sulfide Present Y N NA
Lead Acetate Strips: _____

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours) : Y N N/A

Lab Tracking #:

Samples received via: FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y ~~N~~ NA
Therm ID#: 13
Cooler 1 Temp Upon Receipt: 1.2 oC
Cooler 1 Therm Corr. Factor: 0.1 oC
Cooler 1 Corrected Temp: 1.1 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
[signature]	10-11-18/0955	Randy Rose	10-11-18 1000
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
		[signature]	10-11-18 1715
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
			10-11-18 1910

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

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: 490-161113-1
Client Project/Site: Chamblissburg Supply
Revision: 1

For:
Greene Environmental Services LLC
570 Redbud Hill Rd
Rocky Mount, Virginia 24151

Attn: Arthur T. Greene III

Quinita Reynolds

Authorized for release by:
10/24/2018 1:06:58 PM
Quinita Reynolds, Manager of Project Management Assistants
(615)301-5755
quinita.reynolds@testamericainc.com

Designee for

Ken Hayes, Project Manager II
(615)301-5035
ken.hayes@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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.

Table of Contents

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Method Summary 13
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Sample Summary

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-161113-1	DW01A	Water	10/10/18 13:50	10/12/18 09:50
490-161113-2	DW06B	Water	10/10/18 12:30	10/12/18 09:50
490-161113-3	DW06C	Water	10/10/18 12:35	10/12/18 09:50
490-161113-4	DW08A	Water	10/10/18 09:48	10/12/18 09:50
490-161113-5	DW08B	Water	10/10/18 10:12	10/12/18 09:50
490-161113-6	DW09A	Water	10/10/18 11:25	10/12/18 09:50
490-161113-7	DW10A	Water	10/10/18 11:46	10/12/18 09:50
490-161113-8	DW11A	Water	10/10/18 12:10	10/12/18 09:50
490-161113-9	POND01	Water	10/10/18 14:20	10/12/18 09:50
490-161113-10	ST01	Water	10/10/18 14:30	10/12/18 09:50

Case Narrative

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Job ID: 490-161113-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-161113-1

REVISED REPORT: Revised to report J qualifiers at the client's request. This report replaces the one generated on 10/15/18 @ 1908.

Comments
No additional comments.

Receipt
The samples were received on 10/12/2018 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6º C.

GC Semi VOA
Method 8011: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 490-549769 and analytical batch 490-549780.

Method 8011: The %RPD between the primary and confirmation column exceeded 40% for 1,3-Dichlorobenzene for the following samples: DW01A (490-161113-1), DW08B (490-161113-5), DW09A (490-161113-6), DW10A (490-161113-7), DW11A (490-161113-8), ST01 (490-161113-10) and (MB 490-549769/3-A). The lower value has been reported and qualified in accordance with the laboratory's SOP.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
P	The %RPD between the primary and confirmation column/detector is >40%. The higher value has been reported

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
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
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: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Client Sample ID: DW01A
Lab Sample ID: 490-161113-1
Date Collected: 10/10/18 13:50
Matrix: Water
Date Received: 10/12/18 09:50

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	0.791		0.0201	0.00602	ug/L		10/13/18 09:15	10/13/18 23:40	1
1,2-Dibromo-3-Chloropropane	ND		0.100	0.0281	ug/L		10/13/18 09:15	10/13/18 23:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Dichlorobenzene	*84*	*p*	*50 - 150*	*10/13/18 09:15*	*10/13/18 23:40*	*1*

Client Sample ID: DW06B
Lab Sample ID: 490-161113-2
Date Collected: 10/10/18 12:30
Matrix: Water
Date Received: 10/12/18 09:50

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0203	0.00610	ug/L		10/13/18 09:15	10/13/18 23:55	1
1,2-Dibromo-3-Chloropropane	ND		0.102	0.0285	ug/L		10/13/18 09:15	10/13/18 23:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Dichlorobenzene	*100*		*50 - 150*	*10/13/18 09:15*	*10/13/18 23:55*	*1*

Client Sample ID: DW06C
Lab Sample ID: 490-161113-3
Date Collected: 10/10/18 12:35
Matrix: Water
Date Received: 10/12/18 09:50

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0202	0.00605	ug/L		10/13/18 09:15	10/14/18 00:26	1
1,2-Dibromo-3-Chloropropane	ND		0.101	0.0282	ug/L		10/13/18 09:15	10/14/18 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Dichlorobenzene	*100*		*50 - 150*	*10/13/18 09:15*	*10/14/18 00:26*	*1*

Client Sample ID: DW08A
Lab Sample ID: 490-161113-4
Date Collected: 10/10/18 09:48
Matrix: Water
Date Received: 10/12/18 09:50

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0201	0.00602	ug/L		10/13/18 09:15	10/14/18 01:11	1
1,2-Dibromo-3-Chloropropane	ND		0.100	0.0281	ug/L		10/13/18 09:15	10/14/18 01:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Dichlorobenzene	*99*		*50 - 150*	*10/13/18 09:15*	*10/14/18 01:11*	*1*

Client Sample ID: DW08B
Lab Sample ID: 490-161113-5
Date Collected: 10/10/18 10:12
Matrix: Water
Date Received: 10/12/18 09:50

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0202	0.00607	ug/L		10/13/18 09:15	10/14/18 01:27	1
1,2-Dibromo-3-Chloropropane	ND		0.101	0.0283	ug/L		10/13/18 09:15	10/14/18 01:27	1

Client Sample Results

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Client Sample ID: DW08B — Lab Sample ID: 490-161113-5

Date Collected: 10/10/18 10:12
Date Received: 10/12/18 09:50
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	52	p	50 - 150	10/13/18 09:15	10/14/18 01:27	1

Client Sample ID: DW09A — Lab Sample ID: 490-161113-6

Date Collected: 10/10/18 11:25
Date Received: 10/12/18 09:50
Matrix: Water

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0204	0.00612	ug/L		10/13/18 09:15	10/14/18 01:42	1
1,2-Dibromo-3-Chloropropane	ND		0.102	0.0286	ug/L		10/13/18 09:15	10/14/18 01:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	103	P	50 - 150	10/13/18 09:15	10/14/18 01:42	1

Client Sample ID: DW10A — Lab Sample ID: 490-161113-7

Date Collected: 10/10/18 11:46
Date Received: 10/12/18 09:50
Matrix: Water

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0202	0.00605	ug/L		10/13/18 09:15	10/14/18 01:57	1
1,2-Dibromo-3-Chloropropane	ND		0.101	0.0282	ug/L		10/13/18 09:15	10/14/18 01:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	99	P	50 - 150	10/13/18 09:15	10/14/18 01:57	1

Client Sample ID: DW11A — Lab Sample ID: 490-161113-8

Date Collected: 10/10/18 12:10
Date Received: 10/12/18 09:50
Matrix: Water

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0199	0.00598	ug/L		10/13/18 09:15	10/14/18 02:12	1
1,2-Dibromo-3-Chloropropane	ND		0.0997	0.0279	ug/L		10/13/18 09:15	10/14/18 02:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	93	P	50 - 150	10/13/18 09:15	10/14/18 02:12	1

Client Sample ID: POND01 — Lab Sample ID: 490-161113-9

Date Collected: 10/10/18 14:20
Date Received: 10/12/18 09:50
Matrix: Water

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0205	0.00614	ug/L		10/13/18 09:15	10/14/18 02:28	1
1,2-Dibromo-3-Chloropropane	ND		0.102	0.0287	ug/L		10/13/18 09:15	10/14/18 02:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	98		50 - 150	10/13/18 09:15	10/14/18 02:28	1

Client Sample Results

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Client Sample ID: ST01

Date Collected: 10/10/18 14:30
Date Received: 10/12/18 09:50

Lab Sample ID: 490-161113-10

Matrix: Water

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0201	0.00602	ug/L		10/13/18 09:15	10/14/18 02:43	1
1,2-Dibromo-3-Chloropropane	ND		0.100	0.0281	ug/L		10/13/18 09:15	10/14/18 02:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Dichlorobenzene	*65*	*p*	*50 - 150*	*10/13/18 09:15*	*10/14/18 02:43*	*1*

QC Sample Results

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 490-549769/3-A
Matrix: Water
Analysis Batch: 549780

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 549769

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.0200	0.00600	ug/L		10/13/18 09:15	10/13/18 22:39	1
1,2-Dibromo-3-Chloropropane	ND		0.100	0.0280	ug/L		10/13/18 09:15	10/13/18 22:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,3-Dichlorobenzene	*68*	*p*	*50 - 150*	*10/13/18 09:15*	*10/13/18 22:39*	*1*

Lab Sample ID: LCS 490-549769/4-A
Matrix: Water
Analysis Batch: 549780

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 549769

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylene Dibromide	0.286	0.2820		ug/L		99	70 - 130
1,2-Dibromo-3-Chloropropane	0.286	0.2621		ug/L		92	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,3-Dichlorobenzene	*115*		*50 - 150*

Lab Sample ID: LCSD 490-549769/5-A
Matrix: Water
Analysis Batch: 549780

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 549769

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylene Dibromide	0.286	0.2981		ug/L		104	70 - 130	6	50
1,2-Dibromo-3-Chloropropane	0.286	0.2731		ug/L		96	70 - 130	4	34

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,3-Dichlorobenzene	*114*		*50 - 150*

QC Association Summary

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

GC Semi VOA

Prep Batch: 549769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-161113-1	DW01A	Total/NA	Water	8011	
490-161113-2	DW06B	Total/NA	Water	8011	
490-161113-3	DW06C	Total/NA	Water	8011	
490-161113-4	DW08A	Total/NA	Water	8011	
490-161113-5	DW08B	Total/NA	Water	8011	
490-161113-6	DW09A	Total/NA	Water	8011	
490-161113-7	DW10A	Total/NA	Water	8011	
490-161113-8	DW11A	Total/NA	Water	8011	
490-161113-9	POND01	Total/NA	Water	8011	
490-161113-10	ST01	Total/NA	Water	8011	
MB 490-549769/3-A	Method Blank	Total/NA	Water	8011	
LCS 490-549769/4-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 490-549769/5-A	Lab Control Sample Dup	Total/NA	Water	8011	

Analysis Batch: 549780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-161113-1	DW01A	Total/NA	Water	8011	549769
490-161113-2	DW06B	Total/NA	Water	8011	549769
490-161113-3	DW06C	Total/NA	Water	8011	549769
490-161113-4	DW08A	Total/NA	Water	8011	549769
490-161113-5	DW08B	Total/NA	Water	8011	549769
490-161113-6	DW09A	Total/NA	Water	8011	549769
490-161113-7	DW10A	Total/NA	Water	8011	549769
490-161113-8	DW11A	Total/NA	Water	8011	549769
490-161113-9	POND01	Total/NA	Water	8011	549769
490-161113-10	ST01	Total/NA	Water	8011	549769
MB 490-549769/3-A	Method Blank	Total/NA	Water	8011	549769
LCS 490-549769/4-A	Lab Control Sample	Total/NA	Water	8011	549769
LCSD 490-549769/5-A	Lab Control Sample Dup	Total/NA	Water	8011	549769

Lab Chronicle

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Client Sample ID: DW01A — Lab Sample ID: 490-161113-1

Date Collected: 10/10/18 13:50
Date Received: 10/12/18 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/13/18 23:40	ZXS	TAL NSH

Client Sample ID: DW06B — Lab Sample ID: 490-161113-2

Date Collected: 10/10/18 12:30
Date Received: 10/12/18 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/13/18 23:55	ZXS	TAL NSH

Client Sample ID: DW06C — Lab Sample ID: 490-161113-3

Date Collected: 10/10/18 12:35
Date Received: 10/12/18 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/14/18 00:26	ZXS	TAL NSH

Client Sample ID: DW08A — Lab Sample ID: 490-161113-4

Date Collected: 10/10/18 09:48
Date Received: 10/12/18 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/14/18 01:11	ZXS	TAL NSH

Client Sample ID: DW08B — Lab Sample ID: 490-161113-5

Date Collected: 10/10/18 10:12
Date Received: 10/12/18 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/14/18 01:27	ZXS	TAL NSH

Client Sample ID: DW09A — Lab Sample ID: 490-161113-6

Date Collected: 10/10/18 11:25
Date Received: 10/12/18 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/14/18 01:42	ZXS	TAL NSH

Lab Chronicle

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Client Sample ID: DW10A — Lab Sample ID: 490-161113-7

Date Collected: 10/10/18 11:46 — **Matrix: Water**
Date Received: 10/12/18 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/14/18 01:57	ZXS	TAL NSH

Client Sample ID: DW11A — Lab Sample ID: 490-161113-8

Date Collected: 10/10/18 12:10 — **Matrix: Water**
Date Received: 10/12/18 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/14/18 02:12	ZXS	TAL NSH

Client Sample ID: POND01 — Lab Sample ID: 490-161113-9

Date Collected: 10/10/18 14:20 — **Matrix: Water**
Date Received: 10/12/18 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/14/18 02:28	ZXS	TAL NSH

Client Sample ID: ST01 — Lab Sample ID: 490-161113-10

Date Collected: 10/10/18 14:30 — **Matrix: Water**
Date Received: 10/12/18 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			549769	10/13/18 09:15	ZXS	TAL NSH
Total/NA	Analysis	8011		1	549780	10/14/18 02:43	ZXS	TAL NSH

Laboratory References:

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

Method Summary

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Method	Method Description	Protocol	Laboratory
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	TAL NSH
8011	Microextraction	SW846	TAL NSH

Protocol References:

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

Accreditation/Certification Summary

Client: Greene Environmental Services LLC
Project/Site: Chamblissburg Supply

TestAmerica Job ID: 490-161113-1

Laboratory: TestAmerica Nashville

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Virginia	NELAP	3	460152	06-14-19

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

490-161113 Chain of Custody

COOLER RECEIPT FORM

Cooler Received/Opened On 10/12/2018 @ 0950

Time Samples Removed From Cooler 2006 Time Samples Placed In Storage 2011 (2 Hour Window)

1. Tracking # 2607 (last 4 digits, FedEx) Courier: FedEx

   IR Gun ID 17610176 pH Strip Lot NA Chlorine Strip Lot NA

2. Temperature of rep. sample or temp blank when opened: 0.6 *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 (intial) 2.2

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

Larger than this.

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 (intial) GH

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 (intial) GH

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 (intial) GH

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

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

BIS = Broken in shipment

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Adam Flora	Lab PM: Hayes, Ken	Carrier Tracking No(s):	COC No: 490-90360-26117 1
Client Contact: Mr. Adam Flora	Phone: 540-483-3311	E-Mail: ken.hayes@testamericainc.com		Page: Page 1
Company: Greene Environmental Services LLC				Job #: CSVI1003
Address: ~~299 Buckwheat Lane~~ 570 Redbud Hill Road	Due Date Requested:			
City: Rocky Mount	TAT Requested (days):			
State, Zip: VA, 24151				
Phone: 540-4833311(Tel)	PO #: Purchase Order not required			
Email: aflora@greene-environmental.com	WO #			
Project Name: 8011	Project #: 49001603			
Site: Chamblissburg Supply	SSOW#:			

Analysis Requested

Loc: 490
161113

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8011 - EDB and DBCP	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
DW01A	10-10-18	1350	G	Water			X	3	
DW06B	10-10-18	1230	G	Water			X	3	
DW06C	10-10-18	1235	G	Water			X	3	
DW08A	10-10-18	0948	G	Water			X	3	
DW08B	10-10-18	1012	G	Water			X	3	
DW09A	10-10-18	1125	G	Water			X	3	
DW10A	10-10-18	1146	G	Water			X	3	
DW11A	10-10-18	1210	G	Water			X	3	
POND01	10-10-18	1420	G	Water			X	3	
ST01	10-10-18	1430	G	Water			X	3	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	10-11-18 / 1315	Greene	[signature]	10-12-18 / 0950	TA-NAS

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.6

Ver. 08/04/2016

Pace Analytical Services
PO Box 286
Beaver, WV 25813
TEL: (304) 255-2500
Website: www.reiclabs.com

782 North Lee Highway
Lexington, VA 24450
TEL: 540.464.1880

16 Commerce Drive
Westover, WV 26501
TEL: 304.241.5861

Mr. Trev Greene
GREENE ENVIRONMENTAL SERVICES, LLC
570 REDBUD HILL ROAD
ROCKY MOUNT, VA 24151

Friday, December 07, 2018

TEL: (540) 483-3311
FAX:

RE: CHAMBLISSBURG SUPPLY-CSVI

Work Order #: 18113682

Dear Mr. Trev Greene:

Pace Analytical Services received 3 sample(s) on 11/30/2018 for the analyses presented in the following report.

Sincerely,

Billy Shirley
Project Manager
(304) 250-6214

Pace Analytical Services - Case Narrative

WO#: 18113682

Date Reported: 12/7/2018
Original

Client: GREENE ENVIRONMENTAL SERVICES, LLC

Project: CHAMBLISSBURG SUPPLY-CSVI

The analytical results presented in this report were produced using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. Verification of required sample preservation (as required) is recorded on associated laboratory logs. Any deviation from compliance or method modification is identified within the body of this report by a qualifier footnote which is defined at the bottom of this page.

All sample results for solid samples are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as TTHM and HAA5, may vary slightly from the sum of the individual parameter results, due to rounding of individual results, as required by EPA.

The test results in this report meet all NELAP and/or VELAP requirements for parameters clearly designated as PA, VA, PA/VA, or VELAP in the column labeled NELAP.

Please note if the sample collection time is not provided on the Chain of Custody, the default recording will be 0:00:00. This may cause some tests to be apparently analyzed out of hold.

All tests performed by the Lexington and Morgantown Service Centers are designated by an annotation on the test code. All other tests were performed by Pace Analytical Services, LLC Laboratory in Beaver, WV. Subcontracted results are attached to the end of the report.

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All samples are stored for a minimum of 14 days after the date of the final report. All records are stored for a minimum of 5 years. If longer sample or records retention is required, please contact your project manager for details.

DEFINITIONS:
MCL: Maximum Contaminant Level
MDL: Method Detection Limit; The lowest concentration of analyte that can be detected by the method in the applicable matrix.
Mg/Kg or mg/L: Units of part per million (PPM) - milligram per Kilogram (weight/weight) or milligram per Liter (weight/volume).
NA: Not Applicable
ND: Not Detected at the PQL or MDL
PQL: Practical Quantitation Limit; The lowest verified limit to which data is quantified without qualifications. Analyte concentrations below PQL are reported either as ND or as a number with a "J" qualifier.
Qual: Qualifier that applies to the analyte reported.
TIC: Tentatively Identified Compound, Estimated Concentration denoted by "J" qualifier.
Ug/Kg or ug/L: Units of part per billion (PPB) - microgram per kilogram (weight/weight) or microgram per liter (weight/volume).

QUALIFIERS:
X: Reported value exceeds required MCL
B: Analyte detected in the associated Method Blank at a concentration > 1/2 the PQL
E: Analyte concentration reported that exceeds the upper calibration standard. Greater uncertainty is associated with this result and data should be considered estimated.
H: Holding time for preparation or analysis has been exceeded.
J: Analyte concentration is reported, and is less than the PQL and greater than or equal to the MDL. The result reported is an estimate.
S: % REC (% recovery) exceeds control limits

CERTIFICATIONS:
Beaver, WV: WVDHHR 00412CM, WVDEP 060, VADCLS 00281, KYDEP 90039, NCDWQ 466, PADEP 68-00839, VADCLS(VELAP) 460148
Bioassay (Beaver, WV): WVDEP 060, VADCLS(VELAP) 460148, PADEP 68-00839
Lexington, VA: VADCLS(VELAP) 460150
Morgantown, WV: WVDHHR 003112M, WVDEP 387

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 1:50:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-01A	**Matrix:**	Groundwater
Client Sample ID:	MW12	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	12/04/18 3:00PM	12/05/18 2:12PM	PA/VA
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: NC**
DBCP	ND	0.00762	0.0201	0.200	µg/L	12/03/18 2:15PM	12/04/18 2:51PM	PA/VA
EDB	ND	0.00391	0.0201	0.050	µg/L	12/03/18 2:15PM	12/04/18 2:51PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: CLS**
Acenaphthene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Acenaphthylene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Anthracene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Benzidine	ND	5.28	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Benzo(a)anthracene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Benzo(a)pyrene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Benzo(b)fluoranthene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Benzo(g,h,i)perylene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Benzo(k)fluoranthene	ND	3.17	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.28	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Butyl benzyl phthalate	ND	5.28	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
4-Chloro-3-methylphenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2-Chloronaphthalene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2-Chlorophenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Chrysene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
o-Cresol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
m,p-Cresol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Di-n-butyl phthalate	ND	5.28	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
1,2-Dichlorobenzene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
1,3-Dichlorobenzene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
1,4-Dichlorobenzene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.28	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2,4-Dichlorophenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Diethyl phthalate	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Dimethyl phthalate	ND	5.28	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2,4-Dimethylphenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 1:50:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-01A	**Matrix:**	Groundwater
Client Sample ID:	MW12	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2,4-Dinitrophenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2,4-Dinitrotoluene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2,6-Dinitrotoluene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Di-n-octyl phthalate	ND	5.28	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
1,2-Diphenylhydrazine	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Fluoranthene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Fluorene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Hexachlorobenzene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Hexachlorobutadiene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Hexachlorocyclopentadiene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Hexachloroethane	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Isophorone	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Naphthalene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Nitrobenzene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2-Nitrophenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
4-Nitrophenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
N-Nitrosodimethylamine	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
N-Nitrosodiphenylamine	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Pentachlorophenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Phenanthrene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Phenol	ND	5.28	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Pyrene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2,4,5-Trichlorophenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
2,4,6-Trichlorophenol	ND	2.11	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:16PM	PA/VA
Surr: 2-Fluorophenol	37.8	NA	17.6-120	NA	%Rec	12/03/18 8:04AM	12/04/18 2:16PM	
Surr: Phenol-d5	30.9	NA	11.4-120	NA	%Rec	12/03/18 8:04AM	12/04/18 2:16PM	
Surr: 2,4,6-Tribromophenol	85.8	NA	18-129	NA	%Rec	12/03/18 8:04AM	12/04/18 2:16PM	
Surr: Nitrobenzene-d5	71.7	NA	21.5-122	NA	%Rec	12/03/18 8:04AM	12/04/18 2:16PM	
Surr: 2-Fluorobiphenyl	85.0	NA	23.7-127	NA	%Rec	12/03/18 8:04AM	12/04/18 2:16PM	
Surr: 4-Terphenyl-d14	85.8	NA	39.9-124	NA	%Rec	12/03/18 8:04AM	12/04/18 2:16PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: ES**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	12/03/18 9:53AM	12/05/18 3:55PM	PA/VA
Surr: 2,5-Dibromotoluene	51.3	NA	41.8-138	NA	%Rec	12/03/18 9:53AM	12/05/18 3:55PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		12/03/18 5:43PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 1:50:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-01A	**Matrix:**	Groundwater
Client Sample ID:	MW12	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		12/03/18 5:43PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		12/03/18 5:43PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		12/03/18 5:43PM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		12/03/18 5:43PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 1:50:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-01A	**Matrix:**	Groundwater
Client Sample ID:	MW12	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		12/03/18 5:43PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		12/03/18 5:43PM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		12/03/18 5:43PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		12/03/18 5:43PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Surr: 1,2-Dichloroethane-d4	104	NA	75.9-132	NA	%Rec		12/03/18 5:43PM	
Surr: 4-Bromofluorobenzene	89.3	NA	73.6-132	NA	%Rec		12/03/18 5:43PM	
Surr: Dibromofluoromethane	105	NA	80.1-127	NA	%Rec		12/03/18 5:43PM	
Surr: Toluene-d8	98.9	NA	72.4-119	NA	%Rec		12/03/18 5:43PM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		12/03/18 5:43PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		12/03/18 5:43PM	
Ethanol	ND	100	200	NA	µg/L		12/03/18 5:43PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		12/03/18 5:43PM	PA/VA
Surr: 1,2-Dichloroethane-d4	103	NA	72.3-120	NA	%Rec		12/03/18 5:43PM	
Surr: 4-Bromofluorobenzene	99.4	NA	72.5-134	NA	%Rec		12/03/18 5:43PM	

Pace Analytical Services - Analytical Report

WO#: **18113682**

Date Reported: **12/7/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 1:50:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-01A	**Matrix:**	Groundwater
Client Sample ID:	MW12	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	109	NA	75.9-141	NA	%Rec		12/03/18 5:43PM	
Surr: Toluene-d8	97.0	NA	72.6-119	NA	%Rec		12/03/18 5:43PM	

Pace Analytical Services - Analytical Report

WO#: **18113682**

Date Reported: **12/7/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 1:50:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-01B	**Matrix:**	Groundwater
Client Sample ID:	MW12	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	12/04/18 3:00PM	12/05/18 2:18PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 11:40:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-02A	**Matrix:**	Groundwater
Client Sample ID:	MW13	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	ND	0.200	1.00	NA		µg/L	12/05/18 2:00PM	12/06/18 3:14PM	PA/VA
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: NC**	
DBCP	ND	0.00744	0.0196	0.200		µg/L	12/03/18 2:15PM	12/04/18 3:06PM	PA/VA
EDB	ND	0.00382	0.0196	0.050		µg/L	12/03/18 2:15PM	12/04/18 3:06PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: CLS**	
Acenaphthene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Acenaphthylene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Anthracene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Benzidine	ND	5.32	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Benzo(a)anthracene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Benzo(a)pyrene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Benzo(b)fluoranthene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Benzo(g,h,i)perylene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Benzo(k)fluoranthene	ND	3.19	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.32	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Butyl benzyl phthalate	ND	5.32	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
4-Chloro-3-methylphenol	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2-Chloronaphthalene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2-Chlorophenol	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Chrysene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
o-Cresol	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
m,p-Cresol	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Di-n-butyl phthalate	ND	5.32	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
1,2-Dichlorobenzene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
1,3-Dichlorobenzene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
1,4-Dichlorobenzene	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.32	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2,4-Dichlorophenol	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Diethyl phthalate	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Dimethyl phthalate	9.53	5.32	10.6	NA	JB	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2,4-Dimethylphenol	ND	2.13	10.6	NA		µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 11:40:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-02A	**Matrix:**	Groundwater
Client Sample ID:	MW13	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2,4-Dinitrophenol	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2,4-Dinitrotoluene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2,6-Dinitrotoluene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Di-n-octyl phthalate	ND	5.32	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
1,2-Diphenylhydrazine	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Fluoranthene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Fluorene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Hexachlorobenzene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Hexachlorobutadiene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Hexachlorocyclopentadiene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Hexachloroethane	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Isophorone	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Naphthalene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Nitrobenzene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2-Nitrophenol	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
4-Nitrophenol	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
N-Nitrosodimethylamine	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
N-Nitrosodiphenylamine	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Pentachlorophenol	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Phenanthrene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Phenol	ND	5.32	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Pyrene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2,4,5-Trichlorophenol	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
2,4,6-Trichlorophenol	ND	2.13	10.6	NA	µg/L	12/03/18 8:04AM	12/04/18 2:40PM	PA/VA
Surr: 2-Fluorophenol	35.4	NA	17.6-120	NA	%Rec	12/03/18 8:04AM	12/04/18 2:40PM	
Surr: Phenol-d5	33.2	NA	11.4-120	NA	%Rec	12/03/18 8:04AM	12/04/18 2:40PM	
Surr: 2,4,6-Tribromophenol	86.1	NA	18-129	NA	%Rec	12/03/18 8:04AM	12/04/18 2:40PM	
Surr: Nitrobenzene-d5	61.1	NA	21.5-122	NA	%Rec	12/03/18 8:04AM	12/04/18 2:40PM	
Surr: 2-Fluorobiphenyl	70.3	NA	23.7-127	NA	%Rec	12/03/18 8:04AM	12/04/18 2:40PM	
Surr: 4-Terphenyl-d14	83.3	NA	39.9-124	NA	%Rec	12/03/18 8:04AM	12/04/18 2:40PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: ES**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	12/03/18 9:53AM	12/05/18 4:26PM	PA/VA
Surr: 2,5-Dibromotoluene	46.4	NA	41.8-138	NA	%Rec	12/03/18 9:53AM	12/05/18 4:26PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		12/03/18 6:14PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 11:40:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-02A	**Matrix:**	Groundwater
Client Sample ID:	MW13	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		12/03/18 6:14PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		12/03/18 6:14PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		12/03/18 6:14PM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		12/03/18 6:14PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 11:40:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-02A	**Matrix:**	Groundwater
Client Sample ID:	MW13	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		12/03/18 6:14PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		12/03/18 6:14PM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		12/03/18 6:14PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		12/03/18 6:14PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Surr: 1,2-Dichloroethane-d4	105	NA	75.9-132	NA	%Rec		12/03/18 6:14PM	
Surr: 4-Bromofluorobenzene	88.5	NA	73.6-132	NA	%Rec		12/03/18 6:14PM	
Surr: Dibromofluoromethane	106	NA	80.1-127	NA	%Rec		12/03/18 6:14PM	
Surr: Toluene-d8	98.2	NA	72.4-119	NA	%Rec		12/03/18 6:14PM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		12/03/18 6:14PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		12/03/18 6:14PM	
Ethanol	ND	100	200	NA	µg/L		12/03/18 6:14PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		12/03/18 6:14PM	PA/VA
Surr: 1,2-Dichloroethane-d4	104	NA	72.3-120	NA	%Rec		12/03/18 6:14PM	
Surr: 4-Bromofluorobenzene	99.3	NA	72.5-134	NA	%Rec		12/03/18 6:14PM	

