IA CAP Chamblissburg Supply PC# 2017-2298

INTERIM AUTHORIZATION CORRECTIVE ACTION PLAN

Chamblissburg Supply
10625 Stewartsville Road
Vinton, Virginia 24179

PC# 2017-2298
Greene Project# CSVI1005

December 20, 2019

DEQ Case Manager:
Mr. Robert L. Howard

INTERIM AUTHORIZATION
CORRECTIVE ACTION PLAN

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

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December 20, 2019
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EXECUTIVE SUMMARY

Interim Authorization Corrective Action Plan

Based on the findings of the Site Characterization Report Addendum (SCRA), the Virginia Department of Environmental Quality (VA DEQ) requested Interim Authorization Corrective Action Plan (IA CAP) activities be performed at the Chamblissburg Supply facility. As part of IA CAP activities, deep groundwater monitoring wells MW12, MW13, and MW14 were converted to supply wells (DW03C, DW01B, and DW02C) to provide potable water to the former Dudley Property, Chamblissburg Supply, and the Farkas Residence, respectively. Groundwater samples collected following installation yielded Non Detected for petroleum contamination. In addition, during this phase of investigation one deep water monitoring well (MW15) was installed on the Houck Residence property to Virginia Department of Health specifications for a Class IIIB supply well, which would allow for the conversion of the monitoring well to a drinking water supply well. However, soil samples and groundwater samples collected from soil boring B30/monitoring well MW15 yielded evidence of petroleum contamination. Based on the confirmed presence of residual and dissolved phase petroleum contamination, MW15 was not converted to a supply well and remains a deep water monitoring well.

Due to the continued significant petroleum impact to the Houck Residence supply well, Greene recommends performing geophysical well logging of deep water monitoring well MW15 in an attempt to identify water-bearing zones, foliations, fractures, and additional subsurface characteristics, which may be influencing the migrations of groundwater. In addition, Greene recommends performing discrete sampling to document hydrocarbon concentrations proximal to fractures/fracture zones observed during the geophysical borehole logging in an effort to identify the water-bearing zone(s) introducing petroleum contamination into the well (MW15).

Should discrete sampling indicate a specific fracture or water-bearing zone where petroleum impact is occurring, re-casing or installing a packer within MW15 may allow for the well to be converted to a supply well for the Houck Residence. However, if based on the discrete sampling results this is not possible, Greene recommends installing an additional deep water monitoring well on the Houck Property (P04). The additional deep water monitoring well should 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. As before, sufficient groundwater monitoring and sampling confirming the lack of petroleum contamination within the deep water monitoring well will be required prior to converting the well into a drinking water well. Finally, Greene recommends ongoing drinking water and surface water sampling be performed. Specifically, Greene recommends collecting water samples from supply wells DW01A, DW01B, DW02A, DW02C, DW03A, DW03B, DW03C, DW04A, DW04B, DW05A, DW06B, DW06C, DW07A, DW08A, DW08B, DW09A, DW09B, DW10A, DW11A, DW33A, DW33B, the unnamed tributary, and Pond-01.

Please note, potable supply wells DW05A, DW06C, and DW07A have also been impacted with petroleum contamination and may require provision of alternate water supplies. However, further monitoring is required to determine the ongoing risk associated with these supply wells. Recommendations associated with the continued presence of free phase petroleum, significant dissolved phase contamination onsite, and risk of impact to offsite receptors have been provided in the Post Site Characterization Report Sub-Phase 1.

This Executive Summary is an integral part of the Interim Authorization Corrective Action Plan. Greene recommends that the report be read in its entirety.

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INTERIM AUTHORIZATION
CORRECTIVE ACTION PLAN
for
Chamblissburg Supply
Vinton, VA

1.0 Introduction

On behalf of The Estate of Lacy Dudley, Greene Environmental Services, LLC (Greene) has prepared this Interim Authorization Corrective Action Plan (IA CAP) 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 Addendum (SCRA), the Virginia Department of Environmental Quality (VA DEQ) initially requested the preparation and submittal of an SCRA #2 in a letter dated January 28, 2019. However, the requested scope of work was revised by the VA DEQ subsequent to review of the SCRA #2 Activity Authorization Form (AAF) submitted on March 6, 2019. In an email dated April 25, 2019, the VA DEQ requested that Interim Authorization Corrective Action Plan and Post Site Characterization Monitoring Report Sub-Phase 1 (PSCM SP1) activities be conducted at the site. This report documents the IA CAP activities performed at the Chamblissburg Supply facility. A comprehensive summary of Pollution Complaint (PC) #2017-2298 was provided in the PSCM SP1 dated December 20, 2019 and has not been provided in this report.

Please note, in June 2019 the Chamblissburg Supply property was sold to Mr. Elei Safar. Based on the sale of the property, Greene obtained a site access agreement from Mr. Safar to continue the onsite performance of PC #2017-2298 activities. A copy of the site access agreement is provided 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). 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. It is believed that the site has operated as a retail gasoline station and convenience store from approximately 1978 to January 2019. During January 2019, the property owner at that time, the Lacy Dudley Estate, coordinated the removal of the regulated petroleum underground storage tank (UST) systems located at the property. The Chamblissburg Supply property formerly maintained one 4,000-gallon gasoline UST, two 5,000-gallon gasoline USTs, one 6,000-gallon gasoline UST, one 1,000-gallon diesel

fuel UST, one 1,000-gallon kerosene UST, three gasoline dispensers and associated canopy, one diesel fuel dispenser, and one kerosene dispenser, which were removed during closure activities performed in January 2019. Documentation regarding the UST closure at the Chamblissburg Supply facility was provided in the PSCM SP1 dated December 20, 2019.