Pace Analytical Services - Analytical Report

WO#: **18113682**

Date Reported: **12/7/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 11:40:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-02A	**Matrix:**	Groundwater
Client Sample ID:	MW13	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	110	NA	75.9-141	NA	%Rec		12/03/18 6:14PM	
Surr: Toluene-d8	96.2	NA	72.6-119	NA	%Rec		12/03/18 6:14PM	

Pace Analytical Services - Analytical Report

WO#: **18113682**

Date Reported: **12/7/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 11:40:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-02B	**Matrix:**	Groundwater
Client Sample ID:	MW13	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	12/04/18 3:00PM	12/05/18 2:24PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-03A	**Matrix:**	Groundwater
Client Sample ID:	MW14	**Site ID:**	

Analysis	Result	MDL	PQL	MCL	Qual	Units	Prep Date	Date Analyzed	NELAC
METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**	
Lead	0.309	0.200	1.00	NA	J	µg/L	12/04/18 3:00PM	12/05/18 2:30PM	PA/VA
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: NC**	
DBCP	ND	0.00769	0.0202	0.200		µg/L	12/03/18 2:15PM	12/04/18 3:22PM	PA/VA
EDB	ND	0.00394	0.0202	0.050		µg/L	12/03/18 2:15PM	12/04/18 3:22PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: CLS**	
Acenaphthene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Acenaphthylene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Anthracene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Benzidine	ND	5.38	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Benzo(a)anthracene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Benzo(a)pyrene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Benzo(b)fluoranthene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Benzo(g,h,i)perylene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Benzo(k)fluoranthene	ND	3.23	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.38	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Butyl benzyl phthalate	ND	5.38	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
4-Chloro-3-methylphenol	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2-Chloronaphthalene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2-Chlorophenol	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Chrysene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
o-Cresol	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
m,p-Cresol	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Di-n-butyl phthalate	ND	5.38	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
1,2-Dichlorobenzene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
1,3-Dichlorobenzene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
1,4-Dichlorobenzene	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.38	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2,4-Dichlorophenol	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Diethyl phthalate	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Dimethyl phthalate	10.9	5.38	10.8	NA	B	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2,4-Dimethylphenol	ND	2.15	10.8	NA		µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-03A	**Matrix:**	Groundwater
Client Sample ID:	MW14	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
4,6-Dinitro-2-methylphenol	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2,4-Dinitrophenol	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2,4-Dinitrotoluene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2,6-Dinitrotoluene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Di-n-octyl phthalate	ND	5.38	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
1,2-Diphenylhydrazine	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Fluoranthene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Fluorene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Hexachlorobenzene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Hexachlorobutadiene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Hexachlorocyclopentadiene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Hexachloroethane	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Isophorone	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Naphthalene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Nitrobenzene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2-Nitrophenol	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
4-Nitrophenol	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
N-Nitrosodimethylamine	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
N-Nitrosodiphenylamine	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Pentachlorophenol	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Phenanthrene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Phenol	ND	5.38	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Pyrene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2,4,5-Trichlorophenol	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
2,4,6-Trichlorophenol	ND	2.15	10.8	NA	µg/L	12/03/18 8:04AM	12/04/18 3:03PM	PA/VA
Surr: 2-Fluorophenol	33.0	NA	17.6-120	NA	%Rec	12/03/18 8:04AM	12/04/18 3:03PM	
Surr: Phenol-d5	27.7	NA	11.4-120	NA	%Rec	12/03/18 8:04AM	12/04/18 3:03PM	
Surr: 2,4,6-Tribromophenol	75.9	NA	18-129	NA	%Rec	12/03/18 8:04AM	12/04/18 3:03PM	
Surr: Nitrobenzene-d5	61.3	NA	21.5-122	NA	%Rec	12/03/18 8:04AM	12/04/18 3:03PM	
Surr: 2-Fluorobiphenyl	69.6	NA	23.7-127	NA	%Rec	12/03/18 8:04AM	12/04/18 3:03PM	
Surr: 4-Terphenyl-d14	73.8	NA	39.9-124	NA	%Rec	12/03/18 8:04AM	12/04/18 3:03PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: ES**	
TPH (Gasoline Range: C6 - C10)	ND	250	500	NA	µg/L	12/03/18 9:53AM	12/05/18 4:57PM	PA/VA
Surr: 2,5-Dibromotoluene	51.5	NA	41.8-138	NA	%Rec	12/03/18 9:53AM	12/05/18 4:57PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: DTC**	
Xylenes, Total	ND	NA	0	NA	µg/L		12/03/18 6:46PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

Date Reported: 12/7/2018
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-03A	**Matrix:**	Groundwater
Client Sample ID:	MW14	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Acetone	ND	5.00	10.0	NA	µg/L		12/03/18 6:46PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		12/03/18 6:46PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		12/03/18 6:46PM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		12/03/18 6:46PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 18113682

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Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-03A	**Matrix:**	Groundwater
Client Sample ID:	MW14	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Hexachlorobutadiene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		12/03/18 6:46PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		12/03/18 6:46PM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		12/03/18 6:46PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		12/03/18 6:46PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Surr: 1,2-Dichloroethane-d4	103	NA	75.9-132	NA	%Rec		12/03/18 6:46PM	
Surr: 4-Bromofluorobenzene	88.5	NA	73.6-132	NA	%Rec		12/03/18 6:46PM	
Surr: Dibromofluoromethane	104	NA	80.1-127	NA	%Rec		12/03/18 6:46PM	
Surr: Toluene-d8	98.7	NA	72.4-119	NA	%Rec		12/03/18 6:46PM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL			**Method: SW8260B**				**Analyst: DTC**	
tert-Amyl alcohol	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	
tert-Amyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	
tert-Butyl alcohol	ND	100	200	NA	µg/L		12/03/18 6:46PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		12/03/18 6:46PM	
Ethanol	ND	100	200	NA	µg/L		12/03/18 6:46PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		12/03/18 6:46PM	PA/VA
Surr: 1,2-Dichloroethane-d4	103	NA	72.3-120	NA	%Rec		12/03/18 6:46PM	
Surr: 4-Bromofluorobenzene	98.4	NA	72.5-134	NA	%Rec		12/03/18 6:46PM	

Pace Analytical Services - Analytical Report

WO#: **18113682**

Date Reported: **12/7/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-03A	**Matrix:**	Groundwater
Client Sample ID:	MW14	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	109	NA	75.9-141	NA	%Rec		12/03/18 6:46PM	
Surr: Toluene-d8	96.7	NA	72.6-119	NA	%Rec		12/03/18 6:46PM	

Pace Analytical Services - Analytical Report

WO#: **18113682**

Date Reported: **12/7/2018**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	11/29/2018 4:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	11/30/2018
Lab ID:	18113682-03B	**Matrix:**	Groundwater
Client Sample ID:	MW14	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
DISSOLVED METALS BY ICP-MS				**Method: EPA 200.8 Rev. 5.4 (1994)**				**Analyst: CGW**
Lead	ND	0.200	1.00	NA	µg/L	12/04/18 3:00PM	12/05/18 2:36PM	PA/VA

Pace Analytical Services, LLC.
PO Box 684056
Chicago, IL 60695-4056
TEL: (304)255-2500
Website: www.reiclabs.com

Sample Receipt Checklist

Client Name:	**GRE096**			Work Order Number:	**18113682**
RCPNo:	**1**	Date and Time Received:	**11/30/2018 8:53:20 PM**	Received by:	**James Lester**
Completed By:	**Amie Wilder**		Reviewed By:	**Billy Shirley**	
Completed Date:	**11/30/2018 9:01:30 PM**		Reviewed Date:	**12/3/2018 11:24 AM**	

Carrier Name: Pace

1.	Chain of custody present?	Yes [x]	No [ ]	
2.	Chain of custody signed when relinquished and received?	Yes [x]	No [ ]	
3.	Are matrices correctly identified on Chain of custody?	Yes [x]	No [ ]	
4.	Is it clear what analyses were requested?	Yes [x]	No [ ]	
5.	Custody seals intact?	Yes [ ]	No [ ]	Not Present [x]
6.	Samples in proper container type and preservative?	Yes [x]	No [ ]	
7.	Were correct preservatives noted on COC?	Yes [x]	No [ ]	NA [ ]
8.	Sample containers intact?	Yes [x]	No [ ]	
9.	Sufficient sample volume for indicated test?	Yes [x]	No [ ]	
10.	Were container labels complete?	Yes [x]	No [ ]	
11.	All samples received within holding time?	Yes [x]	No [ ]	
12.	Was an attempt made to cool the samples?	Yes [x]	No [ ]	NA [ ]
13.	Sample Temp. taken and recorded upon receipt?	Yes [x]	No [ ]	To 2.1 ºC
14.	Water - Were bubbles absent in VOC vials?	Yes [x]	No [ ]	No Vials [ ]
15.	Are Samples considered acceptable?	Yes [x]	No [ ]	
16.	COC filled out properly?	Yes [x]	No [ ]	

Client Notification/Response

Client Name: **GRE096** Work Order Number: **18113682**

Comment:

Client Contacted: Yes [ ] No [ ] NA [x] Person Contacted:

Contact Mode: Phone [ ] Fax: [ ] Email: [ ] In Person: [ ]

Date Contacted: Contacted By:

Regarding:

Client Instructions:

Corrective Action:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label
MTJL Log-in Nu

18113682

GRE096
GREENE ENVIRONMENTAL SE
Billy Shirley

ALL SHADED AREAS ar

Company: Greene Environmental Services, LLC

Address: 129 Bunny Ridge Lane Rocky Mount, VA 24015

Billing Information: Mr. Trev Greene 570
Redbud Hill Road Rocky
Mount, VA 24151

Report To: Mr. Trev Greene

Email To: tgreene@greene-environmental.com

Copy To:

Site Collection Info/Address:

Customer Project Name/Number: Chamblissburg Supply - CSVI

State: County/City: Time Zone Collected:
/ [ ]PT [ ]MT [ ]CT [X]ET

Phone: 540-483-3311
Email: As above

Site/Facility ID #:

Compliance Monitoring?
[ ] Yes [ ] No

Collected By (print): BM

Purchase Order # :
Quote #:

DW PWS ID #:
DW Location Code:

Collected By (signature):

Turnaround Date Required:

Immediately Packed on Ice:
[X] Yes [ ] No

Sample Disposal:
[ ] Dispose as appropriate [ ] Return
[ ] Archive: _____
[ ] Hold: _____

Rush:
[ ] Same Day [ ] Next Day
[ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable):
[ ] Yes [ ] No

Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **

3	3	U	U	1	1				

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Project Manager:

Analyses

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	TPH-GRO via 8015	VOCs via 8260 including oxygenates	SVOCs via 8270	EDB/DBCP via 8011	Total Lead via 200.8	Dissovled Leed via 200.8				
MW12	GW	Grab	11/29/2018	1350				11	X	X	X	X	X	X				
MW13	GW	Grab	11/29/2018	1140				11	X	X	X	X	X	X				
MW14	GW	Grab	11/29/2018	1600				11	X	X	X	X	X	X				

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips: _____
Sample pH Acceptable Y N NA
pH Strips: _____
Sulfide Present Y N NA
Lead Acetate Strips: _____

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours) : Y N N/A

Lab Tracking #:

Samples received via:
FEDEX UPS Client Courier Pace Courier

LAB Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: 16
Cooler 1 Temp Upon Receipt: __oC
Cooler 1 Therm Corr. Factor: __oC
Cooler 1 Corrected Temp: 2.1 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	11-30-18 / 1055		11/30/18 1055
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 11-30-18 1650
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 11-30-18 1830

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: _____
of: _____

APPENDIX E

Aquifer Characterization

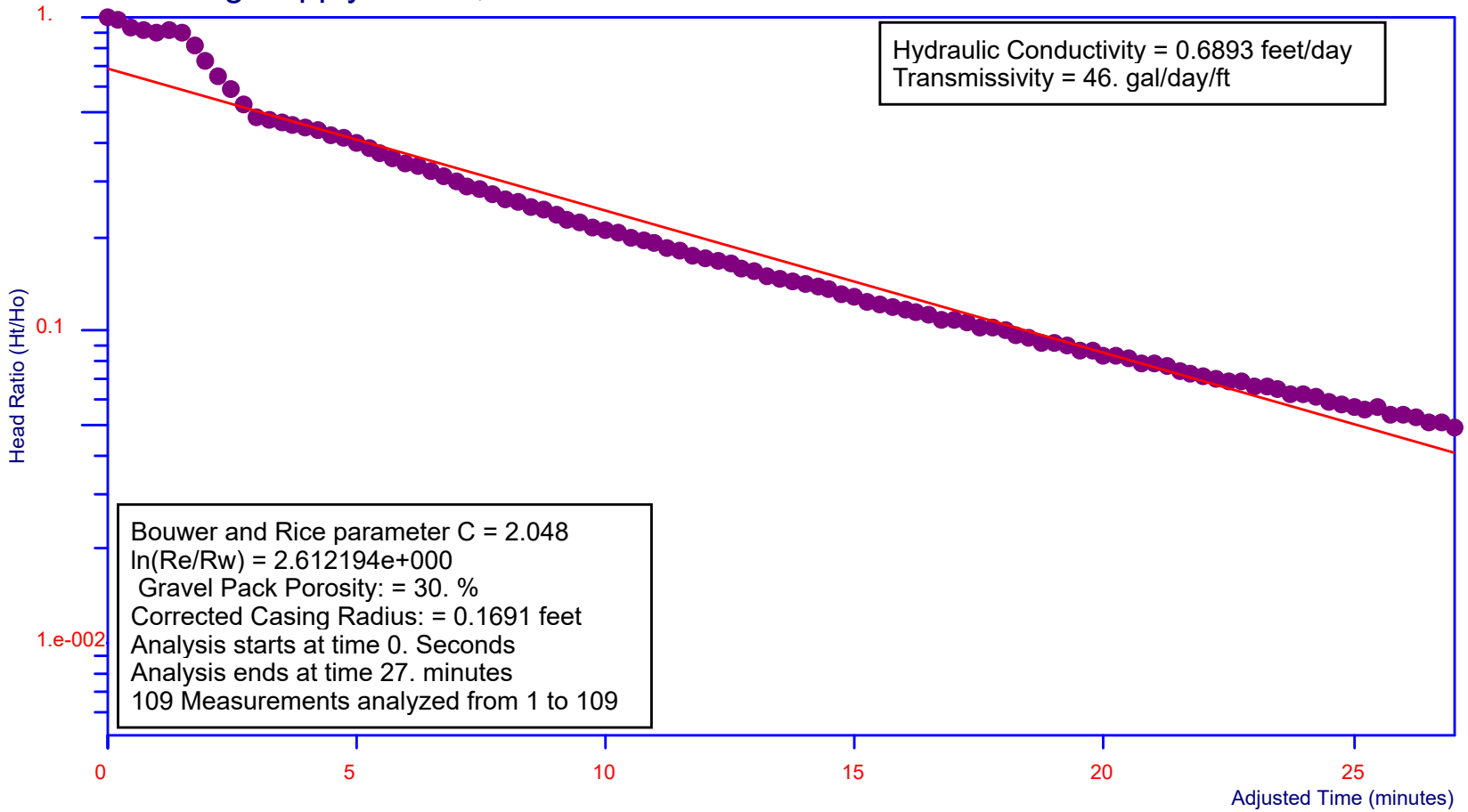
SCR Super Slug™ Pump-Down Test Data & Graphical Representations
SCRA Super Slug™ Pump-Down Test Data & Graphical Representations

Rising Head Slug Test October 10, 2017

Bouwer and Rice Graph

Chamblissburg Supply Vinton, VA

MW01



Project Number: CSVI1002 for Estate of Lacy Dudley

Analysis by Starpoint Software

Ho is 6.482 feet at 0. Seconds

Rising Head Slug Test

Site Name:	Chamblissburg Supply
Location:	Vinton, VA
Test Date:	October 10, 2017
Client:	Estate of Lacy Dudley
Project Number:	CSVI1002
Import File:	C:\Users\Adam\Documents\Greene Environmental\Chamblissburg Supply\CSVI1002

Well Label:	MW01
Aquifer Thickness:	8.92 feet
Screen Length:	30. feet
Casing Radius:	8.33e-002 feet
Effective Radius:	0.2813 feet
Gravel Pack Porosity:	30. %
Corrected Casing Radius:	0.1691 feet
Static Water Level:	0. feet
Water Table to Screen Bottom:	8.92 feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 109 time and drawdown measurements
Maximum head is 6.482 feet
Minimum head is 0. feet

Trial	Time (Seconds)	Adjusted Time (Seconds)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	6.482	6.482	1.
2	15.	15.	6.475	6.475	0.9989
3	30.	30.	6.077	6.077	0.9374
4	45.	45.	5.932	5.932	0.9152
5	60.	60.	5.798	5.798	0.8944
6	75.	75.	6.003	6.003	0.9262
7	90.	90.	5.804	5.804	0.8954
8	105.	105.	5.268	5.268	0.8128
9	120.	120.	4.755	4.755	0.7336
10	135.	135.	4.27	4.27	0.6587
11	150.	150.	3.827	3.827	0.5904
12	165.	165.	3.43	3.43	0.5291
13	180.	180.	3.142	3.142	0.4847
14	195.	195.	3.044	3.044	0.4696
15	210.	210.	2.991	2.991	0.4614
16	225.	225.	2.936	2.936	0.4529
17	240.	240.	2.893	2.893	0.4463
18	255.	255.	2.821	2.821	0.4353
19	270.	270.	2.738	2.738	0.4224
20	285.	285.	2.664	2.664	0.411
21	300.	300.	2.573	2.573	0.3969
22	315.	315.	2.478	2.478	0.3823
23	330.	330.	2.4	2.4	0.3703
24	345.	345.	2.313	2.313	0.3568
25	360.	360.	2.24	2.24	0.3455
26	375.	375.	2.167	2.167	0.3344
27	390.	390.	2.09	2.09	0.3225
28	405.	405.	2.029	2.029	0.3131
29	420.	420.	1.958	1.958	0.302
30	435.	435.	1.894	1.894	0.2922
31	450.	450.	1.828	1.828	0.2821

32	465.	465.	1.77	1.77	0.2731
33	480.	480.	1.721	1.721	0.2655
34	495.	495.	1.661	1.661	0.2562
35	510.	510.	1.615	1.615	0.2491
36	525.	525.	1.572	1.572	0.2426
37	540.	540.	1.524	1.524	0.2352
38	555.	555.	1.478	1.478	0.228
39	570.	570.	1.44	1.44	0.2221
40	585.	585.	1.395	1.395	0.2152
41	600.	600.	1.358	1.358	0.2096
42	615.	615.	1.325	1.325	0.2044
43	630.	630.	1.292	1.292	0.1993
44	645.	645.	1.254	1.254	0.1935
45	660.	660.	1.227	1.227	0.1892
46	675.	675.	1.195	1.195	0.1844
47	690.	690.	1.167	1.167	0.18
48	705.	705.	1.136	1.136	0.1753
49	720.	720.	1.111	1.111	0.1713
50	735.	735.	1.076	1.076	0.166
51	750.	750.	1.056	1.056	0.1629
52	765.	765.	1.028	1.028	0.1585
53	780.	780.	1.002	1.002	0.1546
54	795.	795.	0.9745	0.9745	0.1503
55	810.	810.	0.9459	0.9459	0.1459
56	825.	825.	0.9288	0.9288	0.1433
57	840.	840.	0.9109	0.9109	0.1405
58	855.	855.	0.8898	0.8898	0.1373
59	870.	870.	0.876	0.876	0.1351
60	885.	885.	0.8509	0.8509	0.1313
61	900.	900.	0.8285	0.8285	0.1278
62	915.	915.	0.8063	0.8063	0.1244
63	930.	930.	0.7929	0.7929	0.1223
64	945.	945.	0.7689	0.7689	0.1186
65	960.	960.	0.7514	0.7514	0.1159
66	975.	975.	0.7395	0.7395	0.1141
67	990.	990.	0.7233	0.7233	0.1116
68	1005	1005	0.7044	0.7044	0.1087
69	1020	1020	0.7013	0.7013	0.1082
70	1035	1035	0.6867	0.6867	0.1059
71	1050	1050	0.6655	0.6655	0.1027
72	1065	1065	0.6588	0.6588	0.1016
73	1080	1080	0.6506	0.6506	0.1004
74	1095	1095	0.6292	0.6292	9.707e-002
75	1110	1110	0.6144	0.6144	9.479e-002
76	1125	1125	0.5963	0.5963	9.199e-002
77	1140	1140	0.5929	0.5929	9.147e-002
78	1155	1155	0.5773	0.5773	8.906e-002
79	1170	1170	0.5638	0.5638	8.698e-002
80	1185	1185	0.5566	0.5566	8.587e-002
81	1200	1200	0.5424	0.5424	8.368e-002
82	1215	1215	0.5335	0.5335	8.23e-002
83	1230	1230	0.527	0.527	8.13e-002
84	1245	1245	0.5094	0.5094	7.859e-002
85	1260	1260	0.5066	0.5066	7.815e-002
86	1275	1275	0.4987	0.4987	7.694e-002
87	1290	1290	0.4846	0.4846	7.476e-002
88	1305	1305	0.4734	0.4734	7.303e-002

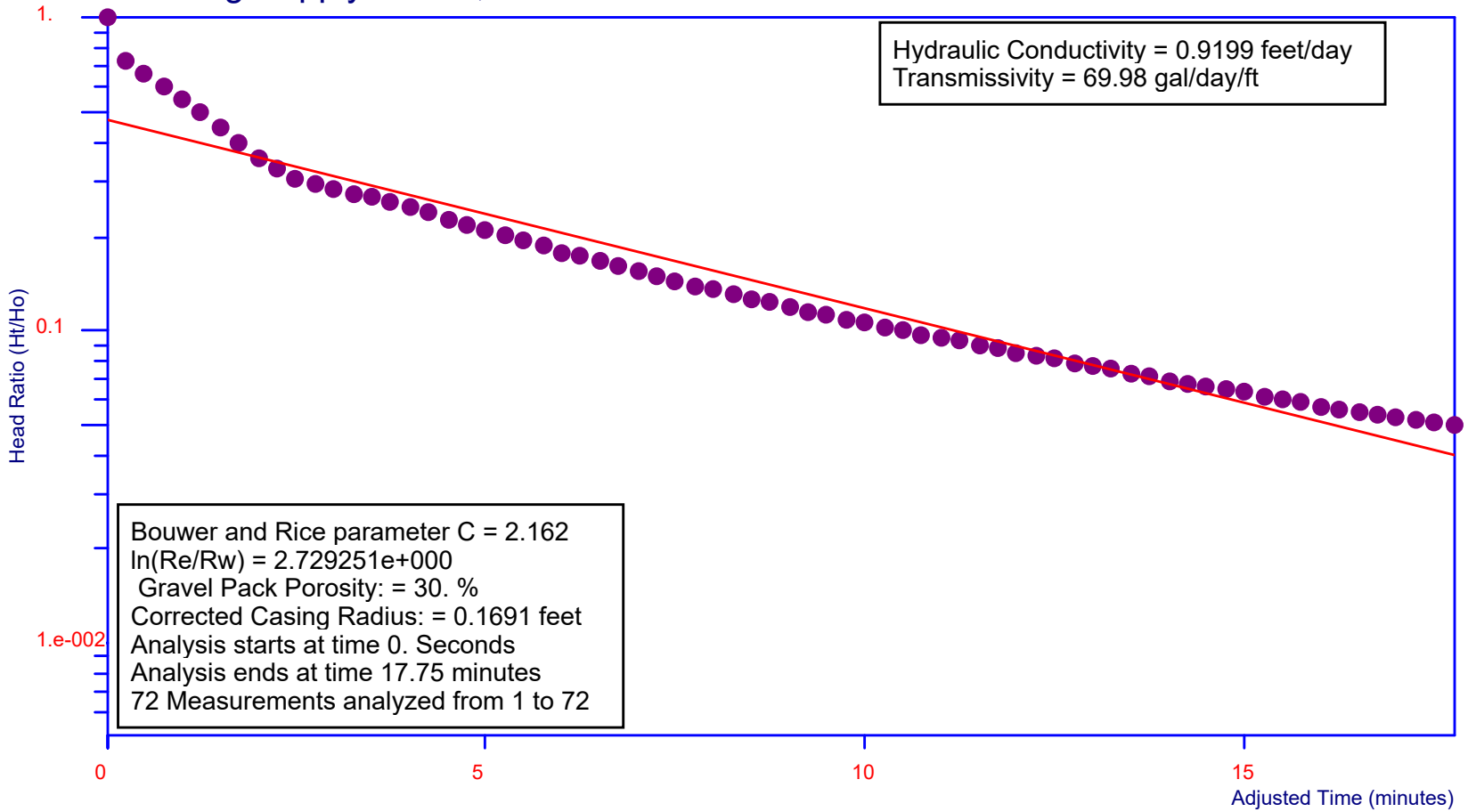
89	1320	1320	0.4591	0.4591	7.083e-002
90	1335	1335	0.4548	0.4548	7.016e-002
91	1350	1350	0.4478	0.4478	6.908e-002
92	1365	1365	0.4416	0.4416	6.813e-002
93	1380	1380	0.4299	0.4299	6.632e-002
94	1395	1395	0.4251	0.4251	6.558e-002
95	1410	1410	0.4227	0.4227	6.521e-002
96	1425	1425	0.409	0.409	6.31e-002
97	1440	1440	0.4055	0.4055	6.256e-002
98	1455	1455	0.3955	0.3955	6.102e-002
99	1470	1470	0.3859	0.3859	5.953e-002
100	1485	1485	0.3769	0.3769	5.815e-002
101	1500	1500	0.371	0.371	5.724e-002
102	1515	1515	0.3624	0.3624	5.591e-002
103	1530	1530	0.3681	0.3681	5.679e-002
104	1545	1545	0.3491	0.3491	5.386e-002
105	1560	1560	0.3467	0.3467	5.349e-002
106	1575	1575	0.3438	0.3438	5.304e-002
107	1590	1590	0.3309	0.3309	5.105e-002
108	1605	1605	0.3281	0.3281	5.062e-002
109	1620	1620	0.317	0.317	4.89e-002

Rising Head Slug Test October 10, 2017

Bouwer and Rice Graph

Chamblissburg Supply Vinton, VA

MW11



Project Number: CSVI1002 for Estate of Lacy Dudley

Analysis by Starpoint Software

Ho is 9.391 feet at 0. Seconds

Rising Head Slug Test

Site Name:	Chamblissburg Supply
Location:	Vinton, VA
Test Date:	October 10, 2017
Client:	Estate of Lacy Dudley
Project Number:	CSVI1002
Import File:	C:\Users\Adam\Documents\Greene Environmental\Chamblissburg Supply\CSVI1002

Well Label:	MW11
Aquifer Thickness:	10.17 feet
Screen Length:	30. feet
Casing Radius:	8.33e-002 feet
Effective Radius:	0.2813 feet
Gravel Pack Porosity:	30. %
Corrected Casing Radius:	0.1691 feet
Static Water Level:	0. feet
Water Table to Screen Bottom:	10.17 feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 72 time and drawdown measurements
Maximum head is 9.391 feet
Minimum head is 0. feet

Trial	Time (Seconds)	Adjusted Time (Seconds)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	9.391	9.391	1.
2	15.	15.	6.882	6.882	0.7328
3	30.	30.	6.289	6.289	0.6697
4	45.	45.	5.728	5.728	0.6099
5	60.	60.	5.194	5.194	0.5531
6	75.	75.	4.689	4.689	0.4993
7	90.	90.	4.216	4.216	0.449
8	105.	105.	3.77	3.77	0.4015
9	120.	120.	3.378	3.378	0.3597
10	135.	135.	3.093	3.093	0.3293
11	150.	150.	2.88	2.88	0.3067
12	165.	165.	2.752	2.752	0.2931
13	180.	180.	2.664	2.664	0.2837
14	195.	195.	2.587	2.587	0.2755
15	210.	210.	2.505	2.505	0.2668
16	225.	225.	2.427	2.427	0.2584
17	240.	240.	2.329	2.329	0.248
18	255.	255.	2.232	2.232	0.2376
19	270.	270.	2.128	2.128	0.2266
20	285.	285.	2.046	2.046	0.2179
21	300.	300.	1.96	1.96	0.2087
22	315.	315.	1.881	1.881	0.2003
23	330.	330.	1.81	1.81	0.1928
24	345.	345.	1.743	1.743	0.1857
25	360.	360.	1.677	1.677	0.1785
26	375.	375.	1.619	1.619	0.1724
27	390.	390.	1.558	1.558	0.1659
28	405.	405.	1.506	1.506	0.1604
29	420.	420.	1.451	1.451	0.1545
30	435.	435.	1.399	1.399	0.149
31	450.	450.	1.353	1.353	0.1441

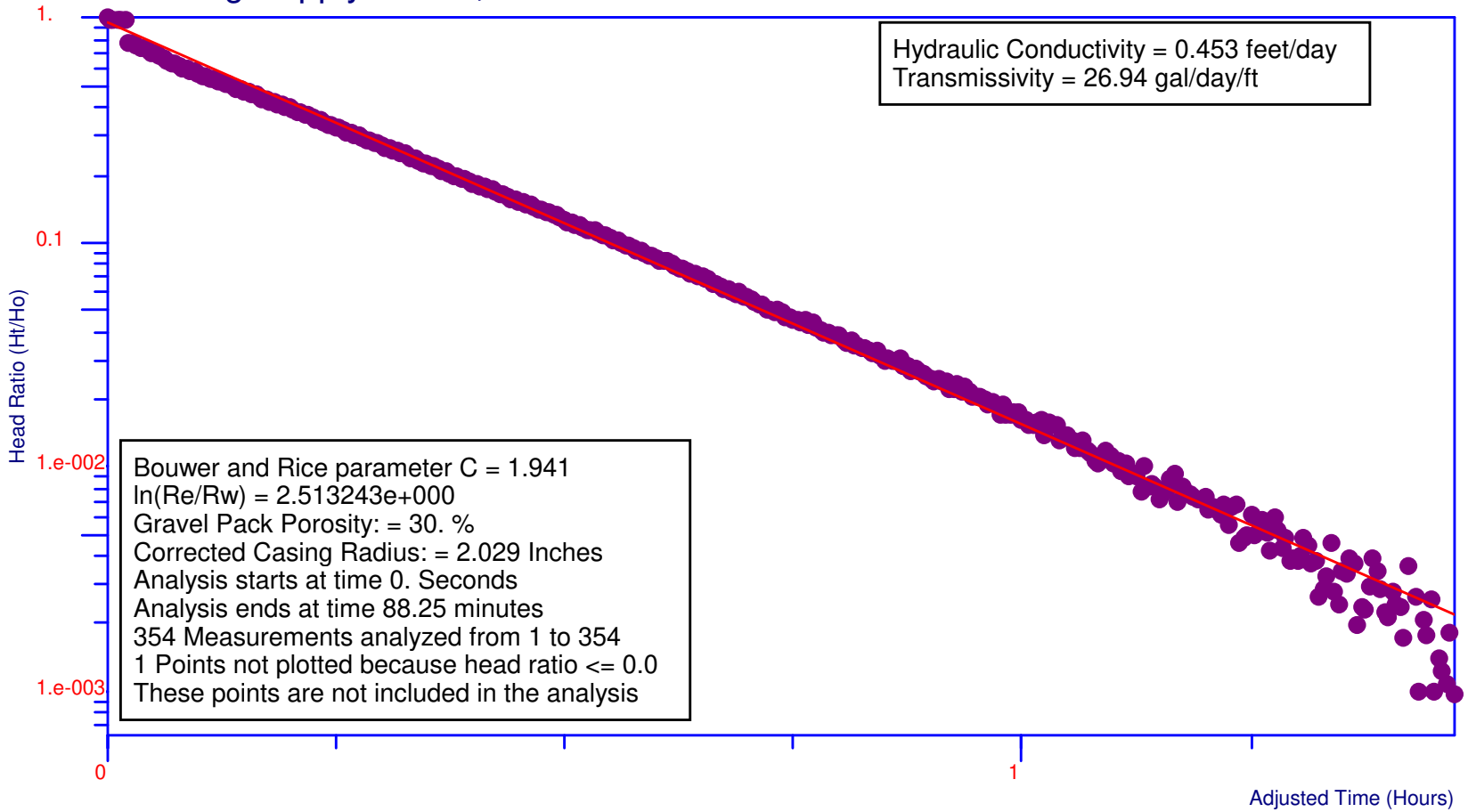
32	465.	465.	1.311	1.311	0.1396
33	480.	480.	1.265	1.265	0.1347
34	495.	495.	1.229	1.229	0.1308
35	510.	510.	1.188	1.188	0.1266
36	525.	525.	1.152	1.152	0.1227
37	540.	540.	1.116	1.116	0.1188
38	555.	555.	1.085	1.085	0.1155
39	570.	570.	1.055	1.055	0.1123
40	585.	585.	1.024	1.024	0.109
41	600.	600.	0.9933	0.9933	0.1058
42	615.	615.	0.9607	0.9607	0.1023
43	630.	630.	0.9416	0.9416	0.1003
44	645.	645.	0.9148	0.9148	9.741e-002
45	660.	660.	0.8957	0.8957	9.537e-002
46	675.	675.	0.8689	0.8689	9.252e-002
47	690.	690.	0.844	0.844	8.987e-002
48	705.	705.	0.8229	0.8229	8.763e-002
49	720.	720.	0.8019	0.8019	8.539e-002
50	735.	735.	0.7808	0.7808	8.315e-002
51	750.	750.	0.7617	0.7617	8.111e-002
52	765.	765.	0.7407	0.7407	7.887e-002
53	780.	780.	0.7196	0.7196	7.663e-002
54	795.	795.	0.7043	0.7043	7.5e-002
55	810.	810.	0.6832	0.6832	7.275e-002
56	825.	825.	0.666	0.666	7.092e-002
57	840.	840.	0.6507	0.6507	6.929e-002
58	855.	855.	0.6354	0.6354	6.766e-002
59	870.	870.	0.6201	0.6201	6.603e-002
60	885.	885.	0.6048	0.6048	6.44e-002
61	900.	900.	0.5933	0.5933	6.318e-002
62	915.	915.	0.578	0.578	6.154e-002
63	930.	930.	0.5627	0.5627	5.991e-002
64	945.	945.	0.5531	0.5531	5.889e-002
65	960.	960.	0.5378	0.5378	5.726e-002
66	975.	975.	0.5263	0.5263	5.604e-002
67	990.	990.	0.5167	0.5167	5.502e-002
68	1005	1005	0.5072	0.5072	5.4e-002
69	1020	1020	0.4957	0.4957	5.278e-002
70	1035	1035	0.4861	0.4861	5.176e-002
71	1050	1050	0.4765	0.4765	5.074e-002
72	1065	1065	0.4651	0.4651	4.952e-002

Rising Head Slug Test August 30, 2018

Bouwer and Rice Graph

Chamblissburg Supply Vinton, VA

MW02



Ho is 6.239 feet at 0. Seconds

Project Number: CSVI1003 for Estate of Lacy Dudley

Analysis by Starpoint Software

Rising Head Slug Test

Site Name:	Chamblissburg Supply
Location:	Vinton, VA
Test Date:	August 30, 2018
Client:	Estate of Lacy Dudley
Project Number:	CSVI1003
Import File:	C:\Users\Adam\Documents\Greene Environmental\Chamblissburg Supply\CSVI1003

Well Label:	MW02
Aquifer Thickness:	7.95 feet
Screen Length:	30. feet
Casing Radius:	0.9996 Inches
Effective Radius:	3.376 Inches
Gravel Pack Porosity:	30. %
Corrected Casing Radius:	2.029 Inches
Static Water Level:	0. feet
Water Table to Screen Bottom:	7.95 feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 354 time and drawdown measurements
Maximum head is 6.239 feet
Minimum head is 0. feet

Trial	Time (Seconds)	Adjusted Time (Seconds)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	6.239	6.239	1.
2	15.	15.	6.187	6.187	0.9917
3	30.	30.	6.184	6.184	0.9912
4	45.	45.	6.17	6.17	0.989
5	60.	60.	6.172	6.172	0.9893
6	75.	75.	6.161	6.161	0.9875
7	90.	90.	4.871	4.871	0.7808
8	105.	105.	4.798	4.798	0.7691
9	120.	120.	4.718	4.718	0.7561
10	135.	135.	4.638	4.638	0.7433
11	150.	150.	4.559	4.559	0.7307
12	165.	165.	4.497	4.497	0.7209
13	180.	180.	4.423	4.423	0.7089
14	195.	195.	4.356	4.356	0.6982
15	210.	210.	4.278	4.278	0.6857
16	225.	225.	4.173	4.173	0.6689
17	240.	240.	4.069	4.069	0.6522
18	255.	255.	3.979	3.979	0.6378
19	270.	270.	3.914	3.914	0.6273
20	285.	285.	3.845	3.845	0.6163
21	300.	300.	3.778	3.778	0.6055
22	315.	315.	3.712	3.712	0.5949
23	330.	330.	3.655	3.655	0.5858
24	345.	345.	3.597	3.597	0.5765
25	360.	360.	3.546	3.546	0.5684
26	375.	375.	3.492	3.492	0.5597
27	390.	390.	3.429	3.429	0.5496
28	405.	405.	3.388	3.388	0.543
29	420.	420.	3.336	3.336	0.5347
30	435.	435.	3.287	3.287	0.5268
31	450.	450.	3.24	3.24	0.5193

32	465.	465.	3.192	3.192	0.5117
33	480.	480.	3.145	3.145	0.5041
34	495.	495.	3.097	3.097	0.4963
35	510.	510.	3.056	3.056	0.4899
36	525.	525.	3.011	3.011	0.4825
37	540.	540.	2.963	2.963	0.4749
38	555.	555.	2.913	2.913	0.4668
39	570.	570.	2.876	2.876	0.461
40	585.	585.	2.839	2.839	0.4551
41	600.	600.	2.798	2.798	0.4484
42	615.	615.	2.753	2.753	0.4412
43	630.	630.	2.716	2.716	0.4353
44	645.	645.	2.674	2.674	0.4285
45	660.	660.	2.632	2.632	0.4218
46	675.	675.	2.595	2.595	0.4159
47	690.	690.	2.557	2.557	0.4098
48	705.	705.	2.522	2.522	0.4043
49	720.	720.	2.485	2.485	0.3983
50	735.	735.	2.446	2.446	0.392
51	750.	750.	2.406	2.406	0.3856
52	765.	765.	2.361	2.361	0.3785
53	780.	780.	2.323	2.323	0.3723
54	795.	795.	2.298	2.298	0.3683
55	810.	810.	2.246	2.246	0.3601
56	825.	825.	2.218	2.218	0.3554
57	840.	840.	2.183	2.183	0.3499
58	855.	855.	2.151	2.151	0.3447
59	870.	870.	2.118	2.118	0.3394
60	885.	885.	2.077	2.077	0.3329
61	900.	900.	2.053	2.053	0.329
62	915.	915.	2.016	2.016	0.3231
63	930.	930.	1.99	1.99	0.3189
64	945.	945.	1.952	1.952	0.3129
65	960.	960.	1.917	1.917	0.3073
66	975.	975.	1.885	1.885	0.3021
67	990.	990.	1.867	1.867	0.2992
68	1005	1005	1.832	1.832	0.2936
69	1020	1020	1.804	1.804	0.2892
70	1035	1035	1.78	1.78	0.2852
71	1050	1050	1.748	1.748	0.2802
72	1065	1065	1.722	1.722	0.276
73	1080	1080	1.689	1.689	0.2707
74	1095	1095	1.661	1.661	0.2663
75	1110	1110	1.643	1.643	0.2633
76	1125	1125	1.615	1.615	0.2589
77	1140	1140	1.59	1.59	0.2549
78	1155	1155	1.562	1.562	0.2503
79	1170	1170	1.546	1.546	0.2479
80	1185	1185	1.514	1.514	0.2427
81	1200	1200	1.494	1.494	0.2395
82	1215	1215	1.476	1.476	0.2366
83	1230	1230	1.444	1.444	0.2314
84	1245	1245	1.425	1.425	0.2284
85	1260	1260	1.396	1.396	0.2238
86	1275	1275	1.372	1.372	0.2199
87	1290	1290	1.354	1.354	0.217
88	1305	1305	1.326	1.326	0.2126

89	1320	1320	1.313	1.313	0.2105
90	1335	1335	1.292	1.292	0.2071
91	1350	1350	1.268	1.268	0.2032
92	1365	1365	1.249	1.249	0.2002
93	1380	1380	1.23	1.23	0.1972
94	1395	1395	1.207	1.207	0.1934
95	1410	1410	1.196	1.196	0.1917
96	1425	1425	1.17	1.17	0.1875
97	1440	1440	1.152	1.152	0.1846
98	1455	1455	1.138	1.138	0.1824
99	1470	1470	1.116	1.116	0.1789
100	1485	1485	1.098	1.098	0.176
101	1500	1500	1.081	1.081	0.1733
102	1515	1515	1.07	1.07	0.1715
103	1530	1530	1.052	1.052	0.1686
104	1545	1545	1.031	1.031	0.1652
105	1560	1560	1.014	1.014	0.1625
106	1575	1575	1.002	1.002	0.1605
107	1590	1590	0.9833	0.9833	0.1576
108	1605	1605	0.9643	0.9643	0.1546
109	1620	1620	0.9554	0.9554	0.1531
110	1635	1635	0.941	0.941	0.1508
111	1650	1650	0.9161	0.9161	0.1468
112	1665	1665	0.914	0.914	0.1465
113	1680	1680	0.8908	0.8908	0.1428
114	1695	1695	0.8808	0.8808	0.1412
115	1710	1710	0.8721	0.8721	0.1398
116	1725	1725	0.8581	0.8581	0.1375
117	1740	1740	0.8439	0.8439	0.1353
118	1755	1755	0.8271	0.8271	0.1326
119	1770	1770	0.8219	0.8219	0.1317
120	1785	1785	0.8094	0.8094	0.1297
121	1800	1800	0.7901	0.7901	0.1266
122	1815	1815	0.7778	0.7778	0.1247
123	1830	1830	0.7671	0.7671	0.123
124	1845	1845	0.755	0.755	0.121
125	1860	1860	0.7464	0.7464	0.1196
126	1875	1875	0.7351	0.7351	0.1178
127	1890	1890	0.7172	0.7172	0.115
128	1905	1905	0.7104	0.7104	0.1139
129	1920	1920	0.7061	0.7061	0.1132
130	1935	1935	0.6916	0.6916	0.1109
131	1950	1950	0.6779	0.6779	0.1087
132	1965	1965	0.6662	0.6662	0.1068
133	1980	1980	0.6515	0.6515	0.1044
134	1995	1995	0.6425	0.6425	0.103
135	2010	2010	0.635	0.635	0.1018
136	2025	2025	0.616	0.616	9.874e-002
137	2040	2040	0.6122	0.6122	9.813e-002
138	2055	2055	0.6006	0.6006	9.627e-002
139	2070	2070	0.5882	0.5882	9.428e-002
140	2085	2085	0.5801	0.5801	9.298e-002
141	2100	2100	0.5705	0.5705	9.144e-002
142	2115	2115	0.5594	0.5594	8.966e-002
143	2130	2130	0.5493	0.5493	8.804e-002
144	2145	2145	0.5458	0.5458	8.748e-002
145	2160	2160	0.5293	0.5293	8.484e-002

146	2175	2175	0.5237	0.5237	8.394e-002
147	2190	2190	0.5221	0.5221	8.368e-002
148	2205	2205	0.5121	0.5121	8.208e-002
149	2220	2220	0.5026	0.5026	8.056e-002
150	2235	2235	0.4958	0.4958	7.947e-002
151	2250	2250	0.4815	0.4815	7.718e-002
152	2265	2265	0.4761	0.4761	7.631e-002
153	2280	2280	0.4632	0.4632	7.424e-002
154	2295	2295	0.4567	0.4567	7.32e-002
155	2310	2310	0.4535	0.4535	7.269e-002
156	2325	2325	0.4394	0.4394	7.043e-002
157	2340	2340	0.4408	0.4408	7.065e-002
158	2355	2355	0.4307	0.4307	6.903e-002
159	2370	2370	0.4255	0.4255	6.82e-002
160	2385	2385	0.4118	0.4118	6.601e-002
161	2400	2400	0.4087	0.4087	6.551e-002
162	2415	2415	0.3968	0.3968	6.36e-002
163	2430	2430	0.3919	0.3919	6.282e-002
164	2445	2445	0.3846	0.3846	6.165e-002
165	2460	2460	0.3782	0.3782	6.062e-002
166	2475	2475	0.3703	0.3703	5.935e-002
167	2490	2490	0.3754	0.3754	6.017e-002
168	2505	2505	0.3612	0.3612	5.789e-002
169	2520	2520	0.3532	0.3532	5.661e-002
170	2535	2535	0.3489	0.3489	5.592e-002
171	2550	2550	0.3389	0.3389	5.432e-002
172	2565	2565	0.3344	0.3344	5.36e-002
173	2580	2580	0.3324	0.3324	5.328e-002
174	2595	2595	0.3135	0.3135	5.025e-002
175	2610	2610	0.3137	0.3137	5.028e-002
176	2625	2625	0.3083	0.3083	4.942e-002
177	2640	2640	0.3107	0.3107	4.98e-002
178	2655	2655	0.303	0.303	4.857e-002
179	2670	2670	0.2935	0.2935	4.704e-002
180	2685	2685	0.2925	0.2925	4.688e-002
181	2700	2700	0.2842	0.2842	4.555e-002
182	2715	2715	0.2816	0.2816	4.514e-002
183	2730	2730	0.2765	0.2765	4.432e-002
184	2745	2745	0.2793	0.2793	4.477e-002
185	2760	2760	0.2696	0.2696	4.321e-002
186	2775	2775	0.2739	0.2739	4.39e-002
187	2790	2790	0.2576	0.2576	4.129e-002
188	2805	2805	0.2572	0.2572	4.123e-002
189	2820	2820	0.2455	0.2455	3.935e-002
190	2835	2835	0.25	0.25	4.007e-002
191	2850	2850	0.2407	0.2407	3.858e-002
192	2865	2865	0.2386	0.2386	3.824e-002
193	2880	2880	0.2407	0.2407	3.858e-002
194	2895	2895	0.2293	0.2293	3.675e-002
195	2910	2910	0.2236	0.2236	3.584e-002
196	2925	2925	0.226	0.226	3.622e-002
197	2940	2940	0.216	0.216	3.462e-002
198	2955	2955	0.2197	0.2197	3.521e-002
199	2970	2970	0.2126	0.2126	3.408e-002
200	2985	2985	0.2121	0.2121	3.4e-002
201	3000	3000	0.2076	0.2076	3.328e-002
202	3015	3015	0.1987	0.1987	3.185e-002

203	3030	3030	0.2054	0.2054	3.292e-002
204	3045	3045	0.1943	0.1943	3.114e-002
205	3060	3060	0.1866	0.1866	2.991e-002
206	3075	3075	0.1922	0.1922	3.081e-002
207	3090	3090	0.1846	0.1846	2.959e-002
208	3105	3105	0.1853	0.1853	2.97e-002
209	3120	3120	0.189	0.189	3.029e-002
210	3135	3135	0.1761	0.1761	2.823e-002
211	3150	3150	0.1747	0.1747	2.8e-002
212	3165	3165	0.1668	0.1668	2.674e-002
213	3180	3180	0.1694	0.1694	2.715e-002
214	3195	3195	0.1668	0.1668	2.674e-002
215	3210	3210	0.1632	0.1632	2.616e-002
216	3225	3225	0.1572	0.1572	2.52e-002
217	3240	3240	0.1525	0.1525	2.444e-002
218	3255	3255	0.151	0.151	2.42e-002
219	3270	3270	0.154	0.154	2.468e-002
220	3285	3285	0.1496	0.1496	2.398e-002
221	3300	3300	0.1482	0.1482	2.375e-002
222	3315	3315	0.1391	0.1391	2.23e-002
223	3330	3330	0.1396	0.1396	2.238e-002
224	3345	3345	0.1464	0.1464	2.347e-002
225	3360	3360	0.135	0.135	2.164e-002
226	3375	3375	0.141	0.141	2.26e-002
227	3390	3390	0.1337	0.1337	2.143e-002
228	3405	3405	0.1286	0.1286	2.061e-002
229	3420	3420	0.1268	0.1268	2.032e-002
230	3435	3435	0.1265	0.1265	2.028e-002
231	3450	3450	0.1243	0.1243	1.992e-002
232	3465	3465	0.1183	0.1183	1.896e-002
233	3480	3480	0.1224	0.1224	1.962e-002
234	3495	3495	0.1168	0.1168	1.872e-002
235	3510	3510	0.1076	0.1076	1.725e-002
236	3525	3525	0.1186	0.1186	1.901e-002
237	3540	3540	0.1075	0.1075	1.723e-002
238	3555	3555	0.1051	0.1051	1.685e-002
239	3570	3570	0.1105	0.1105	1.771e-002
240	3585	3585	0.1089	0.1089	1.746e-002
241	3600	3600	0.1012	0.1012	1.622e-002
242	3615	3615	9.97e-002	9.97e-002	1.598e-002
243	3630	3630	9.51e-002	9.51e-002	1.524e-002
244	3645	3645	9.5e-002	9.5e-002	1.523e-002
245	3660	3660	9.72e-002	9.72e-002	1.558e-002
246	3675	3675	0.1014	0.1014	1.625e-002
247	3690	3690	8.69e-002	8.69e-002	1.393e-002
248	3705	3705	9.83e-002	9.83e-002	1.576e-002
249	3720	3720	9.5e-002	9.5e-002	1.523e-002
250	3735	3735	9.51e-002	9.51e-002	1.524e-002
251	3750	3750	8.21e-002	8.21e-002	1.316e-002
252	3765	3765	8.62e-002	8.62e-002	1.382e-002
253	3780	3780	8.61e-002	8.61e-002	1.38e-002
254	3795	3795	8.11e-002	8.11e-002	1.3e-002
255	3810	3810	7.54e-002	7.54e-002	1.209e-002
256	3825	3825	7.58e-002	7.58e-002	1.215e-002
257	3840	3840	8.14e-002	8.14e-002	1.305e-002
258	3855	3855	7.42e-002	7.42e-002	1.189e-002
259	3870	3870	7.21e-002	7.21e-002	1.156e-002

260	3885	3885	6.69e-002	6.69e-002	1.072e-002
261	3900	3900	6.42e-002	6.42e-002	1.029e-002
262	3915	3915	6.72e-002	6.72e-002	1.077e-002
263	3930	3930	7.33e-002	7.33e-002	1.175e-002
264	3945	3945	7.04e-002	7.04e-002	1.128e-002
265	3960	3960	6.42e-002	6.42e-002	1.029e-002
266	3975	3975	6.55e-002	6.55e-002	1.05e-002
267	3990	3990	5.9e-002	5.9e-002	9.457e-003
268	4005	4005	6.49e-002	6.49e-002	1.04e-002
269	4020	4020	5.62e-002	5.62e-002	9.008e-003
270	4035	4035	5.82e-002	5.82e-002	9.329e-003
271	4050	4050	5.62e-002	5.62e-002	9.008e-003
272	4065	4065	4.89e-002	4.89e-002	7.838e-003
273	4080	4080	6.25e-002	6.25e-002	1.002e-002
274	4095	4095	5.14e-002	5.14e-002	8.239e-003
275	4110	4110	5.16e-002	5.16e-002	8.271e-003
276	4125	4125	5.04e-002	5.04e-002	8.078e-003
277	4140	4140	4.51e-002	4.51e-002	7.229e-003
278	4155	4155	4.72e-002	4.72e-002	7.565e-003
279	4170	4170	4.93e-002	4.93e-002	7.902e-003
280	4185	4185	5.44e-002	5.44e-002	8.719e-003
281	4200	4200	5.82e-002	5.82e-002	9.329e-003
282	4215	4215	4.39e-002	4.39e-002	7.036e-003
283	4230	4230	5.04e-002	5.04e-002	8.078e-003
284	4245	4245	4.79e-002	4.79e-002	7.678e-003
285	4260	4260	4.76e-002	4.76e-002	7.63e-003
286	4275	4275	4.62e-002	4.62e-002	7.405e-003
287	4290	4290	4.48e-002	4.48e-002	7.181e-003
288	4305	4305	4.46e-002	4.46e-002	7.149e-003
289	4320	4320	4.54e-002	4.54e-002	7.277e-003
290	4335	4335	4.01e-002	4.01e-002	6.427e-003
291	4350	4350	4.15e-002	4.15e-002	6.652e-003
292	4365	4365	4.01e-002	4.01e-002	6.427e-003
293	4380	4380	3.83e-002	3.83e-002	6.139e-003
294	4395	4395	4.23e-002	4.23e-002	6.78e-003
295	4410	4410	3.46e-002	3.46e-002	5.546e-003
296	4425	4425	4.08e-002	4.08e-002	6.54e-003
297	4440	4440	4.28e-002	4.28e-002	6.86e-003
298	4455	4455	2.82e-002	2.82e-002	4.52e-003
299	4470	4470	2.97e-002	2.97e-002	4.76e-003
300	4485	4485	3.08e-002	3.08e-002	4.937e-003
301	4500	4500	3.76e-002	3.76e-002	6.027e-003
302	4515	4515	3.11e-002	3.11e-002	4.985e-003
303	4530	4530	3.48e-002	3.48e-002	5.578e-003
304	4545	4545	3.65e-002	3.65e-002	5.85e-003
305	4560	4560	3.21e-002	3.21e-002	5.145e-003
306	4575	4575	2.65e-002	2.65e-002	4.248e-003
307	4590	4590	3.68e-002	3.68e-002	5.898e-003
308	4605	4605	3.22e-002	3.22e-002	5.161e-003
309	4620	4620	2.69e-002	2.69e-002	4.312e-003
310	4635	4635	3.04e-002	3.04e-002	4.873e-003
311	4650	4650	2.34e-002	2.34e-002	3.751e-003
312	4665	4665	2.44e-002	2.44e-002	3.911e-003
313	4680	4680	2.37e-002	2.37e-002	3.799e-003
314	4695	4695	2.51e-002	2.51e-002	4.023e-003
315	4710	4710	2.97e-002	2.97e-002	4.76e-003
316	4725	4725	2.75e-002	2.75e-002	4.408e-003