The subject site currently obtains potable water from an onsite drilled supply well (DW01B) located approximately 900 feet north-northeast of the former shared gasoline UST basin. An additional onsite supply well (DW01A), located approximately 135 feet east of the former shared gasoline UST basin and approximately 70 feet east of the former shared diesel fuel and kerosene UST basin, previously provided potable water to the property. However, the plumbing from DW01A has been disconnected and the supply well is no longer in use. 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 copy of Site Map (10/14/2019) documenting pertinent features of the subject site is included in Appendix A.

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 former shared gasoline UST basin and approximately 620 feet northeast of the former 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 Interim Authorization Corrective Action Plan

As stated in Section 1.0 of this report, based on review of the SCRA, the VA DEQ requested that Interim Authorization Corrective Action Plan and Post Site Characterization Monitoring Report Sub-Phase 1 activities be conducted at the site. This report documents the requested IA CAP activities performed at the Chamblissburg Supply. This phase of work included obtainment of well installation permits, groundwater sampling, and installation of alternate water supplies for the Chamblissburg Supply, former Dudley Property, and the Farkas Residence. In addition, improvements were made to the proposed well location and access road to allow installation of a supply well on the Houck Residence property. A well installation permit was also obtained for the Houck Residence and a drilled well was installed and groundwater sampling was performed. Due to the presence of petroleum contamination within the newly drilled well on the Houck property this well was not connected to the onsite residence. Table 6 - Summary of the Receptor Survey Results is included in Appendix A, Page 6. The locations of the potential receptors and deep water monitoring wells are included on the Potential Receptors Location Map and Deep Groundwater Monitoring Well Location Map provided in Appendix B. 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 Interim Authorization CAP Events

January 10, 2019:
- Paul R. Shively, Inc. (PRS) applied crusher run material to the proposed well location on the Houck Residence property.

January 28, 2019:
- Date of the VA DEQ letter requesting SCRA #2 activities be performed.

February 2, 2019:
- Greene performed a site visit with a plumbing contractor regarding converting deep water monitoring wells MW12-MW14 to supply wells.

March 6, 2019:
- Greene submitted the Activity Authorization Form (AAF) for SCRA #2 activities.

April 3, 2019:
- Greene collected samples from deep water monitoring wells MW12, MW13, and MW14.

April 25, 2019:
- VA DEQ email requesting changes to the submitted SCRA #2 AAF.
- VA DEQ requested Post Site Characterization Monitoring and Interim Authorization Corrective Action Plan activities be performed.

May 7, 2019:
- Greene collected bacteriological samples from deep water monitoring wells MW12, MW13, and MW14.

May 17, 2019:
- Greene submitted applications to the Bedford County Health Department for well installation.

May 31, 2019:
- Greene performed a site visit with a plumbing contractor regarding converting deep water monitoring wells MW12-MW14 to supply wells.

June 20, 2019:
- Date of the Office of Drinking Water letter indicating the Chamblissburg Supply is not regarded as a public waterworks.

July 9, 2019:
- Greene and Bedford County Health Department personnel performed a site visit to confirm the required setbacks have been met for the submitted applications.

July 14, 2019:
- Bedford County Health Department issued well permits for MW12, MW13, MW14, and MW15.

August 20, 2019 to September 3, 2019:
- Davidson Drilling, Inc. (DDI) installed B30/MW15 on the Houck property.

September 4, 2019 to September 13, 2019:
- County Well Service (CWS) installed alternate water supply systems for the Chamblissburg Supply, former Dudley Property, and the Farkas Residence.

September 4, 2019:
- A groundwater sample was collected from MW15.

September 18, 2019:
- A groundwater sample was collected from MW15.

3.1 Alternate Water Supply Installation – Chamblissburg Supply

Based on the recommendation in the previous SCRA phase of work, the VA DEQ approved the conversion of deep water monitoring well MW13 to supply well DW01B to provide potable water to the Chamblissburg Supply facility. A summary of the groundwater sampling and installation of the alternate water supply for the Chamblissburg Supply is provided in the following sections.

3.1.1 Pre-Installation Groundwater Sampling & Laboratory Results

Prior to converting deep water monitoring well MW13 to supply well DW01B groundwater samples were collected to confirm the lack of dissolved phase petroleum contamination. In addition, a bacteriological water sample was collected from deep water monitoring well MW13. On April 3, 2019, a groundwater sample was collected from deep water monitoring well MW13. The groundwater sample was collected using a generator, three-inch Grundfos submersible pump, and dedicated, disposable, 0.75-inch HDPE

tubing. The well was purged until a minimum of three well volumes had been displaced. The water sample was collected in the appropriate sample containers, stored on ice, and transported via courier to the Pace Analytical Services (Pace) laboratory in Beaver, WV. The groundwater sample collected from deep groundwater monitoring well MW13 was submitted for total petroleum hydrocarbons-gasoline range organics (TPH-GRO) analysis via EPA method 8015, volatile organic compounds (VOCs) analysis via EPA method 8260, semi-volatile organic compounds (SVOCs) analysis via EPA method 8270, ethylene dibromide (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 sample collected from deep groundwater monitoring well MW13 yielded Non Detected for chemicals typically associated with petroleum contamination at laboratory MDLs. However, a total lead concentration of 0.380 micrograms per liter (µg/L) was observed during deep water monitoring well sampling activities. The total lead result was flagged with a J qualifier and the concentration is considered an estimate due to the reported result being below the practical quantitation limit (PQL) and equal to or above the laboratory method detection limit (MDL). As a result, it is likely the analyte is present in the sample, but the result should be viewed only as qualitative and not quantitative. 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 5 - Summary of Dissolved Phase Analytical Results is included in Appendix A, Page 4.