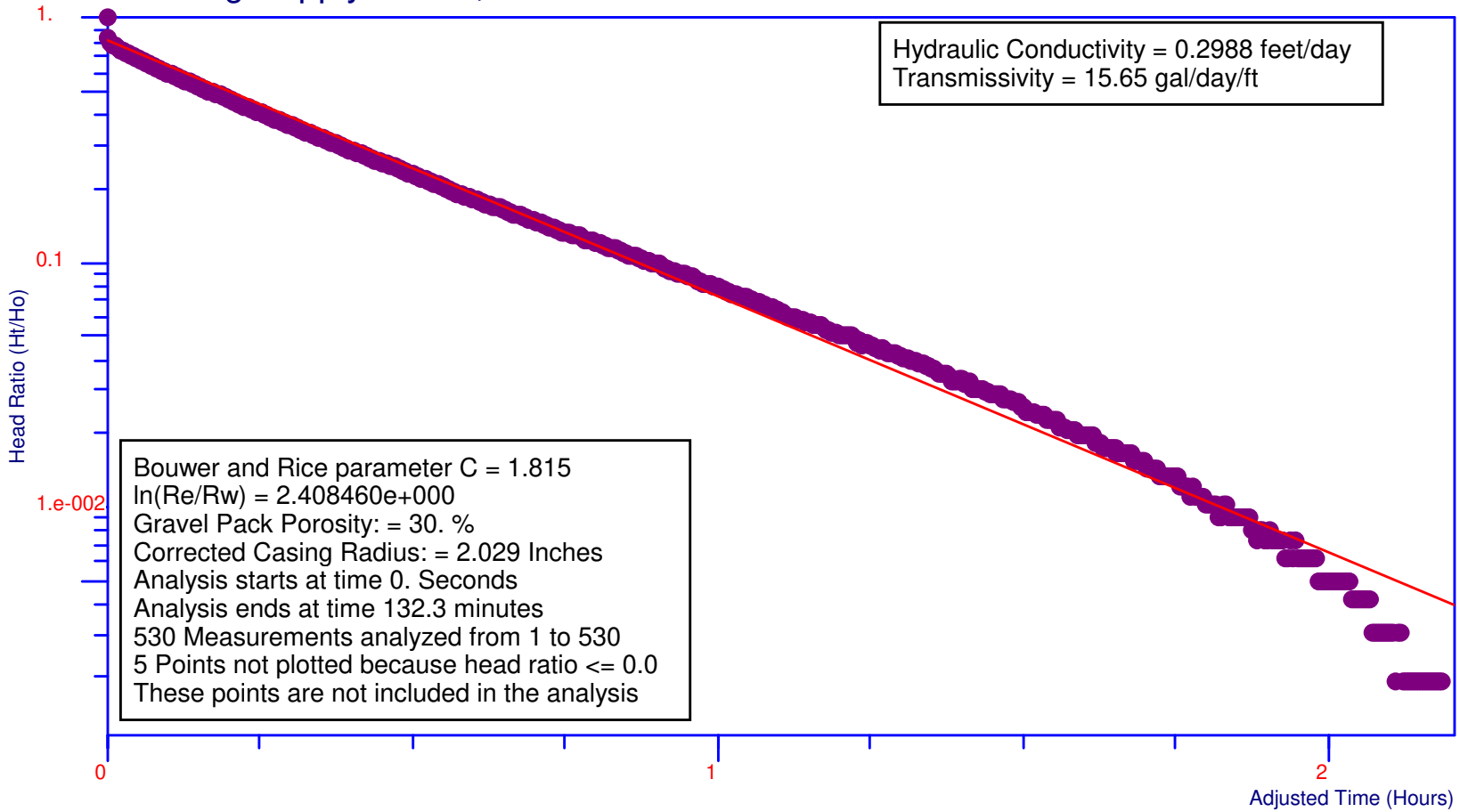
317	4740	4740	2.29e-002	2.29e-002	3.671e-003
318	4755	4755	2.37e-002	2.37e-002	3.799e-003
319	4770	4770	1.62e-002	1.62e-002	2.597e-003
320	4785	4785	1.76e-002	1.76e-002	2.821e-003
321	4800	4800	2.04e-002	2.04e-002	3.27e-003
322	4815	4815	2.87e-002	2.87e-002	4.6e-003
323	4830	4830	1.72e-002	1.72e-002	2.757e-003
324	4845	4845	1.53e-002	1.53e-002	2.452e-003
325	4860	4860	2.14e-002	2.14e-002	3.43e-003
326	4875	4875	2.07e-002	2.07e-002	3.318e-003
327	4890	4890	2.46e-002	2.46e-002	3.943e-003
328	4905	4905	2.32e-002	2.32e-002	3.719e-003
329	4920	4920	1.22e-002	1.22e-002	1.955e-003
330	4935	4935	1.48e-002	1.48e-002	2.372e-003
331	4950	4950	1.44e-002	1.44e-002	2.308e-003
332	4965	4965	1.8e-002	1.8e-002	2.885e-003
333	4980	4980	2.41e-002	2.41e-002	3.863e-003
334	4995	4995	2.11e-002	2.11e-002	3.382e-003
335	5010	5010	1.76e-002	1.76e-002	2.821e-003
336	5025	5025	1.39e-002	1.39e-002	2.228e-003
337	5040	5040	1.34e-002	1.34e-002	2.148e-003
338	5055	5055	1.75e-002	1.75e-002	2.805e-003
339	5070	5070	1.51e-002	1.51e-002	2.42e-003
340	5085	5085	1.48e-002	1.48e-002	2.372e-003
341	5100	5100	1.08e-002	1.08e-002	1.731e-003
342	5115	5115	2.25e-002	2.25e-002	3.606e-003
343	5130	5130	3.9e-003	3.9e-003	6.251e-004
344	5145	5145	1.62e-002	1.62e-002	2.597e-003
345	5160	5160	6.2e-003	6.2e-003	9.938e-004
346	5175	5175	1.29e-002	1.29e-002	2.068e-003
347	5190	5190	1.11e-002	1.11e-002	1.779e-003
348	5205	5205	1.58e-002	1.58e-002	2.532e-003
349	5220	5220	6.2e-003	6.2e-003	9.938e-004
350	5235	5235	8.7e-003	8.7e-003	1.394e-003
351	5250	5250	7.6e-003	7.6e-003	1.218e-003
352	5265	5265	6.7e-003	6.7e-003	1.074e-003
353	5280	5280	1.14e-002	1.14e-002	1.827e-003
354	5295	5295	6.e-003	6.e-003	9.617e-004

Rising Head Slug Test August 30, 2018

Bouwer and Rice Graph

Chamblissburg Supply Vinton, VA

MW08



Ho is 5.022 feet at 0. Seconds

Project Number: CSVI1003 for Estate of Lacy Dudley

Analysis by Starpoint Software

Rising Head Slug Test

Site Name:	Chamblissburg Supply
Location:	Vinton, VA
Test Date:	August 30, 2018
Client:	Estate of Lacy Dudley
Project Number:	CSVI1003
Import File:	C:\Users\Adam\Documents\Greene Environmental\Chamblissburg Supply\CSVI1003

Well Label:	MW08
Aquifer Thickness:	7. feet
Screen Length:	30. feet
Casing Radius:	0.9996 Inches
Effective Radius:	3.376 Inches
Gravel Pack Porosity:	30. %
Corrected Casing Radius:	2.029 Inches
Static Water Level:	0. feet
Water Table to Screen Bottom:	7. feet
Anisotropy Ratio:	1.
Time Adjustment:	0. Seconds

Test starts with trial 0
There are 530 time and drawdown measurements
Maximum head is 5.022 feet
Minimum head is 0. feet

Trial	Time (Seconds)	Adjusted Time (Seconds)	Drawdown (feet)	Head (feet)	Head Ratio
1	0.	0.	5.022	5.022	1.
2	15.	15.	4.216	4.216	0.8396
3	30.	30.	4.021	4.021	0.8007
4	45.	45.	3.939	3.939	0.7843
5	60.	60.	3.864	3.864	0.7694
6	75.	75.	3.803	3.803	0.7572
7	90.	90.	3.747	3.747	0.7462
8	105.	105.	3.69	3.69	0.7348
9	120.	120.	3.644	3.644	0.7256
10	135.	135.	3.598	3.598	0.7165
11	150.	150.	3.552	3.552	0.7073
12	165.	165.	3.502	3.502	0.6974
13	180.	180.	3.46	3.46	0.689
14	195.	195.	3.414	3.414	0.6799
15	210.	210.	3.368	3.368	0.6707
16	225.	225.	3.334	3.334	0.6639
17	240.	240.	3.292	3.292	0.6555
18	255.	255.	3.261	3.261	0.6494
19	270.	270.	3.215	3.215	0.6402
20	285.	285.	3.185	3.185	0.6341
21	300.	300.	3.144	3.144	0.6261
22	315.	315.	3.114	3.114	0.62
23	330.	330.	3.083	3.083	0.6139
24	345.	345.	3.043	3.043	0.6059
25	360.	360.	3.016	3.016	0.6006
26	375.	375.	2.982	2.982	0.5938
27	390.	390.	2.955	2.955	0.5884
28	405.	405.	2.924	2.924	0.5823
29	420.	420.	2.899	2.899	0.5774
30	435.	435.	2.869	2.869	0.5713
31	450.	450.	2.838	2.838	0.5652

32	465.	465.	2.802	2.802	0.5579
33	480.	480.	2.783	2.783	0.5541
34	495.	495.	2.752	2.752	0.548
35	510.	510.	2.721	2.721	0.5419
36	525.	525.	2.691	2.691	0.5358
37	540.	540.	2.664	2.664	0.5305
38	555.	555.	2.639	2.639	0.5255
39	570.	570.	2.609	2.609	0.5194
40	585.	585.	2.584	2.584	0.5145
41	600.	600.	2.547	2.547	0.5072
42	615.	615.	2.522	2.522	0.5023
43	630.	630.	2.496	2.496	0.497
44	645.	645.	2.471	2.471	0.492
45	660.	660.	2.45	2.45	0.4878
46	675.	675.	2.431	2.431	0.484
47	690.	690.	2.4	2.4	0.4779
48	705.	705.	2.373	2.373	0.4726
49	720.	720.	2.348	2.348	0.4676
50	735.	735.	2.327	2.327	0.4634
51	750.	750.	2.297	2.297	0.4573
52	765.	765.	2.277	2.277	0.4535
53	780.	780.	2.247	2.247	0.4474
54	795.	795.	2.226	2.226	0.4432
55	810.	810.	2.199	2.199	0.4379
56	825.	825.	2.184	2.184	0.4348
57	840.	840.	2.165	2.165	0.431
58	855.	855.	2.138	2.138	0.4257
59	870.	870.	2.117	2.117	0.4215
60	885.	885.	2.098	2.098	0.4177
61	900.	900.	2.076	2.076	0.4135
62	915.	915.	2.055	2.055	0.4093
63	930.	930.	2.034	2.034	0.4051
64	945.	945.	2.015	2.015	0.4013
65	960.	960.	1.994	1.994	0.3971
66	975.	975.	1.973	1.973	0.3929
67	990.	990.	1.952	1.952	0.3887
68	1005	1005	1.933	1.933	0.3849
69	1020	1020	1.912	1.912	0.3807
70	1035	1035	1.891	1.891	0.3765
71	1050	1050	1.881	1.881	0.3746
72	1065	1065	1.86	1.86	0.3704
73	1080	1080	1.839	1.839	0.3662
74	1095	1095	1.824	1.824	0.3632
75	1110	1110	1.799	1.799	0.3582
76	1125	1125	1.784	1.784	0.3552
77	1140	1140	1.768	1.768	0.3521
78	1155	1155	1.747	1.747	0.3479
79	1170	1170	1.732	1.732	0.3449
80	1185	1185	1.711	1.711	0.3407
81	1200	1200	1.696	1.696	0.3377
82	1215	1215	1.68	1.68	0.3346
83	1230	1230	1.659	1.659	0.3304
84	1245	1245	1.644	1.644	0.3274
85	1260	1260	1.629	1.629	0.3243
86	1275	1275	1.619	1.619	0.3224
87	1290	1290	1.598	1.598	0.3182
88	1305	1305	1.583	1.583	0.3152

89	1320	1320	1.567	1.567	0.3121
90	1335	1335	1.552	1.552	0.3091
91	1350	1350	1.537	1.537	0.306
92	1365	1365	1.521	1.521	0.303
93	1380	1380	1.5	1.5	0.2988
94	1395	1395	1.485	1.485	0.2957
95	1410	1410	1.476	1.476	0.2938
96	1425	1425	1.46	1.46	0.2908
97	1440	1440	1.445	1.445	0.2877
98	1455	1455	1.433	1.433	0.2854
99	1470	1470	1.418	1.418	0.2824
100	1485	1485	1.409	1.409	0.2805
101	1500	1500	1.393	1.393	0.2774
102	1515	1515	1.378	1.378	0.2744
103	1530	1530	1.366	1.366	0.2721
104	1545	1545	1.351	1.351	0.2691
105	1560	1560	1.342	1.342	0.2671
106	1575	1575	1.326	1.326	0.2641
107	1590	1590	1.315	1.315	0.2618
108	1605	1605	1.299	1.299	0.2588
109	1620	1620	1.29	1.29	0.2569
110	1635	1635	1.28	1.28	0.255
111	1650	1650	1.269	1.269	0.2527
112	1665	1665	1.259	1.259	0.2508
113	1680	1680	1.248	1.248	0.2485
114	1695	1695	1.238	1.238	0.2466
115	1710	1710	1.223	1.223	0.2435
116	1725	1725	1.211	1.211	0.2412
117	1740	1740	1.198	1.198	0.2386
118	1755	1755	1.187	1.187	0.2363
119	1770	1770	1.171	1.171	0.2332
120	1785	1785	1.162	1.162	0.2313
121	1800	1800	1.152	1.152	0.2294
122	1815	1815	1.141	1.141	0.2271
123	1830	1830	1.131	1.131	0.2252
124	1845	1845	1.12	1.12	0.2229
125	1860	1860	1.11	1.11	0.221
126	1875	1875	1.1	1.1	0.2191
127	1890	1890	1.085	1.085	0.2161
128	1905	1905	1.074	1.074	0.2138
129	1920	1920	1.064	1.064	0.2119
130	1935	1935	1.053	1.053	0.2096
131	1950	1950	1.043	1.043	0.2077
132	1965	1965	1.033	1.033	0.2058
133	1980	1980	1.028	1.028	0.2047
134	1995	1995	1.018	1.018	0.2027
135	2010	2010	1.003	1.003	0.1997
136	2025	2025	0.9971	0.9971	0.1986
137	2040	2040	0.9875	0.9875	0.1966
138	2055	2055	0.9818	0.9818	0.1955
139	2070	2070	0.9665	0.9665	0.1925
140	2085	2085	0.9607	0.9607	0.1913
141	2100	2100	0.9493	0.9493	0.189
142	2115	2115	0.9454	0.9454	0.1883
143	2130	2130	0.9339	0.9339	0.186
144	2145	2145	0.9301	0.9301	0.1852
145	2160	2160	0.9186	0.9186	0.1829

146	2175	2175	0.9091	0.9091	0.181
147	2190	2190	0.9033	0.9033	0.1799
148	2205	2205	0.8995	0.8995	0.1791
149	2220	2220	0.8842	0.8842	0.1761
150	2235	2235	0.8784	0.8784	0.1749
151	2250	2250	0.8689	0.8689	0.173
152	2265	2265	0.8631	0.8631	0.1719
153	2280	2280	0.8536	0.8536	0.17
154	2295	2295	0.8478	0.8478	0.1688
155	2310	2310	0.8383	0.8383	0.1669
156	2325	2325	0.8383	0.8383	0.1669
157	2340	2340	0.8268	0.8268	0.1646
158	2355	2355	0.8229	0.8229	0.1639
159	2370	2370	0.8172	0.8172	0.1627
160	2385	2385	0.8076	0.8076	0.1608
161	2400	2400	0.7962	0.7962	0.1585
162	2415	2415	0.7923	0.7923	0.1578
163	2430	2430	0.7808	0.7808	0.1555
164	2445	2445	0.7808	0.7808	0.1555
165	2460	2460	0.7713	0.7713	0.1536
166	2475	2475	0.7655	0.7655	0.1524
167	2490	2490	0.7598	0.7598	0.1513
168	2505	2505	0.7502	0.7502	0.1494
169	2520	2520	0.7445	0.7445	0.1482
170	2535	2535	0.7407	0.7407	0.1475
171	2550	2550	0.7292	0.7292	0.1452
172	2565	2565	0.7253	0.7253	0.1444
173	2580	2580	0.7196	0.7196	0.1433
174	2595	2595	0.7139	0.7139	0.1422
175	2610	2610	0.7043	0.7043	0.1402
176	2625	2625	0.7043	0.7043	0.1402
177	2640	2640	0.6928	0.6928	0.138
178	2655	2655	0.689	0.689	0.1372
179	2670	2670	0.6832	0.6832	0.1361
180	2685	2685	0.6737	0.6737	0.1341
181	2700	2700	0.6737	0.6737	0.1341
182	2715	2715	0.6679	0.6679	0.133
183	2730	2730	0.6622	0.6622	0.1319
184	2745	2745	0.6526	0.6526	0.13
185	2760	2760	0.6469	0.6469	0.1288
186	2775	2775	0.6431	0.6431	0.128
187	2790	2790	0.6469	0.6469	0.1288
188	2805	2805	0.6373	0.6373	0.1269
189	2820	2820	0.6258	0.6258	0.1246
190	2835	2835	0.6258	0.6258	0.1246
191	2850	2850	0.6201	0.6201	0.1235
192	2865	2865	0.6162	0.6162	0.1227
193	2880	2880	0.6105	0.6105	0.1216
194	2895	2895	0.6048	0.6048	0.1204
195	2910	2910	0.6009	0.6009	0.1197
196	2925	2925	0.5952	0.5952	0.1185
197	2940	2940	0.5856	0.5856	0.1166
198	2955	2955	0.5799	0.5799	0.1155
199	2970	2970	0.5742	0.5742	0.1143
200	2985	2985	0.5742	0.5742	0.1143
201	3000	3000	0.5703	0.5703	0.1136
202	3015	3015	0.5646	0.5646	0.1124

203	3030	3030	0.5588	0.5588	0.1113
204	3045	3045	0.555	0.555	0.1105
205	3060	3060	0.5493	0.5493	0.1094
206	3075	3075	0.5397	0.5397	0.1075
207	3090	3090	0.5397	0.5397	0.1075
208	3105	3105	0.5301	0.5301	0.1056
209	3120	3120	0.5301	0.5301	0.1056
210	3135	3135	0.5187	0.5187	0.1033
211	3150	3150	0.5187	0.5187	0.1033
212	3165	3165	0.5129	0.5129	0.1021
213	3180	3180	0.5091	0.5091	0.1014
214	3195	3195	0.5091	0.5091	0.1014
215	3210	3210	0.4976	0.4976	9.909e-002
216	3225	3225	0.4976	0.4976	9.909e-002
217	3240	3240	0.4938	0.4938	9.832e-002
218	3255	3255	0.4938	0.4938	9.832e-002
219	3270	3270	0.4823	0.4823	9.604e-002
220	3285	3285	0.4785	0.4785	9.528e-002
221	3300	3300	0.4727	0.4727	9.413e-002
222	3315	3315	0.467	0.467	9.299e-002
223	3330	3330	0.4631	0.4631	9.223e-002
224	3345	3345	0.4631	0.4631	9.223e-002
225	3360	3360	0.4574	0.4574	9.108e-002
226	3375	3375	0.4517	0.4517	8.994e-002
227	3390	3390	0.4517	0.4517	8.994e-002
228	3405	3405	0.4478	0.4478	8.918e-002
229	3420	3420	0.4421	0.4421	8.803e-002
230	3435	3435	0.4364	0.4364	8.689e-002
231	3450	3450	0.4364	0.4364	8.689e-002
232	3465	3465	0.4325	0.4325	8.613e-002
233	3480	3480	0.421	0.421	8.384e-002
234	3495	3495	0.421	0.421	8.384e-002
235	3510	3510	0.4153	0.4153	8.27e-002
236	3525	3525	0.4115	0.4115	8.194e-002
237	3540	3540	0.4057	0.4057	8.079e-002
238	3555	3555	0.4057	0.4057	8.079e-002
239	3570	3570	0.4	0.4	7.965e-002
240	3585	3585	0.4	0.4	7.965e-002
241	3600	3600	0.3962	0.3962	7.889e-002
242	3615	3615	0.3904	0.3904	7.774e-002
243	3630	3630	0.3904	0.3904	7.774e-002
244	3645	3645	0.3847	0.3847	7.66e-002
245	3660	3660	0.3809	0.3809	7.584e-002
246	3675	3675	0.3751	0.3751	7.47e-002
247	3690	3690	0.3694	0.3694	7.355e-002
248	3705	3705	0.3694	0.3694	7.355e-002
249	3720	3720	0.3655	0.3655	7.279e-002
250	3735	3735	0.3655	0.3655	7.279e-002
251	3750	3750	0.3598	0.3598	7.165e-002
252	3765	3765	0.3598	0.3598	7.165e-002
253	3780	3780	0.3541	0.3541	7.05e-002
254	3795	3795	0.3541	0.3541	7.05e-002
255	3810	3810	0.3502	0.3502	6.974e-002
256	3825	3825	0.3445	0.3445	6.86e-002
257	3840	3840	0.3445	0.3445	6.86e-002
258	3855	3855	0.3388	0.3388	6.745e-002
259	3870	3870	0.3388	0.3388	6.745e-002

260	3885	3885	0.333	0.333	6.631e-002
261	3900	3900	0.333	0.333	6.631e-002
262	3915	3915	0.3292	0.3292	6.555e-002
263	3930	3930	0.3234	0.3234	6.441e-002
264	3945	3945	0.3234	0.3234	6.441e-002
265	3960	3960	0.3177	0.3177	6.326e-002
266	3975	3975	0.3139	0.3139	6.25e-002
267	3990	3990	0.3139	0.3139	6.25e-002
268	4005	4005	0.3081	0.3081	6.136e-002
269	4020	4020	0.3024	0.3024	6.021e-002
270	4035	4035	0.3024	0.3024	6.021e-002
271	4050	4050	0.2986	0.2986	5.945e-002
272	4065	4065	0.2986	0.2986	5.945e-002
273	4080	4080	0.2928	0.2928	5.831e-002
274	4095	4095	0.2928	0.2928	5.831e-002
275	4110	4110	0.2928	0.2928	5.831e-002
276	4125	4125	0.2871	0.2871	5.717e-002
277	4140	4140	0.2871	0.2871	5.717e-002
278	4155	4155	0.2833	0.2833	5.64e-002
279	4170	4170	0.2775	0.2775	5.526e-002
280	4185	4185	0.2775	0.2775	5.526e-002
281	4200	4200	0.2775	0.2775	5.526e-002
282	4215	4215	0.2775	0.2775	5.526e-002
283	4230	4230	0.2718	0.2718	5.412e-002
284	4245	4245	0.2679	0.2679	5.335e-002
285	4260	4260	0.2679	0.2679	5.335e-002
286	4275	4275	0.2622	0.2622	5.221e-002
287	4290	4290	0.2622	0.2622	5.221e-002
288	4305	4305	0.2622	0.2622	5.221e-002
289	4320	4320	0.2526	0.2526	5.031e-002
290	4335	4335	0.2526	0.2526	5.031e-002
291	4350	4350	0.2526	0.2526	5.031e-002
292	4365	4365	0.2507	0.2507	4.992e-002
293	4380	4380	0.2507	0.2507	4.992e-002
294	4395	4395	0.2507	0.2507	4.992e-002
295	4410	4410	0.245	0.245	4.878e-002
296	4425	4425	0.2354	0.2354	4.687e-002
297	4440	4440	0.2411	0.2411	4.802e-002
298	4455	4455	0.2316	0.2316	4.611e-002
299	4470	4470	0.2354	0.2354	4.687e-002
300	4485	4485	0.2354	0.2354	4.687e-002
301	4500	4500	0.2297	0.2297	4.573e-002
302	4515	4515	0.2297	0.2297	4.573e-002
303	4530	4530	0.2258	0.2258	4.497e-002
304	4545	4545	0.2258	0.2258	4.497e-002
305	4560	4560	0.2201	0.2201	4.383e-002
306	4575	4575	0.2258	0.2258	4.497e-002
307	4590	4590	0.2201	0.2201	4.383e-002
308	4605	4605	0.2144	0.2144	4.268e-002
309	4620	4620	0.2144	0.2144	4.268e-002
310	4635	4635	0.2144	0.2144	4.268e-002
311	4650	4650	0.2144	0.2144	4.268e-002
312	4665	4665	0.2105	0.2105	4.192e-002
313	4680	4680	0.2105	0.2105	4.192e-002
314	4695	4695	0.2048	0.2048	4.078e-002
315	4710	4710	0.2048	0.2048	4.078e-002
316	4725	4725	0.2048	0.2048	4.078e-002