In addition, on May 7, 2019, a dedicated, disposable, HDPE bailer was utilized to collect a bacteriological water sample from MW13. The water sample was submitted to Environmental Options, Inc. in Rocky Mount, VA for total coliform and E. coli analysis via EPA method 9223. Analytical results of the bacteriological water sample from MW13 were negative for both total coliform and E. coli. Copies of the bacteriological laboratory results are included in Appendix D.

3.1.2 Conversion of MW13 to DW01B

Subsequent to confirming the lack of petroleum contamination within deep water monitoring well MW13, Greene submitted a water supply permit application to the Bedford County Health Department (BCHD) to convert MW13 to a potable water supply for the Chamblissburg Supply facility. During review of the application, the BCHD requested documentation confirming the commercial property was not considered a public waterworks. The Office of Drinking Water provided a letter dated June 20, 2019 confirming that the facility does not have public restrooms, prepare food, or serve food, and therefore is not regarded as a

public waterworks. Finally, on July 9, 2019 Greene performed a site visit with BCHD personnel to confirm the deep water monitoring well was installed outside of the required setbacks for supply wells. Subsequent to review of the application and site visit, the BCHD issued a well permit for the conversion of deep water monitoring well MW13 into supply well DW01B. Copies of the well construction permit and the June 20, 2019 letter from the Office of Drinking Water are included in Appendix E.

Following receipt of the permit, Greene contracted County Well Service (CWS) of Callaway, VA to install the alternate water supply system for the Chamblissburg Supply. CWS installed a 1-horsepower (HP) stainless steel submersible well pump within MW13 utilizing a pitless adapter and 1.25-inch HDPE piping. CWS then utilized a small excavator and a trencher to install approximately 1,040 feet of #8 electrical wire and 1.25-inch PVC supply piping from MW13 to the Chamblissburg Supply well house. A 30-gallon pressure tank was installed in the well house and the final connections were made to the existing plumbing to convert deep water monitoring well MW13 to supply well DW01B. The supply piping and electrical connections for the former in use supply well (DW01A) were then disconnected. Subsequent to installing the wiring and piping, the trench was backfilled and seed and straw mulch were utilized to resurface the impacted areas. Photographic documentation of alternate water supply installation activities is included in Appendix E.

Please note, CWS performed multiple activities associated with the installation of the Chamblissburg Supply, former Dudley Property, and Farkas Residence alternate water supply systems from September 4 to September 13, 2019. As a result, the exact timeframe of each installation activity associated with MW13 is unknown; however, the alternate water supply was completed by September 13, 2019. Drinking water samples collected from the Chamblissburg Supply following September 13, 2019 will be from the newly converted supply well (DW01B).

3.1.3 Post-Installation Groundwater Sampling & Laboratory Results

Following the conversion of deep water monitoring well MW13, drinking water samples were collected from the newly converted supply well (DW01B). As documented in the previously submitted reports, a carbon filtration unit (CFU) system has been installed at the Chamblissburg Supply facility as part of the VA DEQ Alternate Water Supply (AWS) program. As part of CFU system installation and maintenance activities pre-treatment drinking water samples are routinely collected. During this phase of investigation, one drinking water sample was collected from DW01B during a routine sampling event performed on behalf of the VA DEQ AWS program. Laboratory analytical results of the November 12, 2019 water sample collected from DW01B on behalf of the VA DEQ AWS program yielded Non Detected for petroleum contamination. Laboratory analytical results collected on behalf of the VA DEQ AWS program have been

included in Table 5 - Summary of Dissolved Phase Analytical Results, which is included in Appendix A, Page 4. 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 a drinking water sample from in use supply well DW01B on October 14, 2019. The groundwater sample from DW01B was collected from a spigot installed prior to the CFU treatment system subsequent to allowing the water to flow for approximately 10 minutes. Clean disposable nitrile gloves were used during all phases of sample collection. The DW01B water sample was collected in the appropriate sample containers, entered onto a chain of custody document, sealed inside a cooler on ice, and shipped overnight to the Maryland Spectral Services (MSS) laboratory in Baltimore MD. The groundwater sample collected from DW01B was submitted VOCs analysis via EPA method 8260 and EDB/DBCP analysis via EPA method 8011. Analytical results of the water sample collected from supply well DW01B on October 14, 2019 yielded Non Detected at laboratory detection limits for chemicals typically associated with petroleum contamination. Table 5 - Summary of Dissolved Phase Analytical Results is included in Appendix A, Page 4. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

3.2 Alternate Water Supply Installation – Farkas Residence

Based on the recommendation in the previous SCRA phase of work, the VA DEQ approved the conversion of deep water monitoring well MW14 to supply well DW02C to provide potable water to the Farkas Residence. A summary of the groundwater sampling and installation of the alternate water supply for the Farkas Residence is provided in the following sections.

3.2.1 Pre-Installation Groundwater Sampling & Laboratory Results

Prior to converting deep water monitoring well MW14 to supply well DW02C groundwater samples were collected to confirm the lack of dissolved phase petroleum contamination. In addition, a bacteriological water sample was collected from deep water monitoring well MW14. On April 3, 2019, a groundwater sample was collected from deep water monitoring well MW14. The groundwater sample was collected using a generator, three-inch Grundfos submersible pump, and dedicated, disposable, 0.75-inch HDPE tubing. The well was purged until a minimum of three well volumes had been displaced. The water sample was collected in the appropriate sample containers, stored on ice, and transported via courier to the Pace laboratory in Beaver, WV. The groundwater sample collected from deep groundwater monitoring well MW14 was 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 sample collected from deep groundwater monitoring well MW14 yielded Non Detected for chemicals typically associated with petroleum contamination at laboratory MDLs. However, dimethyl phthalate and total lead concentrations of 10.9 µg/L and 1.68 µg/L were observed, respectively, during deep water monitoring well sampling activities. The dimethyl phthalate result was flagged with a B qualifier as the result was observed within the associated method blank. Dimethyl phthalate is listed as a known, common laboratory contaminant by the EPA and the limited concentration combined with the B qualifier likely indicate the result is 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 5 - Summary of Dissolved Phase Analytical Results is included in Appendix A, Page 4.

In addition, on May 7, 2019, a dedicated, disposable, HDPE bailer was utilized to collect a bacteriological water sample from MW14. The water sample was submitted to Environmental Options, Inc. in Rocky Mount, VA for total coliform and E. coli analysis via EPA method 9223. Analytical results of the bacteriological water sample from MW14 were negative for both total coliform and E. coli. Copies of the bacteriological laboratory results are included in Appendix D.

3.2.2 Conversion of MW14 to DW02C

Subsequent to confirming the lack of petroleum contamination within deep water monitoring well MW14, Greene submitted a water supply permit application to the BCHD to convert MW14 to a potable water supply for the Farkas Residence. On July 9, 2019 Greene performed a site visit with BCHD personnel to confirm the deep water monitoring well was installed outside of the required setbacks for supply wells. Subsequent to review of the application and site visit, the BCHD issued a well permit for the conversion of deep water monitoring well MW14 into supply well DW02C. A copy of the well construction permit is included in Appendix E.

Following receipt of the permit, Greene contracted CWS of Callaway, VA to install the alternate water supply system for the Farkas Residence. CWS installed a 1-HP stainless steel submersible well pump within

MW14 utilizing a pitless adapter and 1.25-inch HDPE piping. CWS then utilized a small excavator and a trencher to install approximately 910 feet of #8 electrical wire and 1.25-inch PVC supply piping from MW14 to the onsite residence. A 30-gallon pressure tank was installed in the basement of the residence and the final connections were made to the existing plumbing to convert deep water monitoring well MW14 to supply well DW02C. The supply piping and electrical connections for the former in use supply well (DW02A) were then disconnected. Subsequent to installing the wiring and piping, the trench was backfilled and seed and straw mulch were utilized to resurface the impacted areas. Photographic documentation of alternate water supply installation activities is included in Appendix E.

Please note, CWS performed multiple activities associated with the installation of the Chamblissburg Supply, former Dudley Property, and Farkas Residence alternate water supply systems from September 4 to September 13, 2019. As a result, the exact timeframe of each installation activity associated with MW14 is unknown; however, the alternate water supply was completed by September 13, 2019. Drinking water samples collected from the Farkas Residence following September 13, 2019 will be from the newly converted supply well (DW02C).

3.2.3 Post-Installation Groundwater Sampling & Laboratory Results

Following the conversion of deep water monitoring well MW14, drinking water samples were collected from the newly converted supply well (DW02C). As documented in the previously submitted reports, a CFU system has been installed at the Farkas Residence 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. During this phase of investigation, one drinking water sample was collected from DW02C during a routine sampling event performed on behalf of the VA DEQ AWS program. Laboratory analytical results of the November 12, 2019 water sample collected from DW02C on behalf of the VA DEQ AWS program yielded Non Detected for petroleum contamination. Laboratory analytical results collected on behalf of the VA DEQ AWS program have been included in Table 5 - Summary of Dissolved Phase Analytical Results, which is included in Appendix A, Page 4. 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 a drinking water sample from in use supply well DW02C on October 14, 2019. The groundwater sample from DW02C was collected from a hydrant installed prior to the CFU treatment system subsequent to allowing the water to flow for approximately 10 minutes. Clean disposable nitrile gloves were used during all phases of sample collection. The DW02C water sample was collected in the appropriate sample containers, entered onto a

chain of custody document, sealed inside a cooler on ice, and shipped overnight to the MSS laboratory in Baltimore MD. The groundwater sample collected from DW02C was submitted for VOCs analysis via EPA method 8260 and EDB/DBCP analysis via EPA method 8011. Analytical results of the water sample collected from supply well DW02C on October 14, 2019 yielded Non Detected at laboratory detection limits for chemicals typically associated with petroleum contamination. Table 5 - Summary of Dissolved Phase Analytical Results is included in Appendix A, Page 4. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

3.3 Alternate Water Supply Installation – Former Dudley Property

Based on the recommendation in the previous SCRA phase of work, the VA DEQ approved the conversion of deep water monitoring well MW12 to supply well DW03C to provide potable water to the former Dudley Property. A summary of the groundwater sampling and installation of the alternate water supply for the former Dudley Property is provided in the following sections.