317	4740	4740	0.199	0.199	3.963e-002
318	4755	4755	0.199	0.199	3.963e-002
319	4770	4770	0.199	0.199	3.963e-002
320	4785	4785	0.1933	0.1933	3.849e-002
321	4800	4800	0.1933	0.1933	3.849e-002
322	4815	4815	0.1933	0.1933	3.849e-002
323	4830	4830	0.1895	0.1895	3.773e-002
324	4845	4845	0.1895	0.1895	3.773e-002
325	4860	4860	0.1837	0.1837	3.659e-002
326	4875	4875	0.1837	0.1837	3.659e-002
327	4890	4890	0.1799	0.1799	3.582e-002
328	4905	4905	0.1742	0.1742	3.468e-002
329	4920	4920	0.178	0.178	3.544e-002
330	4935	4935	0.178	0.178	3.544e-002
331	4950	4950	0.1742	0.1742	3.468e-002
332	4965	4965	0.1703	0.1703	3.392e-002
333	4980	4980	0.1646	0.1646	3.277e-002
334	4995	4995	0.1646	0.1646	3.277e-002
335	5010	5010	0.1646	0.1646	3.277e-002
336	5025	5025	0.1684	0.1684	3.354e-002
337	5040	5040	0.1684	0.1684	3.354e-002
338	5055	5055	0.1588	0.1588	3.163e-002
339	5070	5070	0.1588	0.1588	3.163e-002
340	5085	5085	0.1646	0.1646	3.277e-002
341	5100	5100	0.1531	0.1531	3.049e-002
342	5115	5115	0.1531	0.1531	3.049e-002
343	5130	5130	0.1531	0.1531	3.049e-002
344	5145	5145	0.1531	0.1531	3.049e-002
345	5160	5160	0.1531	0.1531	3.049e-002
346	5175	5175	0.1493	0.1493	2.973e-002
347	5190	5190	0.1493	0.1493	2.973e-002
348	5205	5205	0.1435	0.1435	2.858e-002
349	5220	5220	0.1435	0.1435	2.858e-002
350	5235	5235	0.1435	0.1435	2.858e-002
351	5250	5250	0.1435	0.1435	2.858e-002
352	5265	5265	0.1435	0.1435	2.858e-002
353	5280	5280	0.1378	0.1378	2.744e-002
354	5295	5295	0.1378	0.1378	2.744e-002
355	5310	5310	0.1378	0.1378	2.744e-002
356	5325	5325	0.1378	0.1378	2.744e-002
357	5340	5340	0.134	0.134	2.668e-002
358	5355	5355	0.134	0.134	2.668e-002
359	5370	5370	0.134	0.134	2.668e-002
360	5385	5385	0.1282	0.1282	2.553e-002
361	5400	5400	0.1282	0.1282	2.553e-002
362	5415	5415	0.1225	0.1225	2.439e-002
363	5430	5430	0.1225	0.1225	2.439e-002
364	5445	5445	0.1225	0.1225	2.439e-002
365	5460	5460	0.1225	0.1225	2.439e-002
366	5475	5475	0.1187	0.1187	2.363e-002
367	5490	5490	0.1187	0.1187	2.363e-002
368	5505	5505	0.1187	0.1187	2.363e-002
369	5520	5520	0.1187	0.1187	2.363e-002
370	5535	5535	0.1129	0.1129	2.249e-002
371	5550	5550	0.1129	0.1129	2.249e-002
372	5565	5565	0.1129	0.1129	2.249e-002
373	5580	5580	0.1129	0.1129	2.249e-002

374	5595	5595	0.1129	0.1129	2.249e-002
375	5610	5610	0.1072	0.1072	2.134e-002
376	5625	5625	0.1072	0.1072	2.134e-002
377	5640	5640	0.1072	0.1072	2.134e-002
378	5655	5655	0.1034	0.1034	2.058e-002
379	5670	5670	0.1034	0.1034	2.058e-002
380	5685	5685	0.1034	0.1034	2.058e-002
381	5700	5700	0.1034	0.1034	2.058e-002
382	5715	5715	9.761e-002	9.761e-002	1.944e-002
383	5730	5730	9.761e-002	9.761e-002	1.944e-002
384	5745	5745	9.761e-002	9.761e-002	1.944e-002
385	5760	5760	9.761e-002	9.761e-002	1.944e-002
386	5775	5775	9.761e-002	9.761e-002	1.944e-002
387	5790	5790	9.761e-002	9.761e-002	1.944e-002
388	5805	5805	9.761e-002	9.761e-002	1.944e-002
389	5820	5820	9.187e-002	9.187e-002	1.829e-002
390	5835	5835	9.187e-002	9.187e-002	1.829e-002
391	5850	5850	9.187e-002	9.187e-002	1.829e-002
392	5865	5865	8.804e-002	8.804e-002	1.753e-002
393	5880	5880	8.804e-002	8.804e-002	1.753e-002
394	5895	5895	8.804e-002	8.804e-002	1.753e-002
395	5910	5910	8.804e-002	8.804e-002	1.753e-002
396	5925	5925	8.804e-002	8.804e-002	1.753e-002
397	5940	5940	8.804e-002	8.804e-002	1.753e-002
398	5955	5955	8.23e-002	8.23e-002	1.639e-002
399	5970	5970	8.23e-002	8.23e-002	1.639e-002
400	5985	5985	8.23e-002	8.23e-002	1.639e-002
401	6000	6000	8.23e-002	8.23e-002	1.639e-002
402	6015	6015	8.23e-002	8.23e-002	1.639e-002
403	6030	6030	8.23e-002	8.23e-002	1.639e-002
404	6045	6045	8.23e-002	8.23e-002	1.639e-002
405	6060	6060	7.656e-002	7.656e-002	1.525e-002
406	6075	6075	7.656e-002	7.656e-002	1.525e-002
407	6090	6090	7.656e-002	7.656e-002	1.525e-002
408	6105	6105	7.656e-002	7.656e-002	1.525e-002
409	6120	6120	7.656e-002	7.656e-002	1.525e-002
410	6135	6135	7.273e-002	7.273e-002	1.448e-002
411	6150	6150	7.273e-002	7.273e-002	1.448e-002
412	6165	6165	7.273e-002	7.273e-002	1.448e-002
413	6180	6180	7.273e-002	7.273e-002	1.448e-002
414	6195	6195	7.273e-002	7.273e-002	1.448e-002
415	6210	6210	6.699e-002	6.699e-002	1.334e-002
416	6225	6225	6.699e-002	6.699e-002	1.334e-002
417	6240	6240	6.699e-002	6.699e-002	1.334e-002
418	6255	6255	6.699e-002	6.699e-002	1.334e-002
419	6270	6270	6.699e-002	6.699e-002	1.334e-002
420	6285	6285	6.699e-002	6.699e-002	1.334e-002
421	6300	6300	6.699e-002	6.699e-002	1.334e-002
422	6315	6315	6.699e-002	6.699e-002	1.334e-002
423	6330	6330	6.124e-002	6.124e-002	1.219e-002
424	6345	6345	6.124e-002	6.124e-002	1.219e-002
425	6360	6360	6.124e-002	6.124e-002	1.219e-002
426	6375	6375	6.124e-002	6.124e-002	1.219e-002
427	6390	6390	5.55e-002	5.55e-002	1.105e-002
428	6405	6405	6.124e-002	6.124e-002	1.219e-002
429	6420	6420	5.55e-002	5.55e-002	1.105e-002
430	6435	6435	5.55e-002	5.55e-002	1.105e-002

431	6450	6450	5.55e-002	5.55e-002	1.105e-002
432	6465	6465	5.55e-002	5.55e-002	1.105e-002
433	6480	6480	5.168e-002	5.168e-002	1.029e-002
434	6495	6495	5.168e-002	5.168e-002	1.029e-002
435	6510	6510	5.168e-002	5.168e-002	1.029e-002
436	6525	6525	5.168e-002	5.168e-002	1.029e-002
437	6540	6540	5.168e-002	5.168e-002	1.029e-002
438	6555	6555	4.593e-002	4.593e-002	9.146e-003
439	6570	6570	4.593e-002	4.593e-002	9.146e-003
440	6585	6585	5.168e-002	5.168e-002	1.029e-002
441	6600	6600	5.168e-002	5.168e-002	1.029e-002
442	6615	6615	4.593e-002	4.593e-002	9.146e-003
443	6630	6630	4.593e-002	4.593e-002	9.146e-003
444	6645	6645	4.593e-002	4.593e-002	9.146e-003
445	6660	6660	4.593e-002	4.593e-002	9.146e-003
446	6675	6675	4.593e-002	4.593e-002	9.146e-003
447	6690	6690	4.593e-002	4.593e-002	9.146e-003
448	6705	6705	4.593e-002	4.593e-002	9.146e-003
449	6720	6720	4.593e-002	4.593e-002	9.146e-003
450	6735	6735	4.593e-002	4.593e-002	9.146e-003
451	6750	6750	4.019e-002	4.019e-002	8.003e-003
452	6765	6765	4.019e-002	4.019e-002	8.003e-003
453	6780	6780	3.637e-002	3.637e-002	7.242e-003
454	6795	6795	4.019e-002	4.019e-002	8.003e-003
455	6810	6810	4.019e-002	4.019e-002	8.003e-003
456	6825	6825	3.637e-002	3.637e-002	7.242e-003
457	6840	6840	3.637e-002	3.637e-002	7.242e-003
458	6855	6855	4.019e-002	4.019e-002	8.003e-003
459	6870	6870	3.637e-002	3.637e-002	7.242e-003
460	6885	6885	3.637e-002	3.637e-002	7.242e-003
461	6900	6900	3.637e-002	3.637e-002	7.242e-003
462	6915	6915	3.637e-002	3.637e-002	7.242e-003
463	6930	6930	3.637e-002	3.637e-002	7.242e-003
464	6945	6945	3.062e-002	3.062e-002	6.097e-003
465	6960	6960	3.062e-002	3.062e-002	6.097e-003
466	6975	6975	3.637e-002	3.637e-002	7.242e-003
467	6990	6990	3.062e-002	3.062e-002	6.097e-003
468	7005	7005	3.637e-002	3.637e-002	7.242e-003
469	7020	7020	3.062e-002	3.062e-002	6.097e-003
470	7035	7035	3.062e-002	3.062e-002	6.097e-003
471	7050	7050	3.062e-002	3.062e-002	6.097e-003
472	7065	7065	3.062e-002	3.062e-002	6.097e-003
473	7080	7080	3.062e-002	3.062e-002	6.097e-003
474	7095	7095	3.062e-002	3.062e-002	6.097e-003
475	7110	7110	3.062e-002	3.062e-002	6.097e-003
476	7125	7125	3.062e-002	3.062e-002	6.097e-003
477	7140	7140	2.488e-002	2.488e-002	4.954e-003
478	7155	7155	2.488e-002	2.488e-002	4.954e-003
479	7170	7170	2.488e-002	2.488e-002	4.954e-003
480	7185	7185	2.488e-002	2.488e-002	4.954e-003
481	7200	7200	2.488e-002	2.488e-002	4.954e-003
482	7215	7215	2.488e-002	2.488e-002	4.954e-003
483	7230	7230	2.488e-002	2.488e-002	4.954e-003
484	7245	7245	2.488e-002	2.488e-002	4.954e-003
485	7260	7260	2.488e-002	2.488e-002	4.954e-003
486	7275	7275	2.488e-002	2.488e-002	4.954e-003
487	7290	7290	2.488e-002	2.488e-002	4.954e-003

488	7305	7305	2.488e-002	2.488e-002	4.954e-003
489	7320	7320	2.488e-002	2.488e-002	4.954e-003
490	7335	7335	2.105e-002	2.105e-002	4.192e-003
491	7350	7350	2.105e-002	2.105e-002	4.192e-003
492	7365	7365	2.105e-002	2.105e-002	4.192e-003
493	7380	7380	2.105e-002	2.105e-002	4.192e-003
494	7395	7395	2.105e-002	2.105e-002	4.192e-003
495	7410	7410	2.105e-002	2.105e-002	4.192e-003
496	7425	7425	2.105e-002	2.105e-002	4.192e-003
497	7440	7440	2.105e-002	2.105e-002	4.192e-003
498	7455	7455	1.531e-002	1.531e-002	3.049e-003
499	7470	7470	1.531e-002	1.531e-002	3.049e-003
500	7485	7485	1.531e-002	1.531e-002	3.049e-003
501	7500	7500	1.531e-002	1.531e-002	3.049e-003
502	7515	7515	1.531e-002	1.531e-002	3.049e-003
503	7530	7530	1.531e-002	1.531e-002	3.049e-003
504	7545	7545	1.531e-002	1.531e-002	3.049e-003
505	7560	7560	1.531e-002	1.531e-002	3.049e-003
506	7575	7575	1.531e-002	1.531e-002	3.049e-003
507	7590	7590	9.57e-003	9.57e-003	1.906e-003
508	7605	7605	1.531e-002	1.531e-002	3.049e-003
509	7620	7620	1.531e-002	1.531e-002	3.049e-003
510	7635	7635	9.57e-003	9.57e-003	1.906e-003
511	7650	7650	9.57e-003	9.57e-003	1.906e-003
512	7665	7665	9.57e-003	9.57e-003	1.906e-003
513	7680	7680	9.57e-003	9.57e-003	1.906e-003
514	7695	7695	9.57e-003	9.57e-003	1.906e-003
515	7710	7710	9.57e-003	9.57e-003	1.906e-003
516	7725	7725	9.57e-003	9.57e-003	1.906e-003
517	7740	7740	9.57e-003	9.57e-003	1.906e-003
518	7755	7755	9.57e-003	9.57e-003	1.906e-003
519	7770	7770	9.57e-003	9.57e-003	1.906e-003
520	7785	7785	9.57e-003	9.57e-003	1.906e-003
521	7800	7800	9.57e-003	9.57e-003	1.906e-003
522	7815	7815	9.57e-003	9.57e-003	1.906e-003
523	7830	7830	9.57e-003	9.57e-003	1.906e-003
524	7845	7845	9.57e-003	9.57e-003	1.906e-003
525	7860	7860	9.57e-003	9.57e-003	1.906e-003
526	7875	7875	5.74e-003	5.74e-003	1.143e-003
527	7890	7890	5.74e-003	5.74e-003	1.143e-003
528	7905	7905	5.74e-003	5.74e-003	1.143e-003
529	7920	7920	5.74e-003	5.74e-003	1.143e-003
530	7935	7935	0.	0.	0.

APPENDIX F

Associated Documents

VA DEQ Letter Dated April 3, 2018
Tank Tightness Test Report Dated June 28, 2017 – Environmental Solutions
Tank Tightness Test Report Dated October 17, 2017 – Environmental Solutions
Vacuum Truck Material Manifest – R.E.M. Specialties, LLC
Site Access Agreement – Donald Scott Residence

COMMONWEALTH of VIRGINIA

Matthew J. Strickler
Secretary of Natural Resources

DEPARTMENT OF ENVIRONMENTAL QUALITY
Blue Ridge Regional Office
3019 Peters Creek Road, Roanoke, Virginia 24019
(540) 562-6700; Fax (540) 562-6725
www.deq.virginia.gov

David K. Paylor
Director

Robert J. Weld
Regional Director

April 3, 2018

The Estate of Lacy F. Dudley
c/o: Mr. Mark Dudley
Chamblissburg Supply (dba Elei's)
4118 Mudlick Road, SW
Roanoke, Virginia 24018

RE: Technical Review of the Site Characterization Report (SCR) at: Chamblissburg Supply (dba Elei's), 10625 Stewartsville Road (Route 24), County of Bedford, Vinton, Virginia, LUST PC No. 2017-2298, Facility I.D. No. 2-007350, CEDS I.D. No. 200000088223

Dear Mr. Dudley:

A technical review of the above referenced site investigation report has been completed. Based on our review of the release information provided and the conditions at the site, additional work is required. Upon completion of this additional site work a Site Characterization Report Addendum Number One (SCRA#1) must be submitted to the Blue Ridge Regional Office – Roanoke Office by **July 3rd, 2018**.

Please review the following comments, discuss these with your consultant, and provide an appropriate response:

1. The plus gasoline fuel line must be isolated and pressure tested for a leak. The use of nitrogen for the pressure test is fine, but it must be on the complete isolated line only.

2. Surface water samples are required and must include the pond northeast of the release site and the tributary to the East Fork of Beaverdam Creek. Analysis must include EDB, SVOC, VOC, and TPH-GRO tests. The stream and pond sampling locations must be properly marked at the site. Also the ponds must be uniquely numbered and samples should reference the correct pond number.

3. When free phase petroleum is found in MW-4 (or any monitoring well), a vacuum truck event will be required to remove the free phase product. Vacuum truck events may be done up to once a month.

4. Preform a pump down rising head test on a monitoring well at the site.

5. All impacted drinking water wells and drinking water wells at significant risk of impact must be resampled and tested for EDB, SVOC, VOC, TPH-GRO, and total and dissolved lead.

6. New potable water wells must be attempted as replacements for currently impacted potable water wells at locations were we can drill a new well far from the current contamination plume. Wells should be attempted for P01, P02, P03, and P04. Work should begin now to site new potential locations for the other impacted water wells. Which properties will require an easement?

7. Let's examine methods for source removal. Is source removal a possibility here? We do not need to be begin now, but we need to know what it will cost and entail.

8. Let's examine if resistivity lines can be used at this site. If so, lines should be completed and cross sections generated. The previous geologic data must be included in the cross sections as appropriate.

The Virginia Petroleum Storage Tank Fund (VPSTF) has established procedures for financial reimbursement for authorized corrective action activities. Current information concerning VPSTF reimbursement is outlined in the Reimbursement Guidance Manual.

Prior approval of the site work is required if you plan to seek reimbursement for this pollution event. Enclosed with this letter is a Petroleum Cleanup Activity Authorization Form (AAF). For reimbursement eligibility you or your consultant must complete this form, specifying each task necessary to address the technical review issues. A topographic site map (1 inch: 2000 feet) and an approximate scaled map of the site showing pertinent features must accompany the Petroleum Cleanup Activity Authorization form. The form and site maps should be mailed or a facsimile sent to the Blue Ridge Regional Office – Roanoke for prior approval of this work on or before **April 17th, 2018**.

We encourage you to expedite the additional site work necessary to address the issues and to avoid enforcement action. Questions you may have concerning this technical review, the additional scope of work, or the reporting schedule should be directed to my attention.

Sincerely,

Robert L. Howard, PG
Geologist Supervisor
Site Coordinator

SCRA#1 Request.doc

cc: File ECM via e-mail
Arthur T. Greene, Greene Environmental via e-mail

EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	June 28, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	5000 Gallons	TANK #	1
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Super		Vinton, VA 24179

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

ULLAGE (DRY) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

BELOW PRODUCT LEVEL (WET) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name		Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

ES Environmental SOLUTIONS

P.O. Box 531
Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

PRESSURE CALCULATION & WATER SENSOR CALIBRATION

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATA SHEET

DATE	**Wednesday, June 28, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**5000 Gallon**	TANK #	**1**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Super**		**Vinton, VA 24179**

PRESSURE SENSOR CALCULATION

36.0 (INCHES OF PRODUCT)	X	**0.026** (WEIGHT OF PRODUCT)	=	**0.936**	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	**0.000**	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	**0.936**	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	**0.000**	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	**0.936**	+/-PSI (5)
Always add .5 PSI			+	**1.436**	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	**1.500**	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	**9:00 AM**	
Test Pressure Reached:	**9:15 AM**	**1.500**
Blower Turned Off:	**9:30 AM**	**1.500**
Test Began:	**9:45 AM**	**1.500**
Test Ended:	**10:00 AM**	

Depth of Groundwater Determined:

By: **Water Stick**

Where: **Beside Tanks**

WATER SENSOR CALIBRATION

Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

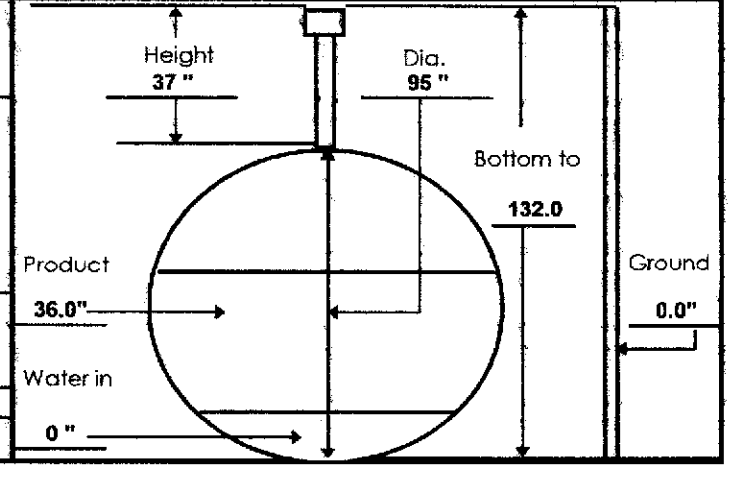
Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD

Began: _____

Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	June 28, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	5000 Gallons	TANK #	2
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Regular 2		Vinton, VA 24179

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

ULLAGE (DRY) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

BELOW PRODUCT LEVEL (WET) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name		Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

ES Environmental SOLUTIONS

P.O. Box 531
Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

PRESSURE CALCULATION & WATER SENSOR CALIBRATION
DATA SHEET

DATE	**Wednesday, June 28, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**5000 Gallon**	TANK #	**2**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Regular 2**		**Vinton, VA 24179**

PRESSURE SENSOR CALCULATION

36.0 (INCHES OF PRODUCT)	X	**0.026** (WEIGHT OF PRODUCT)	=	**0.936**	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	**0.000**	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	**0.936**	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	**0.000**	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	**0.936**	+/-PSI (5)
Always add .5 PSI NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI			+	**1.436**	PSI (6)
TEST PRESSURE			=	**1.500**	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	**9:00 AM**	
Test Pressure Reached:	**9:15 AM**	**1.500**
Blower Turned Off:	**9:30 AM**	**1.500**
Test Began:	**9:45 AM**	**1.500**
Test Ended:	**10:00 AM**	

Depth of Groundwater Determined:

By: **Water Stick**

Where: **Beside Tanks**

WATER SENSOR CALIBRATION

Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

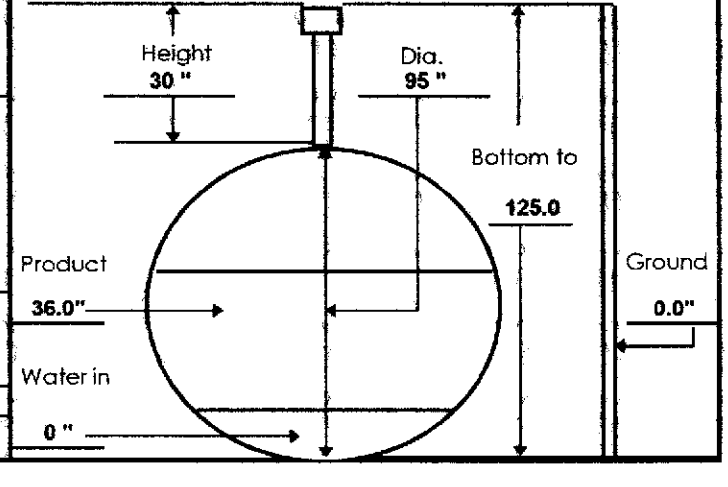
Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD

Began: _____

Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	June 28, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	6000 Gallons	TANK #	3
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Regular 1		Vinton, VA 24179

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

ULLAGE (DRY) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

BELOW PRODUCT LEVEL (WET) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name		Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

ES Environmental SOLUTIONS

P.O. Box 531
Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

PRESSURE CALCULATION & WATER SENSOR CALIBRATION
DATA SHEET

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	Wednesday, June 28, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	5000 Gallon	TANK #	3
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Regular 1		Vinton, VA 24179

PRESSURE SENSOR CALCULATION

40.0 (INCHES OF PRODUCT)	X	0.026 (WEIGHT OF PRODUCT)	=	1.040	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	0.000	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	1.040	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	0.000	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	1.040	+/-PSI (5)
Always add .5 PSI			+	1.540	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	1.600	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	10:15 AM	
Test Pressure Reached:	10:30 AM	1.600
Blower Turned Off:	10:45 AM	1.600
Test Began:	11:00 AM	1.600
Test Ended:	11:15 AM	

Depth of Groundwater Determined:

By: Water Stick

Where: Beside Tanks

WATER SENSOR CALIBRATION

Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

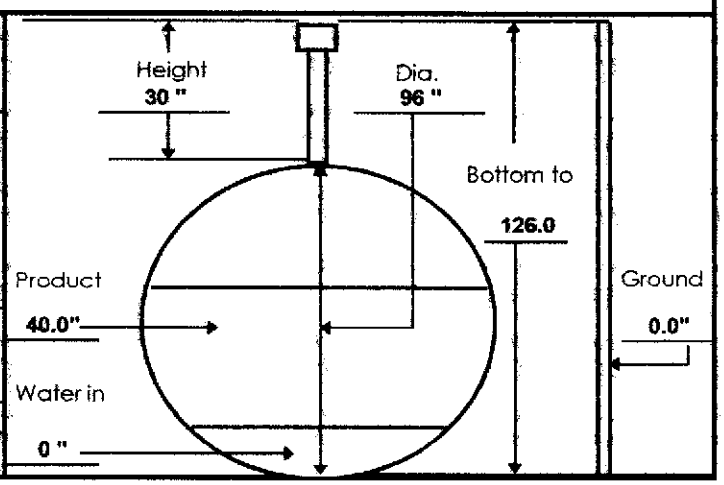
Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD

Began: _____

Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	June 28, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	4000 Gallons	TANK #	4
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Plus		Vinton, VA 24179

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

_____ **ULLAGE (DRY) PORTION LEAK**

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

_____ **BELOW PRODUCT LEVEL (WET) PORTION LEAK**

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name		Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

ES Environmental SOLUTIONS

P.O. Box 531
Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

PRESSURE CALCULATION & WATER SENSOR CALIBRATION
DATA SHEET

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	**Wednesday, June 28, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**4000 Gallon**	TANK #	**4**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Plus**		**Vinton, VA 24179**

PRESSURE SENSOR CALCULATION

33.0 (INCHES OF PRODUCT)	X	**0.026** (WEIGHT OF PRODUCT)	=	**0.858**	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	**0.000**	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	**0.858**	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	**0.000**	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	**0.858**	+/-PSI (5)
Always add .5 PSI			+	**1.358**	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	**1.400**	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	**10:15 AM**	
Test Pressure Reached:	**10:30 AM**	**1.400**
Blower Turned Off:	**10:45 AM**	**1.400**
Test Began:	**11:00 AM**	**1.400**
Test Ended:	**11:15 AM**	

Depth of Groundwater Determined:

By: **Water Stick**

Where: **Beside Tanks**

WATER SENSOR CALIBRATION

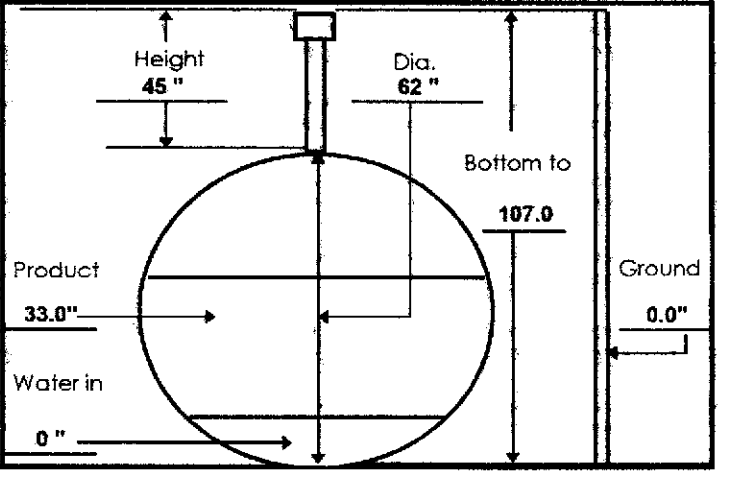
Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD Began: _____ Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	June 28, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	1000 Gallons	TANK #	5
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Diesel		Vinton, VA 24179

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

ULLAGE (DRY) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

BELOW PRODUCT LEVEL (WET) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name		Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

ES Environmental SOLUTIONS

P.O. Box 531
Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

PRESSURE CALCULATION & WATER SENSOR CALIBRATION

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATA SHEET

DATE	**Wednesday, June 28, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**1000 Gallon**	TANK #	**5**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Diesel**		**Vinton, VA 24179**

PRESSURE SENSOR CALCULATION

10.0 (INCHES OF PRODUCT)	X	**0.031** (WEIGHT OF PRODUCT)	=	**0.310**	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	**0.000**	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	**0.310**	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	**0.000**	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	**0.310**	+/-PSI (5)
Always add .5 PSI			+	**0.810**	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	**0.850**	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	**12:00 PM**	
Test Pressure Reached:	**12:10 PM**	**0.850**
Blower Turned Off:	**12:20 PM**	**0.850**
Test Began:	**12:30 PM**	**0.850**
Test Ended:	**12:40 PM**	