3.3.1 Pre-Installation Groundwater Sampling & Laboratory Results

Prior to converting deep water monitoring well MW12 to supply well DW03C groundwater samples were collected to confirm the lack of dissolved phase petroleum contamination. In addition, a bacteriological water sample was collected from deep water monitoring well MW12. On April 3, 2019, a groundwater sample was collected from deep water monitoring well MW12. The groundwater sample was collected using a generator, three-inch Grundfos submersible pump, and dedicated, disposable, 0.75-inch HDPE tubing. The well was purged until a minimum of three well volumes had been displaced. The water sample was collected in the appropriate sample containers, stored on ice, and transported via courier to the Pace laboratory in Beaver, WV. The groundwater sample collected from deep groundwater monitoring well MW12 was 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 sample collected from deep groundwater monitoring well MW12 yielded Non Detected for chemicals typically associated with petroleum contamination at laboratory MDLs. However, a total lead concentration of 1.81 µg/L was observed during deep water monitoring well sampling activities. 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 5 - Summary of Dissolved Phase Analytical Results is included in Appendix A, Page 4.

In addition, on May 7, 2019, a dedicated, disposable, HDPE bailer was utilized to collect a bacteriological water sample from MW12. The water sample was submitted to Environmental Options, Inc. in Rocky Mount, VA for total coliform and E. coli analysis via EPA method 9223. Analytical results of the bacteriological water sample from MW12 were negative for both total coliform and E. coli. Copies of the bacteriological laboratory results are included in Appendix D.

3.3.2 Conversion of MW12 to DW03C

Subsequent to confirming the lack of petroleum contamination within deep water monitoring well MW12, Greene submitted a water supply permit application to the BCHD to convert MW12 to a potable water supply for the former Dudley Property. On July 9, 2019 Greene performed a site visit with BCHD personnel to confirm the deep water monitoring well was installed outside of the required setbacks for supply wells. Subsequent to review of the application and site visit, the BCHD issued a well permit for the conversion of deep water monitoring well MW12 into supply well DW03C. A copy of the well construction permit is included in Appendix E.

Following receipt of the permit, Greene contracted CWS of Callaway, VA to install the alternate water supply system for the Farkas Residence. CWS installed a 1-HP stainless steel submersible well pump within MW12 utilizing a pitless adapter and 1.25-inch HDPE piping. CWS then utilized a small excavator and a trencher to install approximately 840 feet of #8 electrical wire and 1.25-inch PVC supply piping from MW12 to the onsite residence. A 30-gallon pressure tank was installed in the basement of the residence and the final connections were made to the existing plumbing to convert deep water monitoring well MW12 to supply well DW03C. The supply piping and electrical connections for the former in use supply well (DW03A) were then disconnected. Subsequent to installing the wiring and piping, the trench was backfilled and seed and straw mulch were utilized to resurface the impacted areas. Photographic documentation of alternate water supply installation activities is included in Appendix E.

Please note, CWS performed multiple activities associated with the installation of the Chamblissburg Supply, former Dudley Property, and Farkas Residence alternate water supply systems from September 4 to September 13, 2019. As a result, the exact timeframe of each installation activity associated with MW12 is unknown; however, the alternate water supply was completed by September 13, 2019. Drinking water samples collected from the former Dudley Property following September 13, 2019 will be from the newly converted supply well (DW03C).

3.3.3 Post-Installation Groundwater Sampling & Laboratory Results

Following the conversion of deep water monitoring well MW12, drinking water samples were collected from the newly converted supply well (DW03C). As documented in the previously submitted reports, a CFU system has been installed at the former Dudley Property 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. During this phase of investigation, one drinking water sample was collected from DW03C during a routine sampling event performed on behalf of the VA DEQ AWS program. Laboratory analytical results of the September 20, 2019 water sample collected from DW03C on behalf of the VA DEQ AWS program yielded acetone and xylenes concentrations of 13.9 µg/L and 0.8 µg/L, respectively. The reported xylenes concentration was flagged with a J qualifier and is considered an estimate due to the reported result being below the method reporting limit (MRL) and equal to or above the laboratory detection limit (LDL). As a result, it is likely the analyte is present in the sample, but the result should be viewed only as qualitative and not quantitative. Acetone is a solvent utilized in the production of multiple industrial and household products and is not typically associated with petroleum contamination. Xylenes are utilized as a solvent as well as an additive in gasoline. According to the US EPA, the maximum contaminant level (MCL) for xylenes in drinking water is 10,000 µg/L. Based on the low levels of xylenes and acetone, the observed contamination is likely from recent plumbing activities performed while connecting the replacement supply well (DW03C) to the onsite residence. Laboratory analytical results collected on behalf of the VA DEQ AWS program have been included in Table 5 - Summary of Dissolved Phase Analytical Results, which is included in Appendix A, Page 4. 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 a drinking water sample from in use supply well DW03C on October 14, 2019. The groundwater sample from DW03C was collected from a spigot installed prior to the CFU treatment system subsequent to allowing the water to flow for approximately 10 minutes. Clean disposable nitrile gloves were used during all phases of sample collection. The DW03C water sample was collected in the appropriate sample containers, entered onto a chain of custody document, sealed inside a cooler on ice, and shipped overnight to the MSS laboratory in Baltimore MD. The groundwater sample collected from DW03C was submitted for VOCs analysis via EPA method 8260 and EDB/DBCP analysis via EPA method 8011. Analytical results of the water sample collected from supply well DW03C on October 14, 2019 yielded Non Detected at laboratory detection limits for chemicals typically associated with petroleum contamination. Table 5 - Summary of Dissolved Phase Analytical Results is included in Appendix A, Page 4. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

3.4 Houck Residence Interim Authorization CAP Activities

As requested, during this phase of investigation attempts were made to provide an alternate water supply to the Houck Residence. These activities included site work and preparation, soil boring/monitoring well installation, and groundwater sampling. A summary of the IA CAP performed at the Houck Residence is provided in the following sections.