Depth of Groundwater Determined:

By: **Water Stick**

Where: **Beside Tanks**

WATER SENSOR CALIBRATION

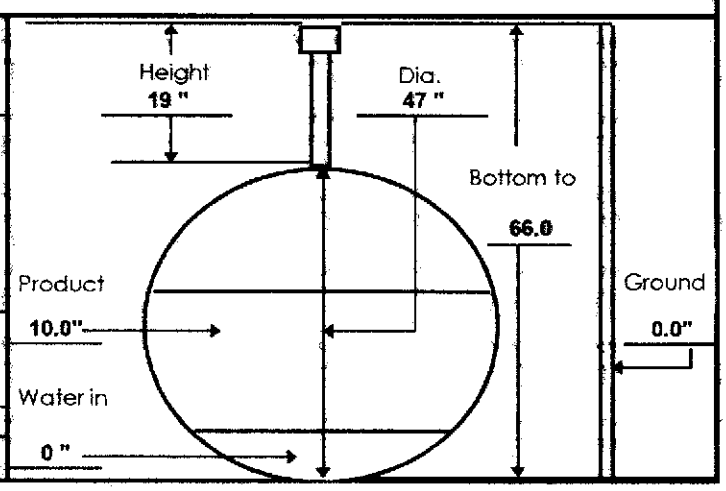
Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD Began: _____ Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	June 28, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	1000 Gallons	TANK #	6
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Kerosene		Vinton, VA 24179

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

ULLAGE (DRY) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

BELOW PRODUCT LEVEL (WET) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name		Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

ES Environmental SOLUTIONS

P.O. Box 531
Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

PRESSURE CALCULATION & WATER SENSOR CALIBRATION
DATA SHEET

DATE	Wednesday, June 28, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	1000 Gallon	TANK #	6
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Kerosene		Vinton, VA 24179

PRESSURE SENSOR CALCULATION

21.0 (INCHES OF PRODUCT)	X	0.029 (WEIGHT OF PRODUCT)	=	0.609	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	0.000	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	0.609	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	0.000	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	0.609	+/-PSI (5)
Always add .5 PSI			+	1.109	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	1.150	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	12:00 PM	
Test Pressure Reached:	12:10 PM	1.150
Blower Turned Off:	12:20 PM	1.150
Test Began:	12:30 PM	1.150
Test Ended:	12:40 PM	

Depth of Groundwater Determined:

By: Water Stick

Where: Beside Tanks

WATER SENSOR CALIBRATION

Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

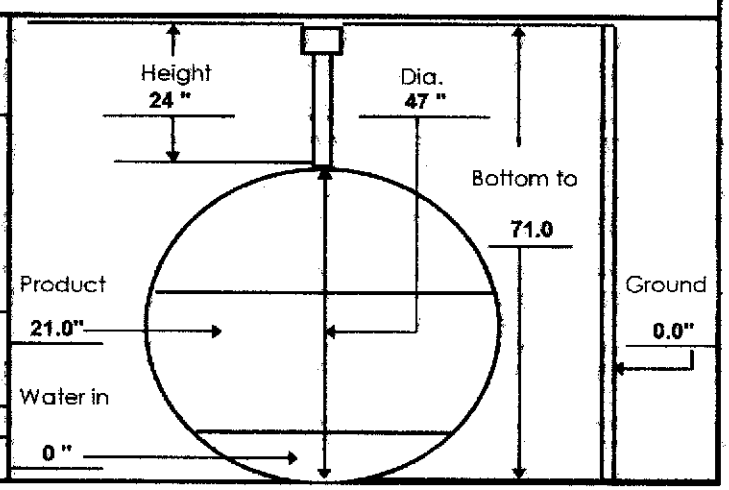
Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD

Began: _____

Ended: _____



ES Environmental SOLUTIONS

P.O. Box 531
Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

October 17, 2017

Greene Environmental
570 Redbud Hill Road
Rocky Mount, VA 24151

Testing Location:
Chamblissburg Supply and Grocery
10625 Stewartsville Road
Vinton, VA 24179

RE: UST/Line Tightness Testing Helium Test

Initial Testing Summary

As requested by Greene Environmental (Greene), Environmental Solutions (ES), has performed tightness testing of the six (6) underground storage tanks (USTs) and associated distribution systems located at the above referenced facility. On, June 28, 2017, ES personnel visited the property to perform precision testing (vacuum type) via the Estabrook™ Tank Testing System.

The procedure for testing using the Estabrook ™ system is:

1. Determine the amount of negative pressure/vacuum needed to perform test. This is based on the height of the fuel, head pressure, and internal pressure created by the water table.
2. Completely seal off all tank openings and establish the earlier calculated negative pressure.
3. After vacuum is established, ES analyzes the sounds from the tanks for five (5) minutes to determine if there is any leakage. While evaluating the acoustic signals we monitor our pressure sensor for vacuum loss.

The tanks held vacuum and no evidence of leaking was indicated based on the acoustic evaluation. The product lines were not tested during this event due to the design of European style suction systems and the inability to easily remove the check valve beneath the product dispensers. The lack of communication between the tanks and their respective

product lines for the purposes of tightness testing was confirmed by cracking open a union fitting beneath each product dispenser/pump. ES advised Greene that a different method of testing would be necessary for product line testing.

Pressure/Helium Testing Summary

Later Greene requested volumetric pressure testing with helium. As a result, ES recommended and initiated a precision test using the Estabrook ™ Tank Testing System and a helium test using the MGD-2002™ Helium Detector on all tanks and piping at the above referenced location on September 22, 26, and 27, 2017.

The procedure for Helium testing European style suction piping is as follows:

1. Seal off all tank openings.
2. Remove union check valve at pump and confirm complete drain back of fuel in line.
3. Retrofit piping to allow for introduction of helium.
4. Drill monitor holes along piping run for helium sampling.
5. Establish helium pressure to begin testing. Approximately 50 pounds per square inch (psi).

After removing the union check valves beneath the dispenser/pumps and installing the testing equipment, helium was introduced to the product lines to begin testing. Product and positive pressure were immediately observed entering the tanks thus establishing communication between the tanks and lines.

As isolation of the tanks and lines was not possible without system modifications, it was decided that the tanks and lines would be tested simultaneously. The inclusion of the tanks during pressure/helium testing limited the testing pressures to approximately 2.0 psi, which in turn resulted in lower than typical helium concentration levels during leak confirmation and locating.

An array of monitoring holes was installed every two feet along the common piping run and in an approximately four to six-foot grid pattern over tank basin. This array was used to locate any leakage from each tank/line system. Once 2.0 psi was obtained, each tank was monitored for pressure loss and sampling began.

Below are the results for each tank system:

1. Super piping/tank had a steady loss in pressure and helium was detected along the piping run. Store side of fuel island. Location of detection was marked. Estabrook™ acoustic evaluation shows tank to be tight.
2. Regular piping/tanks had minimal pressure loss and only trace amounts of helium were detected. Helium detection was along piping run on store side of fuel island. Estabrook™ acoustic evaluation shows tank to be tight.
   Disclosure: Since only trace amounts of helium was detected, it is possible the helium detected during sampling of Regular piping/tanks was from the Super piping. Both piping runs together in same backfill. Also, the minimal pressure loss on the Regular tanks could have been a result of the larger ullage area (dry space) since the two regular tanks were manifolded together.
3. Plus piping/tank. The Plus product piping used a different type of check valve (inline) with an attached flex line which was unable to be removed due to its being underground. For the product line to be tested, a petroleum service contractor would need to dig down and remove the inline check valve. Once removed, line/tank testing could be performed. We performed the helium test of the tank only through the fill riser at the tank. No pressure loss or helium detected. Estabrook™ acoustic evaluation shows tank to be tight.
4. In Road Diesel piping/tank. No pressure loss or helium detected. Estabrook™ acoustic evaluation shows tank system to be tight.
5. Off Road Diesel piping/tank. No pressure loss. No helium detected. Estabrook™ acoustic evaluation shows tank system to be tight.

Once all testing was completed we discussed our findings with the store operator and agreed to place out of order bags on the Super product.

Environmental Solutions appreciates the opportunity to provide these services to you. If you have any questions, please feel free to contact us at (540) 312-8467.

Sincerely,

Rick Trogdon

Rick Trogdon

EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	**September 22, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**5000 Gallons**	TANK #	**1**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Super**		**Vinton, VA 24179**

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

_____ **ULLAGE (DRY) PORTION LEAK**

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

_____ **BELOW PRODUCT LEVEL (WET) PORTION LEAK**

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ **WATER INTRUSION** _____ **NOT APPLICABLE** X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name	Charl Trogdon	Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

ES Environmental SOLUTIONS

P.O. Box 531
Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

PRESSURE CALCULATION & WATER SENSOR CALIBRATION DATA SHEET

DATE	**Friday, September 22, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**5000 Gallon**	TANK #	**1**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Super**		**Vinton, VA 24179**

PRESSURE SENSOR CALCULATION

24.0 (INCHES OF PRODUCT)	X	**0.026** (WEIGHT OF PRODUCT)	=	**0.624**	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	**0.000**	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	**0.624**	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	**0.000**	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	**0.624**	+/-PSI (5)
Always add .5 PSI			+	**1.124**	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	**1.150**	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	**8:15 AM**	
Test Pressure Reached:	**8:30 AM**	**1.150**
Blower Turned Off:	**8:45 AM**	**1.150**
Test Began:	**9:00 AM**	**1.150**
Test Ended:	**9:15 AM**	

Depth of Groundwater Determined:

By: **Water Stick**

Where: **Beside Tanks**

WATER SENSOR CALIBRATION

Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

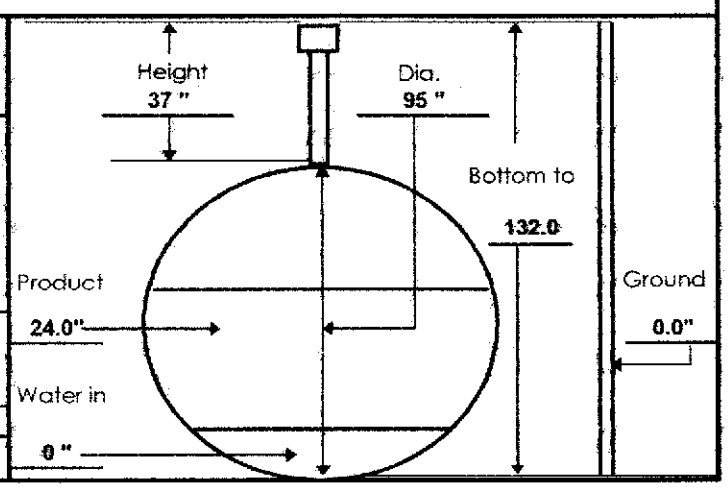
Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD

Began: _____

Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	**September 22, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**5000 Gallons**	TANK #	**2**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Regular 2**		**Vinton, VA 24179**

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

ULLAGE (DRY) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

BELOW PRODUCT LEVEL (WET) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name	Charl Trogdon	Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

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Fax: 540-400-8865

EZY 3 LOCATOR PLUS

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

PRESSURE CALCULATION & WATER SENSOR CALIBRATION DATA SHEET

DATE	Friday, September 22, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	5000 Gallon	TANK #	2
PRODUCT VOL.		LOCATION	Chambliss burg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Regular 2		Vinton, VA 24179

PRESSURE SENSOR CALCULATION

16.0 (INCHES OF PRODUCT)	X	0.026 (WEIGHT OF PRODUCT)	=	0.416	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	0.000	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	0.416	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	0.000	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	0.416	+/-PSI (5)
Always add .5 PSI			+	0.916	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	1.000	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	9:30 AM	
Test Pressure Reached:	9:45 AM	1.000
Blower Turned Off:	10:00 AM	1.000
Test Began:	10:15 AM	1.000
Test Ended:	10:30 AM	

Depth of Groundwater Determined:

By: Water Stick

Where: Beside Tanks

WATER SENSOR CALIBRATION

Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

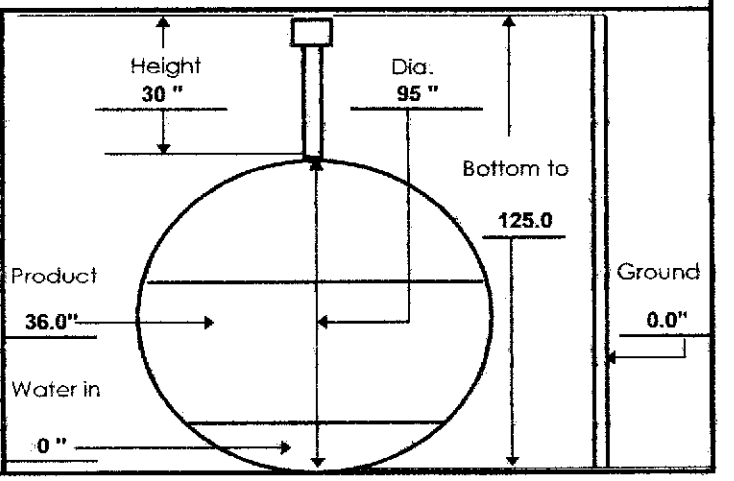
Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD

Began: _____

Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	**September 22, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**6000 Gallons**	TANK #	**3**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Regular 1**		**Vinton, VA 24179**

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

ULLAGE (DRY) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

BELOW PRODUCT LEVEL (WET) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ **WATER INTRUSION** _____ **NOT APPLICABLE** X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name	Charl Trogdon	Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

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Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

PRESSURE CALCULATION & WATER SENSOR CALIBRATION
DATA SHEET

DATE	**Friday, September 22, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**5000 Gallon**	TANK #	**3**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Regular 1**		**Vinton, VA 24179**

PRESSURE SENSOR CALCULATION

15.5 (INCHES OF PRODUCT)	X	**0.026** (WEIGHT OF PRODUCT)	=	**0.403**	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	**0.000**	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	**0.403**	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	**0.000**	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	**0.403**	+/-PSI (5)
Always add .5 PSI			+	**0.903**	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	**1.000**	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	**12:00 PM**	
Test Pressure Reached:	**12:15 PM**	**1.000**
Blower Turned Off:	**12:30 PM**	**1.000**
Test Began:	**12:45 PM**	**1.000**
Test Ended:	**1:00 PM**	

Depth of Groundwater Determined:

By: **Water Stick**

Where: **Beside Tanks**

WATER SENSOR CALIBRATION

Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

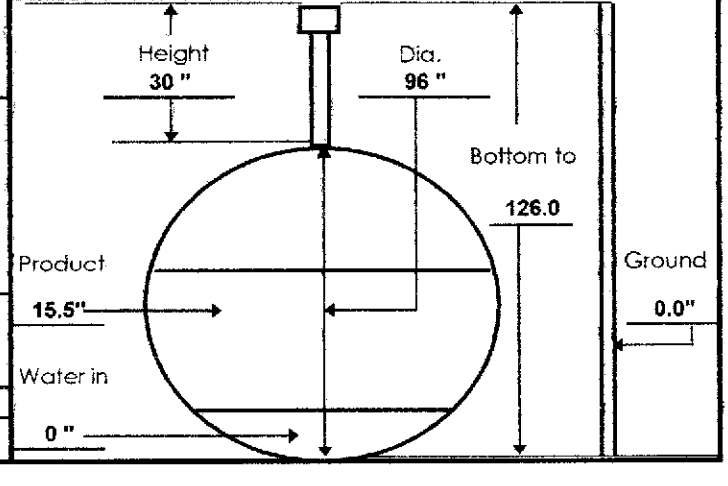
Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD

Began: _____

Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	**September 22, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**4000 Gallons**	TANK #	**4**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Plus**		**Vinton, VA 24179**

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

_____ **ULLAGE (DRY) PORTION LEAK**

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

_____ **BELOW PRODUCT LEVEL (WET) PORTION LEAK**

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name	Charl Trogdon	Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

es Environmental SOLUTIONS

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EZY 3 LOCATOR PLUS

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

PRESSURE CALCULATION & WATER SENSOR CALIBRATION DATA SHEET

DATE	Friday, September 22, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	4000 Gallon	TANK #	4
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Plus		Vinton, VA 24179

PRESSURE SENSOR CALCULATION

21.0 (INCHES OF PRODUCT)	X	0.026 (WEIGHT OF PRODUCT)	=	0.546	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	0.000	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	0.546	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	0.000	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	0.546	+/-PSI (5)
Always add .5 PSI			+	1.046	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	1.100	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	1:30 PM	
Test Pressure Reached:	1:45 PM	1.100
Blower Turned Off:	2:00 PM	1.100
Test Began:	2:15 PM	1.100
Test Ended:	2:30 PM	

Depth of Groundwater Determined:

By: Water Stick

Where: Beside Tanks

WATER SENSOR CALIBRATION

Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

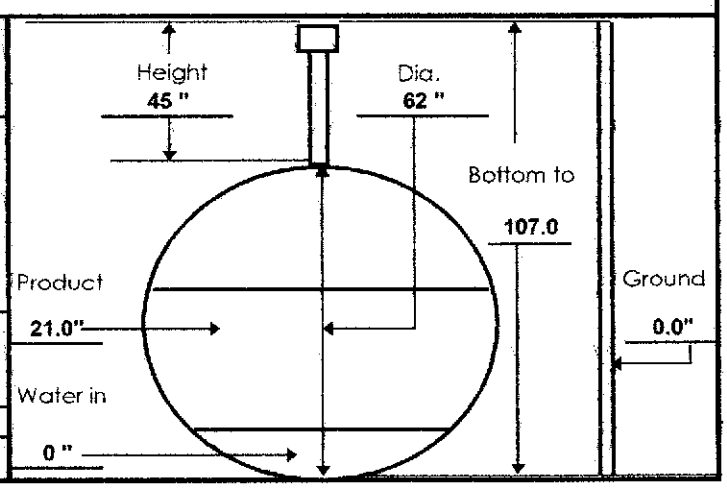
Average: _____

Calculation for Test Period:

_____ ÷ 3780 = _____, .05 x 60 = _____

Ave. Cal. "A" Factor Time of Test

WATER INTRUSION TEST PERIOD Began: _____ Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	**September 26, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**1000 Gallons**	TANK #	**5**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Diesel**		**Vinton, VA 24179**

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

ULLAGE (DRY) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

BELOW PRODUCT LEVEL (WET) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name	Charl Trogdon	Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

ES Environmental SOLUTIONS

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Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

PRESSURE CALCULATION & WATER SENSOR CALIBRATION
DATA SHEET

DATE	Tuesday, September 26, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	1000 Gallon	TANK #	5
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Diesel		Vinton, VA 24179

PRESSURE SENSOR CALCULATION

27.0 (INCHES OF PRODUCT)	X	0.031 (WEIGHT OF PRODUCT)	=	0.837	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	0.000	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	0.837	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	0.000	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	0.837	+/-PSI (5)
Always add .5 PSI			+	1.337	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	1.400	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	10:00 AM	
Test Pressure Reached:	10:15 AM	1.400
Blower Turned Off:	10:30 AM	1.400
Test Began:	10:45 AM	1.400
Test Ended:	11:00 AM	

Depth of Groundwater Determined:

By: Water Stick

Where: Beside Tanks

WATER SENSOR CALIBRATION

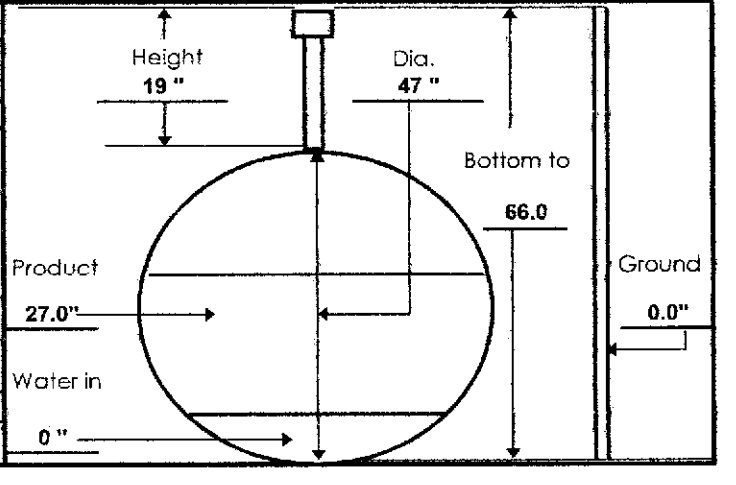
Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD Began: _____ Ended: _____



EZY 3 LOCATOR PLUS

FINAL REPORT

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

DATE	**September 26, 2017**	PBS # (NEW YORK)	
TOTAL TANK VOL.	**1000 Gallons**	TANK #	**6**
PRODUCT VOL.		LOCATION	**Chamblissburg Supply**
ULLAGE VOL.			**10625 Stewartsville Rd**
PRODUCT TYPE	**Kerosene**		**Vinton, VA 24179**

THE ACOUSTIC CHARACTERISTIC OF A LEAK REVEALS:

X **TIGHT TANK**

THIS UNDERGROUND STORAGE TANK **PASSES** THE CRITERIA SET FORTH BY THE U.S. EPA.

ULLAGE (DRY) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

BELOW PRODUCT LEVEL (WET) PORTION LEAK

THIS UNDERGROUND STORAGE TANK **FAILS** THE CRITERIA SET FORTH BY THE U.S. EPA.

WATER SENSOR INDICATES:

(CHECK ONLY ONE)

NO WATER INTRUSION _____ WATER INTRUSION _____ NOT APPLICABLE X

Operator Information:

Print Name	Charles Trogdon	Certification #	139318
Sign Name	Charl Trogdon	Expiration Date	8/21/2018
Testing Firm	Environmental Solutions	Telephone #	540.312.8467
Address	PO Box 531		
	Cloverdale, VA 24077		

ES Environmental SOLUTIONS

P.O. Box 531
Cloverdale, Virginia 24077
Phone: 540-312-8467
Fax: 540-400-8865

EZY 3 LOCATOR PLUS

MANUFACTURED BY: ESTABROOK'S INC. 1-877-368-7215

PRESSURE CALCULATION & WATER SENSOR CALIBRATION DATA SHEET

DATE	Tuesday, September 26, 2017	PBS # (NEW YORK)	
TOTAL TANK VOL.	1000 Gallon	TANK #	6
PRODUCT VOL.		LOCATION	Chamblissburg Supply
ULLAGE VOL.			10625 Stewartsville Rd
PRODUCT TYPE	Kerosene		Vinton, VA 24179

PRESSURE SENSOR CALCULATION

20.0 (INCHES OF PRODUCT)	X	0.029 (WEIGHT OF PRODUCT)	=	0.580	PSI (1)
0.0 (INCHES OF WATER IN TANK)	X	.036	=	0.000	PSI (2)
Line 1 + Line 2 = Total Positive Head Pressure In Tank			=	0.580	PSI (3)
0.0 (INCHES OF WATER OUTSIDE TANK)	X	.036	=	0.000	PSI (4)
Total Head Pressure Minus Outside Water Pressure			=	0.580	+/-PSI (5)
Always add .5 PSI			+	1.080	PSI (6)
NOTE: If Line 6 is Less Than .5 PSI Line 7 Shall be .5 PSI					
TEST PRESSURE			=	1.100	+/-PSI (7)

ACOUSTIC TEST TIME

	TIME	PRESSURE
Blower Started:	11:40 AM	
Test Pressure Reached:	11:55 AM	1.210
Blower Turned Off:	12:10 PM	1.100
Test Began:	12:25 PM	1.100
Test Ended:	12:40 PM	

Depth of Groundwater Determined:

By: Water Stick

Where: Beside Tanks

WATER SENSOR CALIBRATION

Added: _____ Cal #1 _____ Cal #2 _____ Cal #3

Average: _____

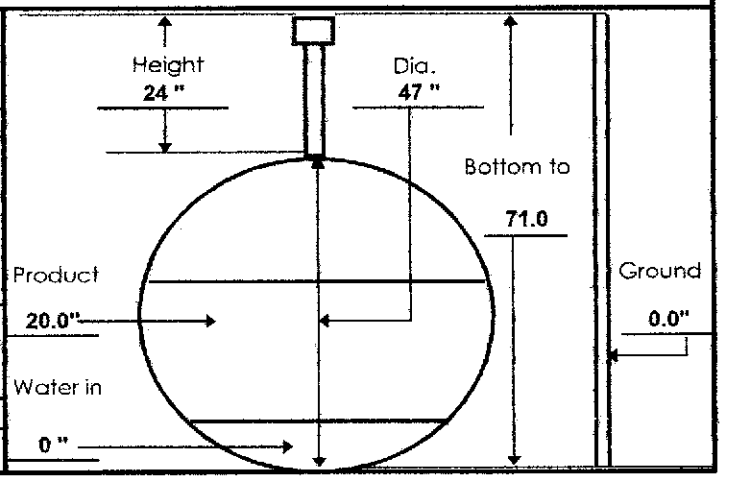
Calculation for Test Period:

_____ (Ave. Cal.) ÷ 3780 = _____ ("A" Factor), .05 x 60 = _____ (Time of Test)

WATER INTRUSION TEST PERIOD

Began: _____

Ended: _____



View of the helium being introduced into the plus line (attempted).

View of the flex piping on the plus line. The check valve is believed to be located at the other end of the flex line (buried).

View of helium being introduced into the super line.

View of the believed area of the line leak as indicated by helium testing. This location is directly in front of the super dispenser.

MATERIAL MANIFEST

R.E.M. Specialties, LLC

P.O. BOX 347
HARDY, VA 24101
TEL. (540) 874-5656

EMERGENCY PHONE NO.
CHEMTEL 1-800-255-3924

MIS 0006488

Manifest Document No.	
Page	of
R.E.M. Job No.	

GENERATOR INFORMATION

Name: ELEIS GROCERY

US EPA ID No.:

Street Address: 10625 STEWARTSVILLE RD.
VIRTON, VA 24179

Mailing Address:

Phone No.:

Contact: GREEN ENVIRONMENTAL

DESCRIPTION OF MATERIALS

	HM	USDOT Proper Shipping Name (Complete All Items for Hazardous Materials)	Hazard Class or Div.	UN / NA ID No.	Packing Group	Containers Qty.	Containers Type	Total Quantity	Unit Wt./Vol.
a.		PETROLEUM CONTAMINATED GROUNDWATER	–	–	–	01	TT	385	G
b.									
c.									

ADDITIONAL INFORMATION		ERG. No.	R.E.M. Profile Code	Facility Use
a.	AFVR EVENT			
b.				
c.				

GENERATOR'S CERTIFICATION

This is to certify that the above described materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40 CFR Part 261 or any applicable state law, and unless specifically identified above, the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Printed / Typed Name: Dan Flor

Signature:

Mo. / Day / Yr.: 6-11-18

TRANSPORTER INFORMATION

Transporter: **R.E.M. Specialties, LLC**

Address: **7161 Lynchburg Salem Turnpike**
Thaxton, VA 24174

Transporter or EPA ID. No.: 1678989

Unit No.: 05

Phone: **540-874-5656**

R.E.M. Specialties, LLC assumes responsibility for transportation of described material to a permitted recycling, disposal, or treatment facility.

Signature:

Date: 6/11/2018

FACILITY INFORMATION

Facility:

Address:

Facility or EPA ID No.:

Phone:

Contact:

I hereby acknowledge receipt of the material covered by this manifest except for any discrepancy noted below.

Signature:

Delivery Date:

DISCREPANCIES / ROUTING CODES / HANDING METHODS

a.

b.

c.

ORIGINAL - Generator Retain COPY 2 - Facility Retain COPY 3 - Transporter Retain

GREENE
ENVIRONMENTAL SERVICES LLC.
570 Redbud Hill Road, Rocky Mount, Virginia 24151
Office: 540-483-3311 or 800-215-2596
www.greene-environmental.com

Mr. Donald Scott
10433 Stewartsville Road
Vinton, Virginia 24179

August 24, 2018

Dear Mr. Scott,

As previously discussed, Greene Environmental Services, LLC (Greene) has been contracted to perform the Virginia Department of Environmental Quality (VA DEQ) requested activities associated with a release of petroleum from the Chamblissburg Supply facility addressed as 10625 Stewartsville Road, Vinton, Virginia 24179. As part of site characterization, installation of a deep water monitoring well on the Houck Property (10555 Stewartsville Road) has been requested. However, to access the location of the proposed monitoring well it appears necessary to cross your property. As a result, Greene seeks your cooperation in order to perform the activities requested by the VA DEQ. A summary of the activities to be performed on your property is provided below:

1. Utilize the existing farm use road to access the Houck Property.
2. Remove brush, limbs, trees, etc. from along the farm use road to allow access for the drill rig and associated service vehicles.
3. Perform limited grading activities along the property line to further allow access for well installation.
4. Remove two existing wooden road drainage systems and replace with drain tile and gravel.
5. Upon completion of monitoring well installation activities, Greene will resurface the disturbed areas to match the surrounding surfacing.
6. Utilize the farm use road to conduct routine groundwater monitoring and sampling activities as applicable.
7. Perform additional activities required to obtain closure of PC 2017-2298 as necessary.

Greene Environmental Services, LLC, in conformity with the laws and regulations administered by the VA DEQ, will be the onsite environmental contractor overseeing the activities listed above. These activities will be performed in a timely and professional manner. Greene will work with you to establish a convenient time/date for onsite activities. Greene and all sub-contractors will maintain all appropriate onsite safety measures.

Please sign and date the statement below giving Greene Environmental Services, LLC permission to access your property for the purposes of performing the services/activities listed above. Please return this signed access agreement to Greene Environmental Services, LLC via facsimile (540-483-3381), email (aflora@greene-environmental.com), or mail (570 Redbud Hill Road, Rocky Mount, VA 24151).

Thank you for your time and help in this matter. Please feel free to contact me at 540-483-3311 (office) or 540-798-4206 (mobile) if you have any questions or if additional information is required.

Sincerely,

Marshall A. Flora
Project Manager

By my signature below, I represent that as an authorized representative of the owner of the 10433 Stewartsville Road property in Vinton, Virginia, I give Greene Environmental Services, LLC, and its agents, permission to access the property for the purposes of completing these activities.

Signature

Date 8/30/2018

Donald R. Scott
Printed Name & Title

APPENDIX G

Fate & Transport Modeling Data

SCR BIOSCREEN-AT Modeling Input Data & Graphical Representations
SCRA BIOSCREEN-AT Modeling Input Data & Graphical Representations

BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1002 - Benzene

Data Input Instructions:

115 → 1. *Enter value directly....or*

↑ *or*

0.02 → 2. *Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	15.669	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.014	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

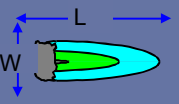
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	3.5E-1	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	2.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	425	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

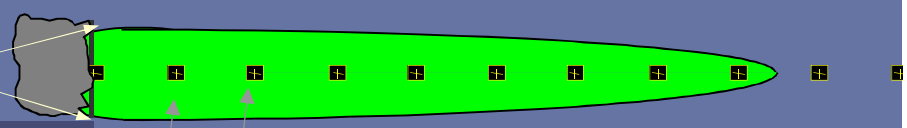


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	18.5

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	18.5	6.95	3.86	.295							
Dist. from Source (ft)	*0*	*17*	*37*	*68*	*170*	*213*	*255*	*298*	*340*	*383*	*425*

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED BENZENE CONCENTRATIONS IN PLUME (mg/L at Z=0)

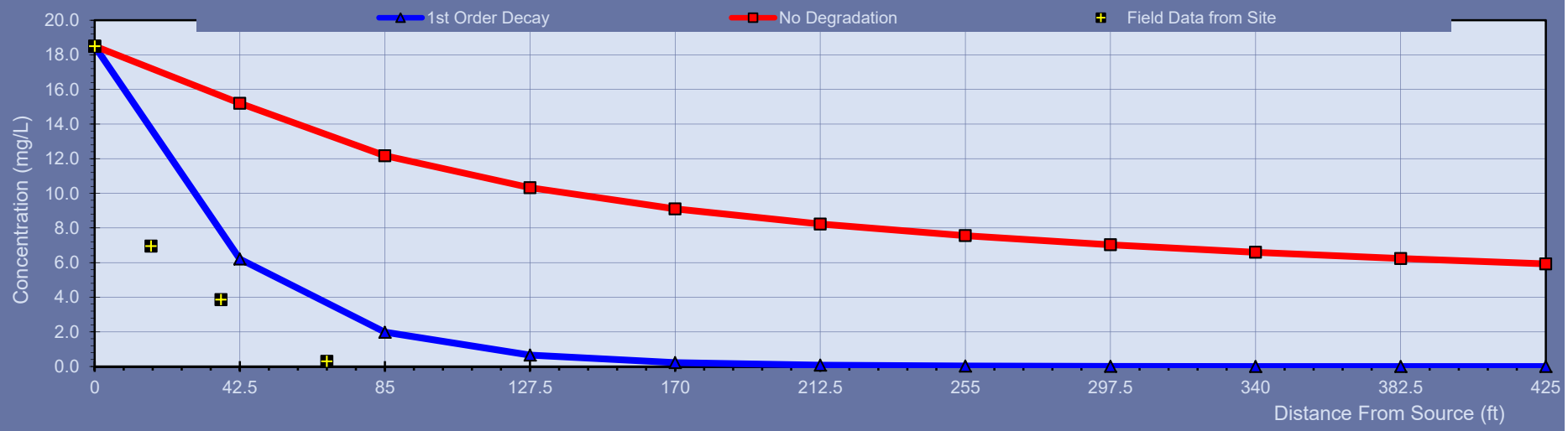
Distance from Source (ft)

	0	42.5	85	127.5	170	212.5	255	297.5	340	382.5	425
No Degradation	18.500	15.199	12.169	10.325	9.103	8.225	7.557	7.028	6.596	6.234	5.926
1st Order Decay	18.500	6.209	1.981	0.659	0.226	0.079	0.028	0.010	0.004	0.001	0.000
Field Data from Site	18.500	6.950	3.860	0.295							

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1002 - Toluene

Data Input Instructions:

115 → 1. Enter value directly....or

or

0.02 → 2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	15.669	*(ft/yr)*
or		*or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.014	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		*or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

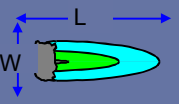
Retardation Factor*	*R*	1.2	*(-)*
or		*or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	1.2E+0	*(per yr)*
or		*or*	
Solute Half-Life	*t-half*	0.58	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	179	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

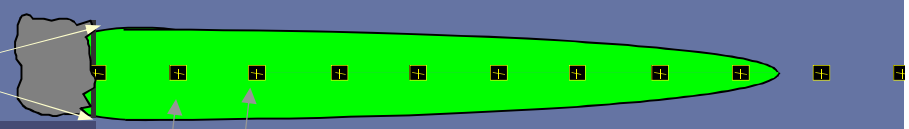


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	53.7

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	53.7	29.9	2.49	.711							
Dist. from Source (ft)	*0*	*17*	*37*	*68*	*72*	*90*	*107*	*125*	*143*	*161*	*179*

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED TOLUENE CONCENTRATIONS IN PLUME (mg/L at Z=0)

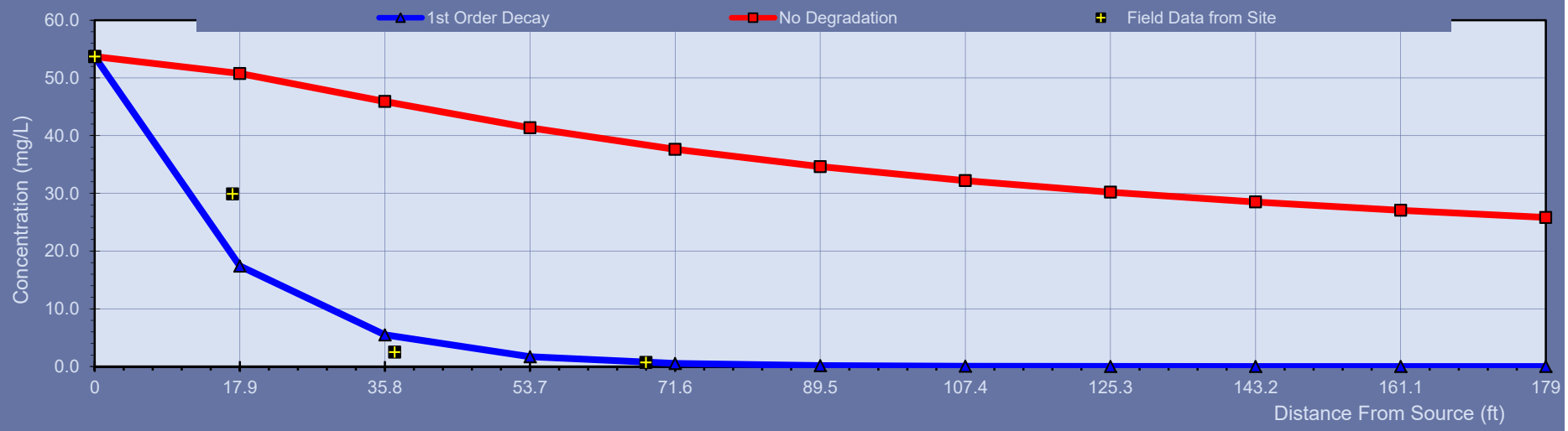
Distance from Source (ft)

	0	17.9	35.8	53.7	71.6	89.5	107.4	125.3	143.2	161.1	179
No Degradation	53.700	50.758	45.914	41.353	37.624	34.631	32.202	30.194	28.507	27.065	25.817
1st Order Decay	53.700	17.406	5.475	1.694	0.523	0.162	0.050	0.016	0.005	0.002	0.000
Field Data from Site	53.700	29.900	2.490	0.711							

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1002 - Ethylbenzene

Data Input Instructions:

115 → *1. Enter value directly....or*

↑ *or*

0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	15.669	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.014	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

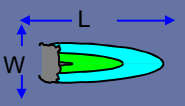
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	1.1E+0	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	0.62	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	145	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

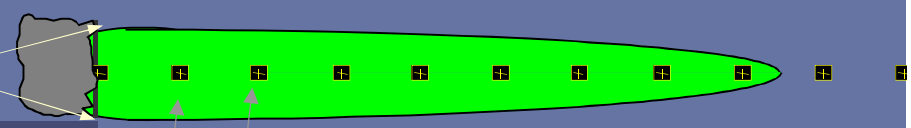


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	3.88

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	3.88		.441	.15							
Dist. from Source (ft)	*0*	*17*	*37*	*68*	*58*	*73*	*87*	*102*	*116*	*131*	*145*

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED ETHYLBENZENE CONCENTRATIONS IN PLUME (mg/L at Z=0)

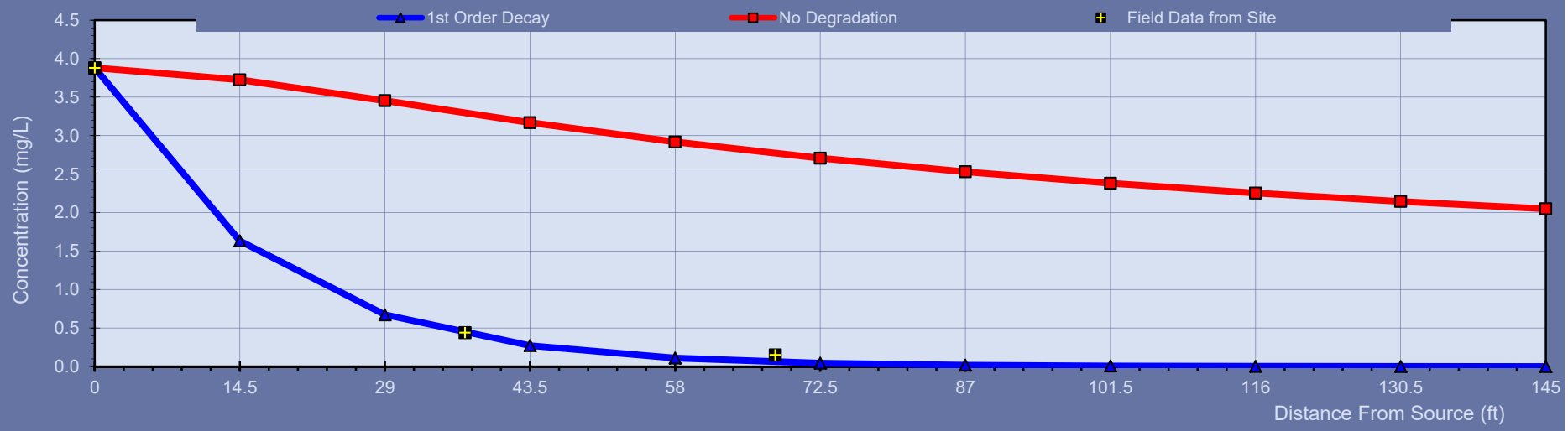
Distance from Source (ft)

	0	14.5	29	43.5	58	72.5	87	101.5	116	130.5	145
No Degradation	3.880	3.725	3.454	3.169	2.918	2.706	2.530	2.381	2.254	2.144	2.048
1st Order Decay	3.880	1.632	0.672	0.273	0.110	0.044	0.018	0.007	0.003	0.001	0.000
Field Data from Site	3.880		0.441	0.150							

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1002 - Total Xylenes

Data Input Instructions:

115 → *1. Enter value directly....or*

↑ *or*

0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	15.669	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.014	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

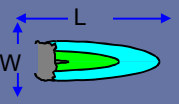
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	6.9E-1	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	1.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	244	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

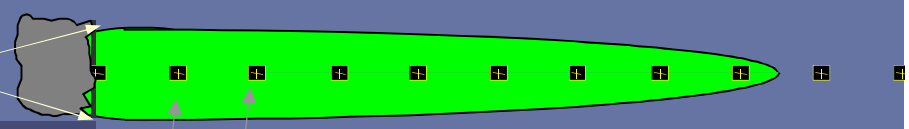


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	18.4

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	18.4		6.47	.455							
Dist. from Source (ft)	0	17	37	68	98	122	146	171	195	220	244

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED TOTAL XYLENES CONCENTRATIONS IN PLUME (mg/L at Z=0)

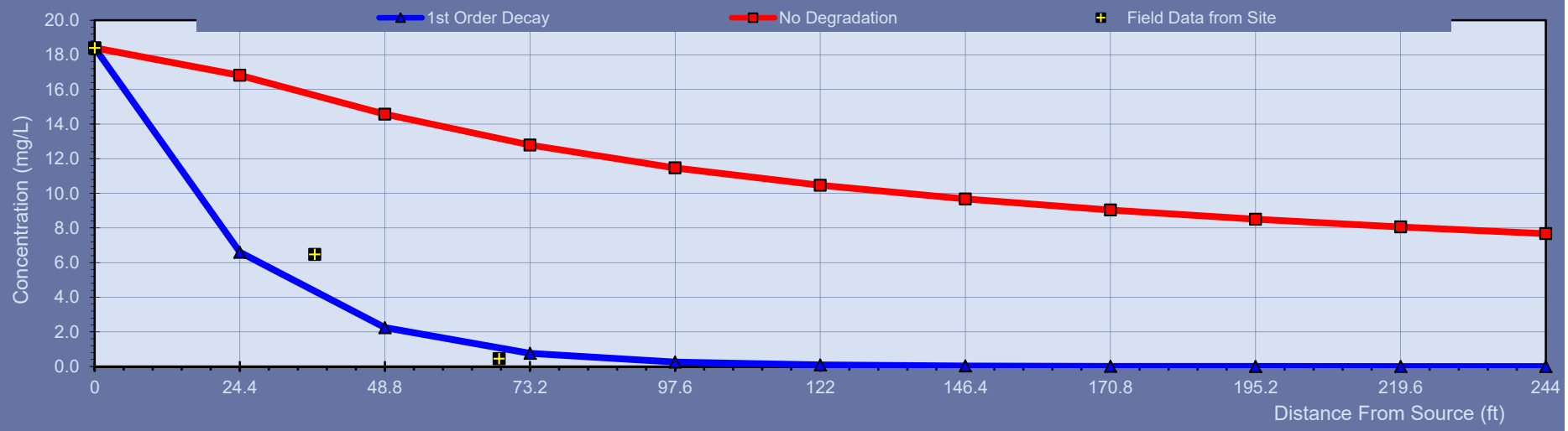
Distance from Source (ft)

	0	24.4	48.8	73.2	97.6	122	146.4	170.8	195.2	219.6	244
No Degradation	18.400	16.812	14.570	12.790	11.469	10.464	9.674	9.035	8.505	8.057	7.673
1st Order Decay	18.400	6.597	2.245	0.759	0.259	0.090	0.031	0.011	0.004	0.001	0.000
Field Data from Site	18.400		6.470	0.455							

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1002 - MTBE

Data Input Instructions:

115 → *1. Enter value directly....or*

↑ *or*

0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	15.669	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.014	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

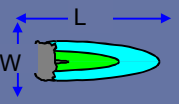
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	3.5E-1	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	2.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	445	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

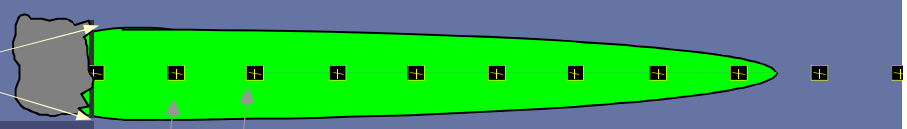


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	29.4

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	29.4										
Dist. from Source (ft)	*0*	*17*	*37*	*68*	*178*	*223*	*267*	*312*	*356*	*401*	*445*

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED MTBE CONCENTRATIONS IN PLUME (mg/L at Z=0)

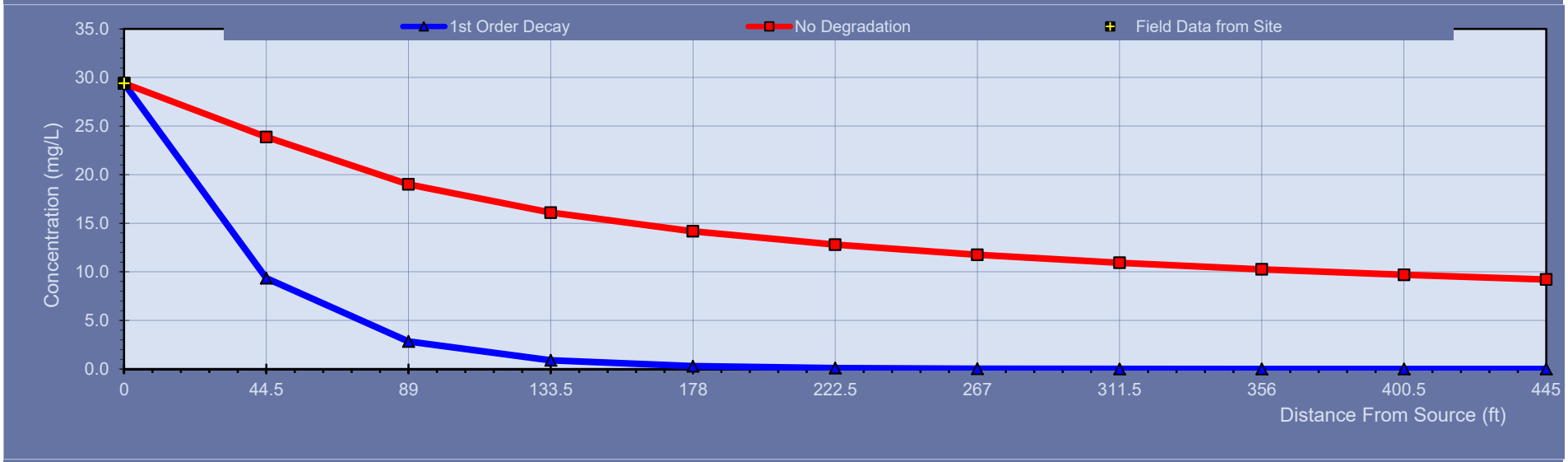
Distance from Source (ft)

	0	44.5	89	133.5	178	222.5	267	311.5	356	400.5	445
No Degradation	29.400	23.871	19.001	16.089	14.170	12.796	11.754	10.928	10.254	9.691	9.211
1st Order Decay	29.400	9.346	2.834	0.899	0.295	0.099	0.034	0.012	0.004	0.001	0.000
Field Data from Site	29.400										

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1002 - Naphthalene

Data Input Instructions:

115 → 1. Enter value directly....or

↑ or

0.02 → 2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	15.669	*(ft/yr)*
or		↑ or	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.014	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ or	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

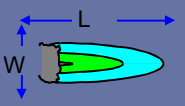
Retardation Factor*	*R*	1.2	*(-)*
or		↑ or	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	9.8E-1	*(per yr)*
or		↑ or	
Solute Half-Life	*t-half*	0.71	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	146	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

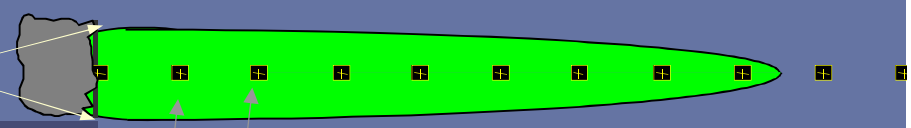


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	1.73

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	1.73		1.1	.078							
Dist. from Source (ft)	0	17	37	68	58	73	88	102	117	131	146

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED NAPHTHALENE CONCENTRATIONS IN PLUME (mg/L at Z=0)

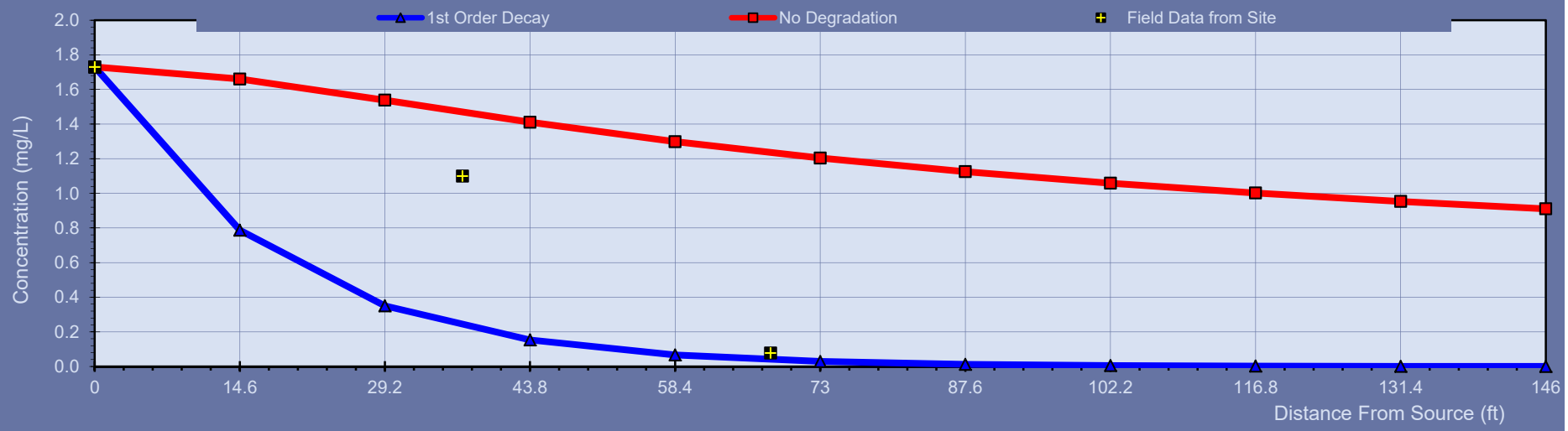
Distance from Source (ft)

	0	14.6	29.2	43.8	58.4	73	87.6	102.2	116.8	131.4	146
No Degradation	1.730	1.660	1.538	1.410	1.298	1.204	1.125	1.059	1.002	0.953	0.911
1st Order Decay	1.730	0.787	0.350	0.154	0.067	0.029	0.013	0.006	0.002	0.001	0.000
Field Data from Site	1.730		1.100	0.078							

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc. — *Version 1.45*

Chamblissburg Supply

CSVI1002 - BTEX, MTBE, NAP

Data Input Instructions:

115 → 1. Enter value directly....or

or

0.02 → 2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* → Data used directly in model.