3.4.1 Pre B30/MW15 Installation Activities

During the previous phase of investigation, activities were performed to gain access to the proposed location for a deep water monitoring well on the Houck Residence. As part of this phase of investigation, additional activities were performed at the proposed location to allow for installation of the deep water monitoring well. On January 10, 2019, Paul R. Shively, Inc. (PRS) was contracted to transport approximately 67.32 tons of crusher run material proximal to the proposed well location. A tracksteer loader was then utilized to grade and compact the material. In addition, Greene installed approximately 100 feet of silt fencing to prevent the drill cuttings from impacting nearby surface water.

As requested by the VA DEQ, Greene submitted a water supply application to the BCHD for installation of the deep water monitoring well on the Houck Residence. The application and associated permit would allow for the conversion of the deep water monitoring well to a supply well subsequent to confirming a lack of petroleum contamination. On July 9, 2019 Greene performed a site visit with BCHD personnel to confirm the proposed well location was outside of the required setbacks for supply wells. Subsequent to review of the application and site visit, the BCHD issued a well permit for installation of a Class IIIB well on the Houck property. A copy of the well construction permit is included in Appendix E.

3.4.2 B30/MW15 Installation & Construction Details

Subsequent to obtaining the Virginia Department of Health (VDH) permit, Davidson Drilling, Inc. (DDI) was contracted to install one soil boring (B30) on the Houck Residence property. The boring was installed to allow for the installation of deep groundwater monitoring well MW15. Further, the deep groundwater monitoring well was installed to Virginia Department of Health specifications for a Class IIIB supply well, as specified on the permit. Soil boring B30 was installed in the location identified on the VDH permit and completed as deep water monitoring well MW15. On August 20, 2019, DDI utilized a truck-mounted air rotary drill rig to install a 10-inch boring (B30) approximately 90-95 feet bgs and approximately 40-45 feet into suspected competent bedrock. During boring installation, soil samples were routinely collected from approximately 15 feet bgs to a depth of approximately 50 feet bgs. Evidence of groundwater was observed at a depth of approximately 46 feet bgs, and additional soil samples were not collected from beneath the shallow water table. In addition, suspected competent bedrock was observed approximately 50 feet bgs

during installation of boring B30. In an effort to prevent boring collapse due to the shallow depth to water, approximately 25 feet of 10-inch steel casing was installed during drilling activities. However, suspected collapse of the borehole caused the drill rods to become trapped approximately 90-95 feet bgs on August 20, 2019.

DDI personnel returned to the site on August 21, 2019 to free the drill rods; however, attempts on this day were unsuccessful. On August 22, 2019, DDI was able to utilize steel tremie pipes to free the drill rods. Subsequent to removal of the drill rods additional 10-inch steel casing was installed to a total depth of approximately 46 feet bgs. On August 23, 2019, DDI completed 10-inch boring to allow for installation of approximately 100 feet of 6-inch steel casing.

On August 30, 2019, DDI utilized neat portland cement to grout the casing into competent bedrock. Deep groundwater monitoring well MW15 was grouted from approximately 100 feet bgs to approximately 46 feet bgs via an inside-out grouting method utilizing a concrete pump, stinger pipes, and a grout shoe. 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 3, 2019 and continued drilling activities to approximately 280 feet bgs into bedrock using a 6-inch air rotary bit. During drilling activities, a large water-bearing zone within the bedrock was observed approximately 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 MW15. DDI estimated the well yield to be approximately 40 gpm. 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.

3.4.3 B30/MW15 Sampling & Analytical Results

3.4.3.1 Soil Sampling & Residual Phase Analytical Results

During installation of soil boring B30 Greene collected soil samples from approximately 15 feet bgs to 50 feet bgs. The soil samples collected during boring activities were collected for visual inspection, lithologic characterization, and headspace screening for the presence of 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 °F prior to screening. Headspace screening was performed using a Mini-RAE 3000 photoionization detector (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 did not reveal elevated (>50.0 ppm) VOC vapor concentrations at soil boring B30. 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.

The 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 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), methyl tert-butyl ether (MTBE), and naphthalene via EPA method 8260. Analytical results of the soil samples submitted from soil boring B30 yielded measurable TPH-DRO and xylenes concentrations. The reported xylenes concentrations were flagged with J qualifiers and are considered estimates due to the reported results being below the practical quantitation limit (PQL) and equal to or above the method detection limit (MDL). As a result, it is likely those specific analytes are present in the sample, but the results should be viewed only as qualitative and not quantitative. Table 3 - Summary of Soil Boring Residual Phase Analytical Results is included in Appendix A, Page 3. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

3.4.3.2 Groundwater Sampling & Dissolved Phase Analytical Results

Prior to converting deep water monitoring well MW15 to a supply well for the Houck Residence groundwater samples were collected to confirm the presence or absence of dissolved phase petroleum contamination. On September 4, 2019, a groundwater sample was collected from deep water monitoring well MW15. The groundwater sample was collected using a generator, three-inch Grundfos submersible pump, and dedicated, disposable, 0.75-inch HDPE tubing. Prior to sampling, the static water level was recorded using a Heron Instruments, Inc. electronic water meter. A summary of the gauging event is presented in Table 4 – Summary of Calculated Purge Volumes included in Appendix A, Page 3.

Subsequent to gauging, the well was purged until a minimum of three well volumes had been displaced. The water sample was collected in the appropriate sample containers, entered onto a chain of custody document, sealed inside a cooler on ice, and shipped overnight to the MSS laboratory in Baltimore MD. The groundwater sample collected from deep groundwater monitoring well MW15 on September 4, 2019 was 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. The September 4, 2019 water sample collected from deep groundwater

monitoring well MW15 yielded a benzene concentration of 1.3 µg/L and an MTBE concentration of 2.4 µg/L. The benzene result was flagged with a J qualifier and the concentration is considered an estimate due to the reported result being below the MRL and equal to or above the LDL. As a result, it is likely the analyte is present in the sample, but the result should be viewed only as qualitative and not quantitative. Table 5 - Summary of Dissolved Phase Analytical Results is included in Appendix A, Page 4. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

Based on the presence of dissolved phase petroleum contamination in the September 4, 2019, an additional water sample was collected on September 18, 2019 to confirm petroleum impact. The groundwater sample was collected using a generator, three-inch Grundfos submersible pump, and dedicated, disposable, 0.75-inch HDPE tubing. Prior to sampling, the static water level was recorded using a Heron Instruments, Inc. electronic water meter. A summary of the gauging event is presented in Table 4 – Summary of Calculated Purge Volumes included in Appendix A, Page 3.

Subsequent to gauging, the well was purged until a minimum of three well volumes had been displaced. The water sample was collected in the appropriate sample containers, entered onto a chain of custody document, sealed inside a cooler on ice, and shipped overnight to the MSS laboratory in Baltimore MD. The groundwater sample collected from deep groundwater monitoring well MW15 on September 18, 2019 was submitted for VOCs analysis via EPA method 8260. Laboratory analytical results of this water sample yielded measurable benzene (1.6 µg/L), MTBE (3.7 µg/L), 1,2-dichloroethane (1.0 µg/L), and tert-amyl alcohol (23.1 µg/L) concentrations. The benzene and 1,2-dichloroethane results were flagged with J qualifiers and the concentrations are considered estimates due to the reported results being below the MRLs and equal to or above the LDLs. As a result, it is likely those specific analytes are present in the sample, but the results should be viewed only as qualitative and not quantitative. Table 5 - Summary of Dissolved Phase Analytical Results is included in Appendix A, Page 4. Copies of the laboratory results and chain of custody documentation are included in Appendix D.

4.0 Conclusions and Recommendations

Based on the findings of the SCRA, the VA DEQ requested Interim Authorization Corrective Action Plan activities be performed at the Chamblissburg Supply facility. As part of IA CAP activities, deep groundwater monitoring wells MW12, MW13, and MW14 were converted to supply wells (DW03C, DW01B, and DW02C) to provide potable water to the former Dudley Property, Chamblissburg Supply, and the Farkas Residence, respectively. Installation of the alternate water supplies for the Chamblissburg Supply, former Dudley Property, and the Farkas Residence were completed by September 13, 2019 and groundwater samples collected following installation yielded Non Detected for petroleum contamination.

Please note, the drinking water sample collected on behalf of the VA DEQ AWS program from the Dudley Property supply well (DW03C) on September 20, 2019 did yield measurable acetone and xylenes concentrations. However, based on the low levels of xylenes and acetone, it is believed the observed contamination is from the recent plumbing activities performed while connecting the replacement supply well (DW03C) to the onsite residence. Further, the groundwater sample collected by Greene on October 14, 2019 from DW03C yielded Non Detected.

In addition, during this phase of investigation one deep water monitoring well (MW15) was installed on the Houck Residence property to Virginia Department of Health specifications for a Class IIIB supply well, which would allow for the conversion of the monitoring well to a drinking water supply well. However, soil samples and groundwater samples collected from soil boring B30/monitoring well MW15 yielded evidence of petroleum contamination. Based on the confirmed presence of residual and dissolved phase petroleum contamination, MW15 was not converted to a supply well and remains a deep water monitoring well.

Due to the continued significant petroleum impact to the Houck Residence supply well, Greene recommends additional work be performed. Specifically, Greene recommends performing geophysical well logging of deep water monitoring well MW15 in an attempt to identify water-bearing zones, foliations, fractures, and additional subsurface characteristics which may be influencing the migrations of groundwater. In addition, Greene recommends performing discrete sampling to document hydrocarbon concentrations proximal to fractures/fracture zones observed during the geophysical borehole logging in an effort to identify the water-bearing zone(s) introducing petroleum contamination into the well (MW15).

Should discrete sampling indicate a specific fracture or water-bearing zone where petroleum impact is occurring, re-casing or installing a packer within MW15 may allow for the well to be converted to a supply well for the Houck Residence. However, if based on the discrete sampling results this is not possible, Greene recommends installing an additional deep water monitoring well to be located northwest of MW15. The additional deep water monitoring well should 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. As before, sufficient groundwater monitoring and sampling confirming the lack of petroleum contamination within the deep water monitoring well will be required prior to converting the well into a drinking water well. Finally, Greene recommends ongoing drinking water and surface water sampling be performed. Specifically, Greene recommends collecting water samples from supply wells DW01A, DW01B, DW02A, DW02C, DW03A, DW03B, DW03C, DW04A, DW04B, DW05A, DW06B, DW06C, DW07A, DW08A, DW08B, DW09A, DW09B, DW10A, DW11A, DW33A, DW33B, the unnamed tributary, and Pond-01.