20 → Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	15.669	(ft/yr)
or		or	
Hydraulic Conductivity	K	3.2E-04	(cm/sec)
Hydraulic Gradient	i	0.014	(ft/ft)
Porosity	n	0.3	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	7.061	(ft)
Transverse Dispersivity*	alpha y	0.706	(ft)
Vertical Dispersivity*	alpha z	0.000	(ft)
or		or	
Estimated Plume Length	Lp	100	(ft)

3. ADSORPTION

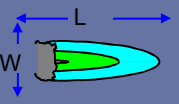
Retardation Factor*	R	1.2	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	38	(L/kg)
FractionOrganicCarbon	foc	8.0E-4	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	3.5E-1	(per yr)
or		or	
Solute Half-Life	t-half	2.00	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	5.78	(mg/L)
Delta Nitrate*	NO3	17	(mg/L)
Observed Ferrous Iron*	Fe2+	11.3	(mg/L)
Delta Sulfate*	SO4	100	(mg/L)
Observed Methane*	CH4	0.414	(mg/L)

5. GENERAL

Modeled Area Length*	507	(ft)
Modeled Area Width*	85	(ft)
Simulation Time*	100.00	(yr)

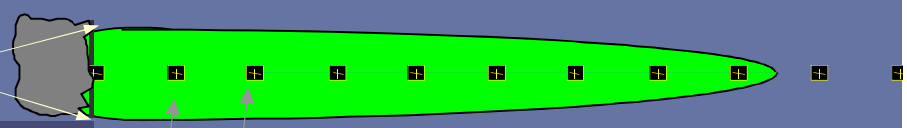


6. SOURCE DATA

Source Thickness	10	(ft)

Source	
Width (ft)	Conc.(mg/L)
20	125.51

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	125.51	72.74	21.87	5.387							
Dist. from Source (ft)	0	17	37	68	203	254	304	355	406	456	507

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED TOTAL BTEX, MTBE, NAP CONCENTRATIONS IN PLUME (mg/L at Z=0)

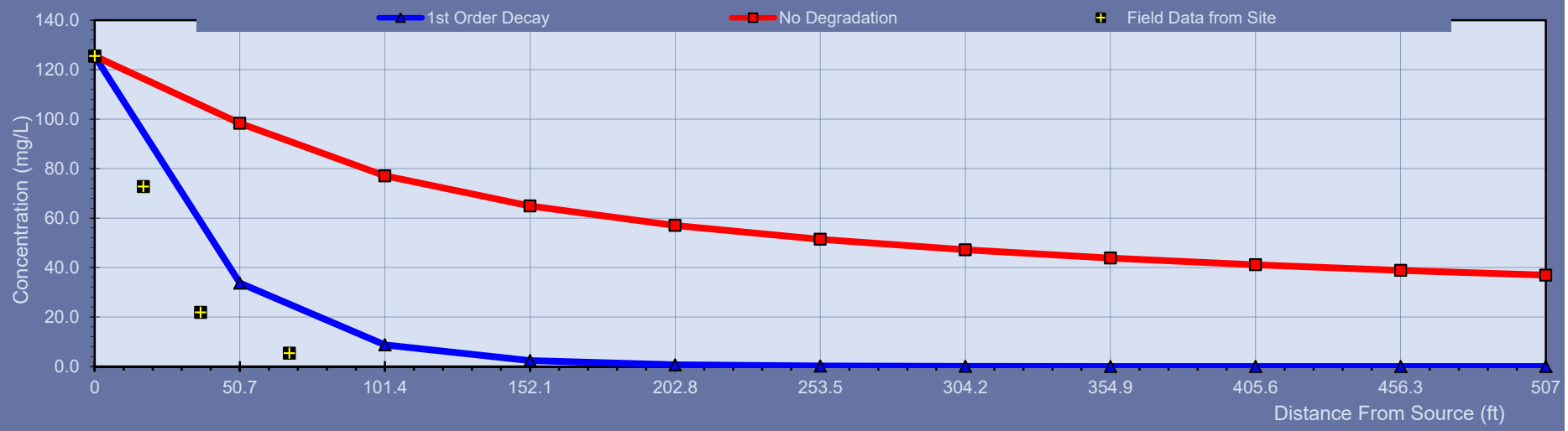
Distance from Source (ft)

	0	50.7	101.4	152.1	202.8	253.5	304.2	354.9	405.6	456.3	507
No Degradation	125.510	98.308	77.042	64.889	57.010	51.412	47.181	43.842	41.121	38.849	36.915
1st Order Decay	125.510	33.708	8.748	2.399	0.682	0.199	0.059	0.018	0.005	0.002	0.000
Field Data from Site	125.510	72.740	21.870	5.387							

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1003 - Benzene

Data Input Instructions:

115 → *1. Enter value directly....or*

↑ *or*

0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	10.0729	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.009	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

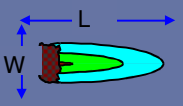
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	3.5E-1	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	2.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	285	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

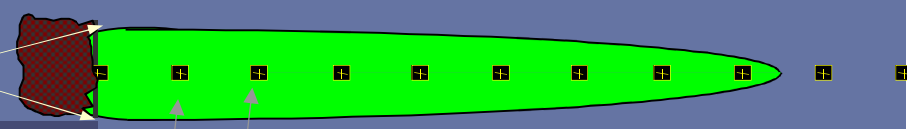


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	12.1

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	17	37	68	114	143	171	200	228	257	285

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED BENZENE CONCENTRATIONS IN PLUME (mg/L at Z=0)

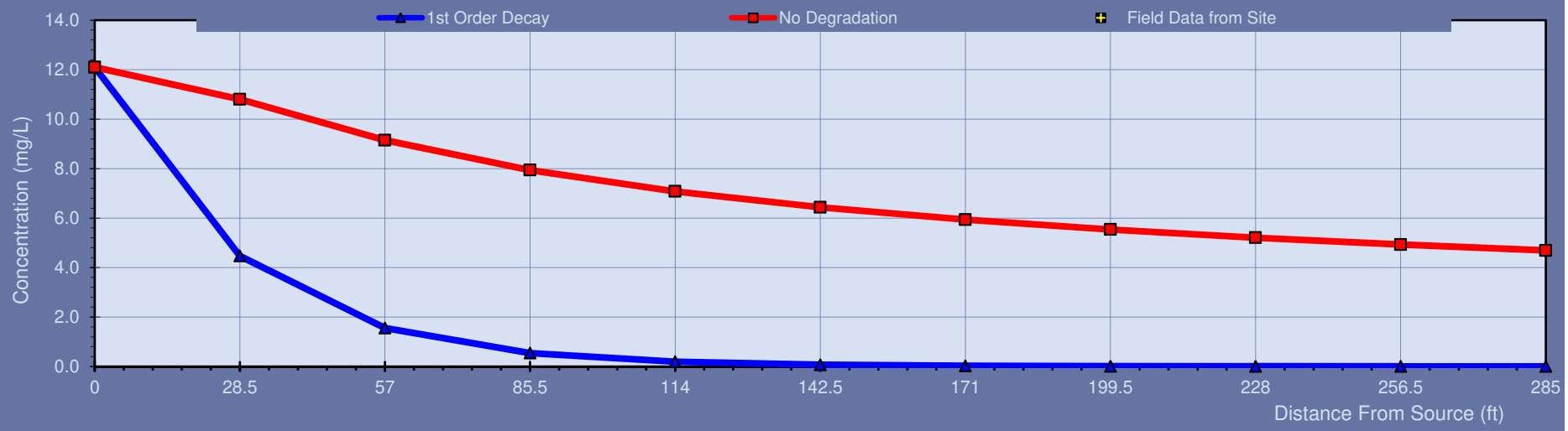
Distance from Source (ft)

	0	28.5	57	85.5	114	142.5	171	199.5	228	256.5	285
No Degradation	12.100	10.802	9.149	7.942	7.079	6.437	5.938	5.538	5.207	4.929	4.691
1st Order Decay	12.100	4.469	1.555	0.544	0.194	0.070	0.026	0.009	0.003	0.001	0.000
Field Data from Site											

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume Output**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1003 - Toluene

Data Input Instructions:

115 → *1. Enter value directly....or*

↑ *or*

0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	10.0729	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.009	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

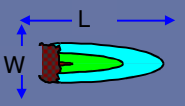
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	1.2E+0	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	0.58	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	128	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

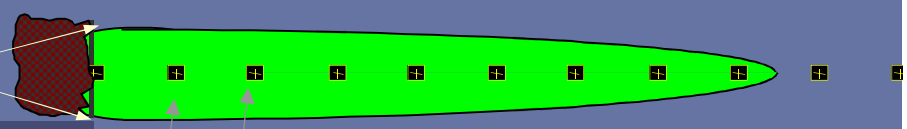


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	40.3

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	17	37	68	51	64	77	90	102	115	128

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN** | **View Centerline** | **View Plume** | **View BIOSCREEN**

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED TOLUENE CONCENTRATIONS IN PLUME (mg/L at Z=0)

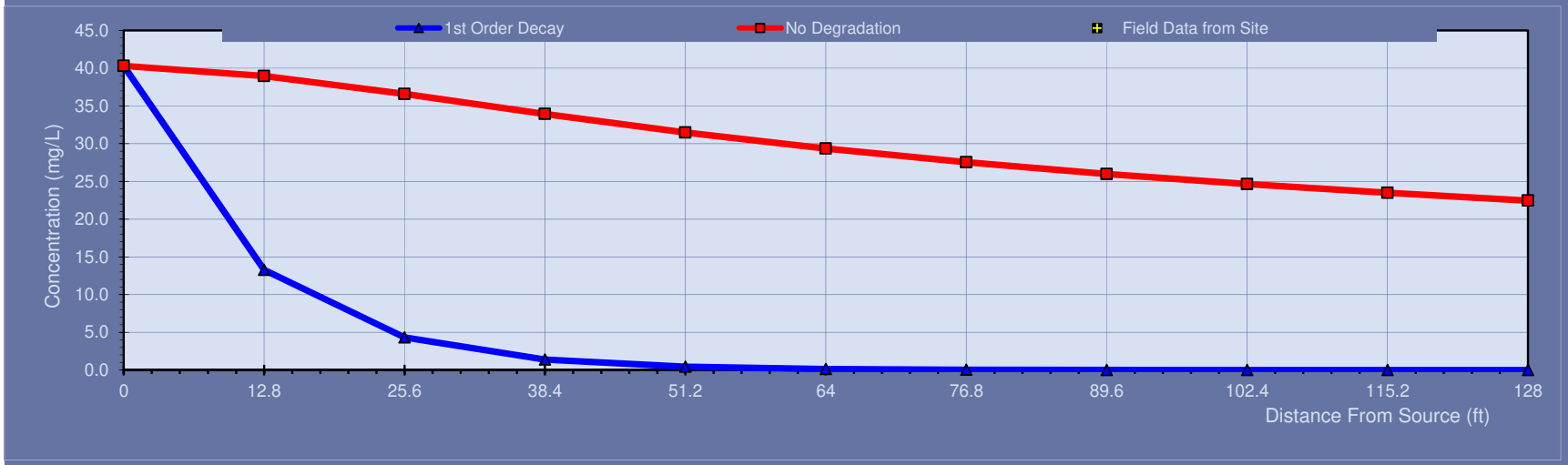
Distance from Source (ft)

	0	12.8	25.6	38.4	51.2	64	76.8	89.6	102.4	115.2	128
No Degradation	40.300	38.960	36.577	33.926	31.476	29.349	27.532	25.978	24.640	23.476	22.455
1st Order Decay	40.300	13.286	4.329	1.394	0.445	0.142	0.045	0.014	0.005	0.001	0.000
Field Data from Site											

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume Output**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1003 - Ethylbenzene

Data Input Instructions:

115 → *1. Enter value directly....or*

↑ *or*

0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	10.0729	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.009	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

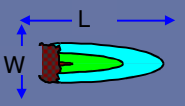
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	1.1E+0	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	0.62	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	106	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

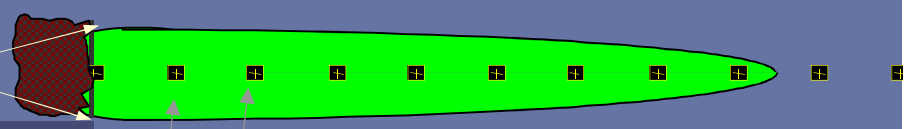


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	3.89

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	17	37	68	42	53	64	74	85	95	106

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED ETHYLBENZENE CONCENTRATIONS IN PLUME (mg/L at Z=0)

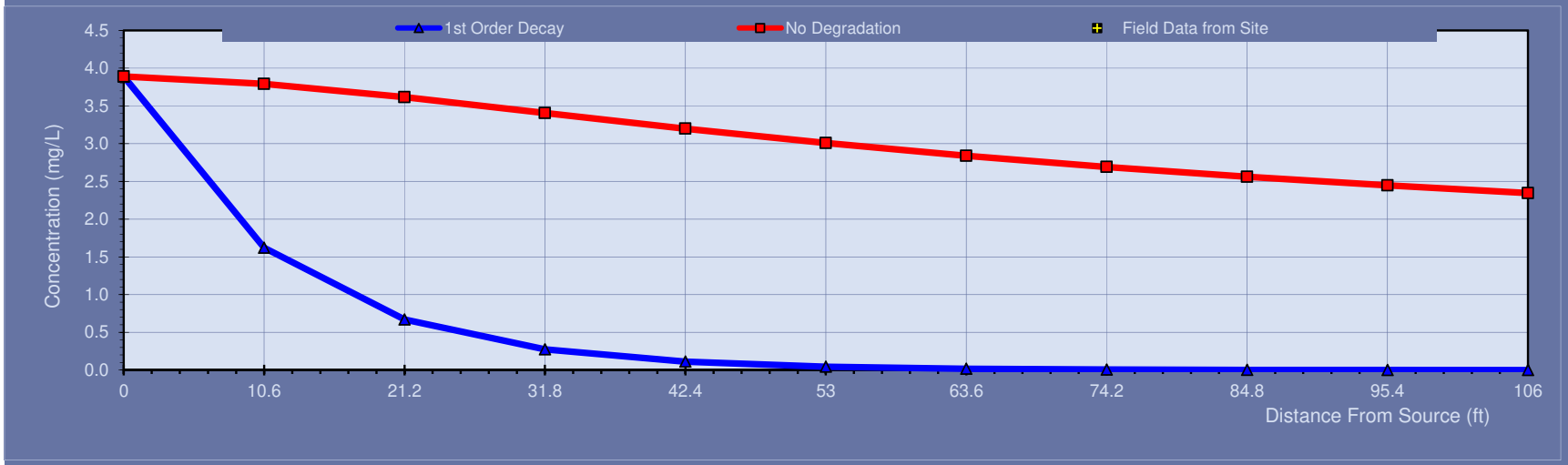
Distance from Source (ft)

	0	10.6	21.2	31.8	42.4	53	63.6	74.2	84.8	95.4	106
No Degradation	3.890	3.792	3.616	3.406	3.198	3.007	2.839	2.691	2.561	2.447	2.345
1st Order Decay	3.890	1.621	0.670	0.275	0.112	0.045	0.018	0.007	0.003	0.001	0.000
Field Data from Site											

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume Output**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1003 - Total Xylenes

Data Input Instructions:

115 → *1. Enter value directly....or*

↑ *or*

0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	10.0729	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.009	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

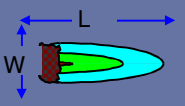
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	6.9E-1	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	1.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	176	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

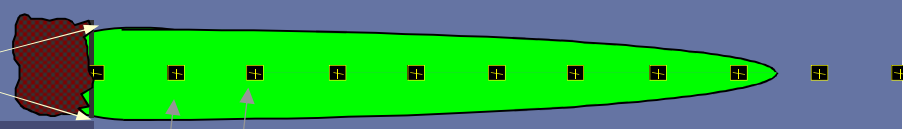


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	19.4

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	17	37	68	70	88	106	123	141	158	176

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN** | **View Centerline** | **View Plume** | **View BIOSCREEN**

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED TOTAL XYLENES CONCENTRATIONS IN PLUME (mg/L at Z=0)

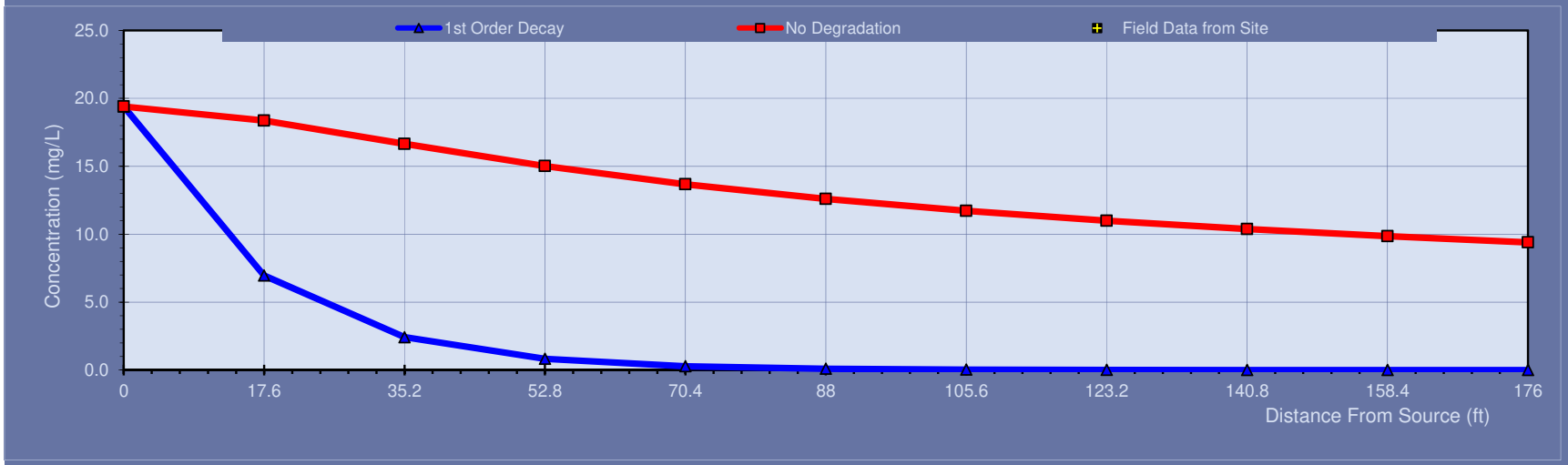
Distance from Source (ft)

	0	17.6	35.2	52.8	70.4	88	105.6	123.2	140.8	158.4	176
No Degradation	19.400	18.363	16.647	15.015	13.673	12.593	11.714	10.987	10.375	9.851	9.398
1st Order Decay	19.400	6.957	2.420	0.828	0.283	0.097	0.033	0.012	0.004	0.001	0.000
Field Data from Site											

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume Output**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1003 - MTBE

Data Input Instructions:

115 → 1. Enter value directly....or

↑ or

0.02 → 2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	10.0729	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.009	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

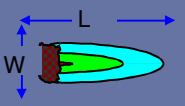
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	3.5E-1	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	2.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	304	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

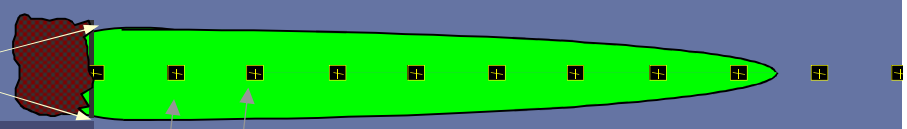


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	23.5

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	*0*	*17*	*37*	*68*	*122*	*152*	*182*	*213*	*243*	*274*	*304*

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED MTBE CONCENTRATIONS IN PLUME (mg/L at Z=0)

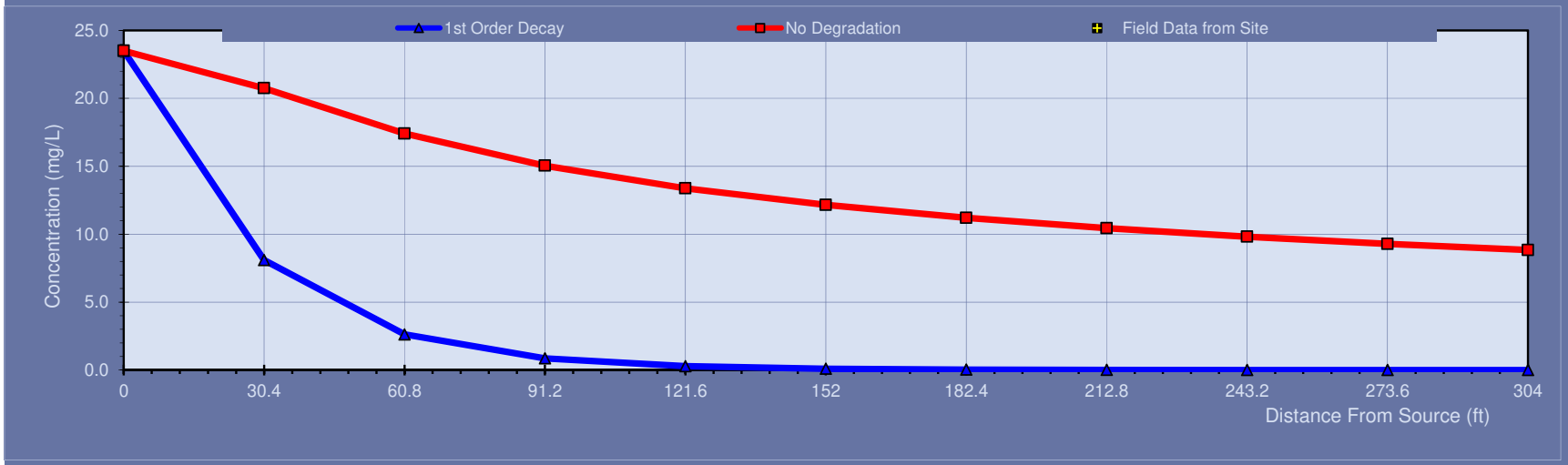
Distance from Source (ft)

	0	30.4	60.8	91.2	121.6	152	182.4	212.8	243.2	273.6	304
No Degradation	23.500	20.747	17.406	15.045	13.382	12.153	11.202	10.441	9.815	9.288	8.837
1st Order Decay	23.500	8.097	2.624	0.859	0.286	0.097	0.033	0.012	0.004	0.001	0.000
Field Data from Site											

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume Output**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1003 - Naphthalene

Data Input Instructions:

115 → *1. Enter value directly....or*

↑ *or*

0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	10.0729	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.009	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

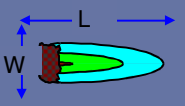
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	9.8E-1	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	0.71	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	109	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

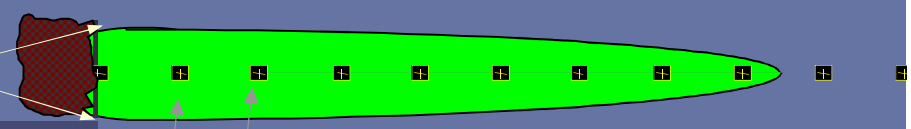


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	2.13

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	17	37	68	44	55	65	76	87	98	109

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,

DISSOLVED NAPHTHALENE CONCENTRATIONS IN PLUME (mg/L at Z=0)

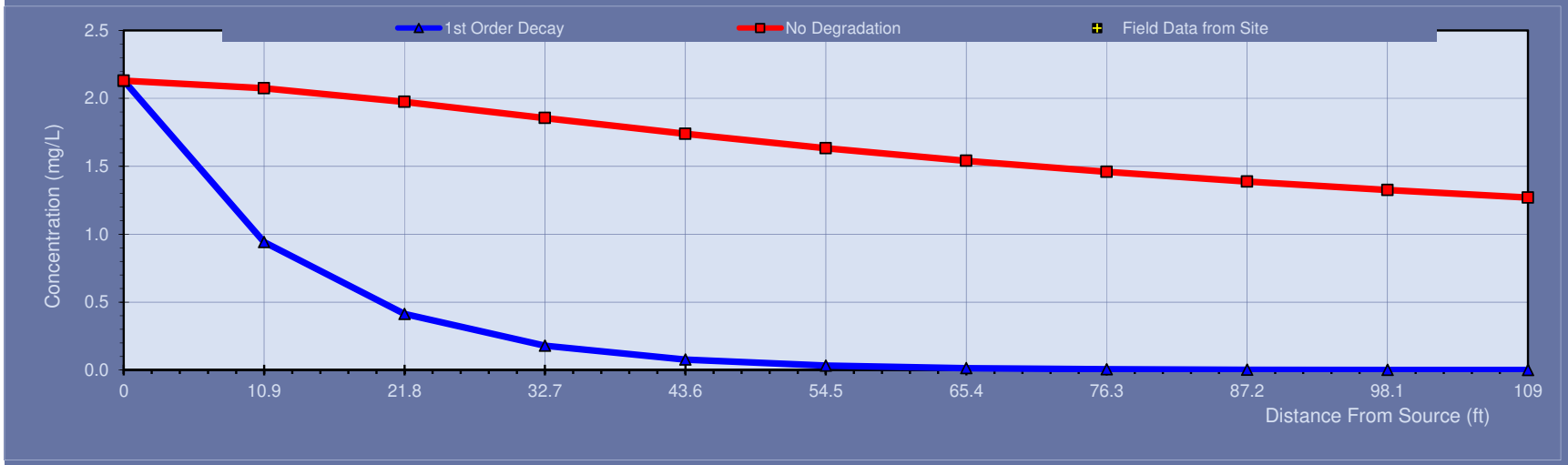
Distance from Source (ft)

	0	10.9	21.8	32.7	43.6	54.5	65.4	76.3	87.2	98.1	109
No Degradation	2.130	2.074	1.974	1.855	1.739	1.633	1.540	1.459	1.387	1.325	1.270
1st Order Decay	2.130	0.942	0.413	0.179	0.077	0.033	0.014	0.006	0.003	0.001	0.000
Field Data from Site											

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume Output**



BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopulos & Associates, Inc.

Version 1.45

Chamblissburg Supply

CSVI1003 - BTEX, MTBE, NAP

Data Input Instructions:

115 → *1. Enter value directly....or*

↑ *or*

0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	10.0729	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	3.2E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.009	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.061	*(ft)*
Transverse Dispersivity*	*alpha y*	0.706	*(ft)*
Vertical Dispersivity*	*alpha z*	0.000	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

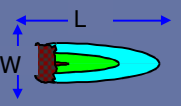
Retardation Factor*	*R*	1.2	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	8.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	3.5E-1	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	2.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	5.78	*(mg/L)*
Delta Nitrate*	*NO3*	17	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	11.3	*(mg/L)*
Delta Sulfate*	*SO4*	100	*(mg/L)*
Observed Methane*	*CH4*	0.414	*(mg/L)*

5. GENERAL

Modeled Area Length*	347	*(ft)*
Modeled Area Width*	85	*(ft)*
Simulation Time*	100.00	*(yr)*

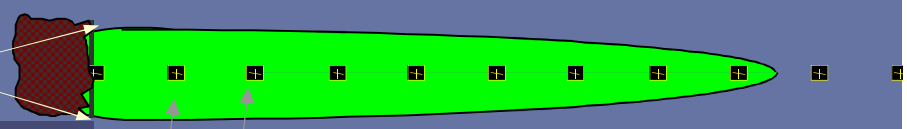


6. SOURCE DATA

Source Thickness	10	*(ft)*

Source	
Width (ft)	Conc.(mg/L)
20	101.32

☐ Exponentialy Decaying Conc.



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	17	37	68	139	174	208	243	278	312	347

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN**

View Centerline | **View Plume**

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

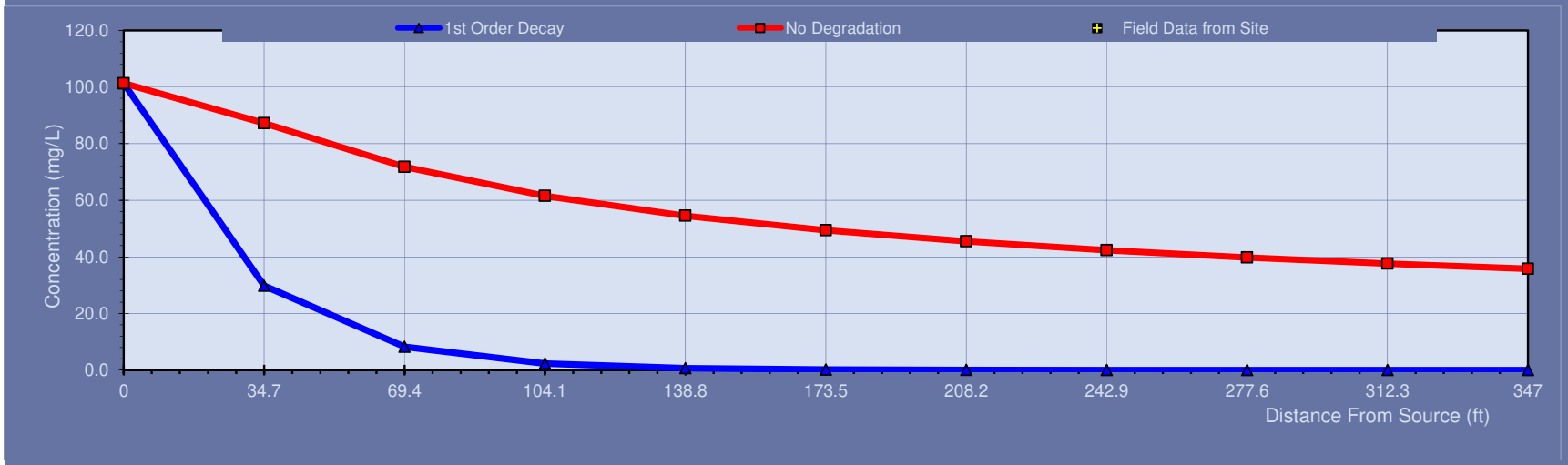
Restore Formulas for Vs,

DISSOLVED TOTAL BTEX, MTBE, NAP CONCENTRATIONS IN PLUME (mg/L at Z=0)

Distance from Source (ft)

	0	34.7	69.4	104.1	138.8	173.5	208.2	242.9	277.6	312.3	347
No Degradation	101.320	87.200	71.771	61.536	54.521	49.401	45.471	42.339	39.771	37.616	35.775
1st Order Decay	101.320	29.796	8.232	2.318	0.668	0.196	0.058	0.017	0.005	0.002	0.000
Field Data from Site											

# of TimeSteps **20**

Displayed Time=100 years

Return to Input **View Plume Output**