Please note, potable supply wells DW05A, DW06C, and DW07A have also been impacted with petroleum contamination and may require provision of alternate water supplies. However, further monitoring is required to determine the ongoing risk associated with these supply wells. Recommendations associated with the continued presence of free phase petroleum, significant dissolved phase contamination onsite, and risk of impact to offsite receptors have been provided in the Post Site Characterization Report Sub-Phase 1.

End of the Interim Authorization Corrective Action Plan

APPENDIX A

Tables

Page 1. Table 1 - Summary of UST Information
Page 2. Table 2 - Summary of Field Screening Results
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Page 6. Table 6 - Summary of the Receptor Survey Results

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	Removed from ground January 2019	Removed from ground January 2019	Removed from ground January 2019	Removed from ground January 2019	Removed from ground January 2019	Removed from ground January 2019
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
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
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
B30-1	15	No Petroleum Odor	0.0	No
B30-2	30	No Petroleum Odor	0.0	Yes
B30-3	40	No Petroleum Odor	0.0	Yes
B30-4	50	No Petroleum Odor	0.0	No

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
B27-3 (MW12)	08/14/18	50	<2.50	<3.98	<0.00176	<0.00176	<0.00176	<0.00352	<0.00880	<0.00176
B27-4 (MW12)	08/14/18	60	<2.48	<3.97	<0.00200	<0.00200	<0.00200	<0.00400	<0.0100	<0.00200
B28-3 (MW13)	08/23/18	50	<2.48	<3.97	<0.00194	<0.00194	<0.00194	<0.00388	<0.00970	<0.00194
B28-4 (MW13)	08/23/18	60	<2.48	<3.97	<0.00200	<0.00200	<0.00200	<0.00400	<0.0100	<0.00200
B29-2 (MW14)	09/04/18	30	<2.48	<3.98	<0.00174	<0.00174	<0.00174	<0.00348	<0.00870	<0.00174
B29-3 (MW14)	09/04/18	40	<2.50	<3.97	<0.00198	<0.00198	<0.00198	<0.00396	<0.00990	<0.00198
B30-2 (MW15)	08/20/19	30	<0.913	<5.83	<0.00128	<0.00174	<0.00175	0.00378[J]	<0.00834	<0.00200
B30-3 (MW15)	08/20/19	40	<0.913	6.37	<0.00128	<0.00174	<0.00175	0.00378[J]	<0.00834	<0.00200

[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.
[J]The reported result is an estimate due to the concentration being below the PQL and equal to or above the MDL.

Table 4.

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)
MW12	04/03/19	NA	60.69	0.00	257.69	197.00	6.0	1.47	868.77
MW13	04/03/19	NA	44.11	0.00	293.20	249.09	6.0	1.47	1,098.49
MW14	04/03/19	NA	33.44	0.00	206.34	172.9	6.0	1.47	762.49
MW15	09/04/19	NA	22.75	0.0	269.30	246.55	6.0	1.47	1,087.29
	09/18/19	NA	23.51	0.00		245.79			1,083.93

[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 5.

Summary of Dissolved Phase Analytical Results

Sample ID	Date	TPH-GRO[1] (µg/L)	EDB[2] (µg/L)	DBCP[3] (µg/L)	VOCs [4] (µg/L)	SVOCs[5] (µg/L)	Total Lead[6] (µg/L)	Dissolved Lead (µg/L)
MW12/ DW03C	11/29/18	<250	<0.00391	<0.00762	ND[7] for all VOCs via 8260	ND for all SVOCs via 8270	<0.2	<0.2
	04/03/19	<220	<0.00392	<0.00764	ND for all VOCs via 8260	ND for all SVOCs via 8270	1.81	<0.2
	09/20/19[8]	NA[9]	<0.5	<0.5	Acetone = 13.9 Xylenes = 0.8[J] ND for all other VOCs via 8260	NA	NA	NA
	10/14/19	NA	<0.019	<0.047	ND for all VOCs via 8260	NA	NA	NA
MW13/ DW01B	11/29/18	<250	<0.00382	<0.00744	ND for all VOCs via 8260	Dimethyl phthalate = 9.53[J,B] ND for all other SVOCs via 8270	<0.2	<0.2
	04/03/19	<220	<0.00387	<0.00754	ND for all VOCs via 8260	ND for all SVOCs via 8270	0.380[J]	<0.2
	10/14/19	NA	<0.5	<0.5	ND for all VOCs via 8260	NA	NA	NA
	11/12/19[8]	NA	<0.019	<0.047	ND for all VOCs via 8260	NA	NA	NA
MW14/ DW02C	11/29/18	<250	<0.00391	<0.00762	ND for all VOCs via 8260	Dimethyl phthalate = 10.9[B] ND for all other SVOCs via 8270	0.309[J]	<0.2
	04/03/19	<220	<0.00391	<0.00762	ND for all VOCs via 8260	Dimethyl phthalate = 7.14[J] ND for all other SVOCs via 8270	1.68	<0.2
	10/14/19	NA	<0.5	<0.5	ND for all VOCs via 8260	NA	NA	NA
	11/12/19[8]	NA	<0.019	<0.047	ND for all VOCs via 8260	NA	NA	NA

Table 5 (Cont'd).

Summary of Dissolved Phase Analytical Results

Sample ID	Date	TPH-GRO[1] (µg/L)	EDB[2] (µg/L)	DBCP[3] (µg/L)	VOCs [4] (µg/L)	SVOCs[5] (µg/L)	Total Lead[6] (µg/L)	Dissolved Lead (µg/L)
MW15	09/04/19	<100	<0.022	<0.055	Benzene = 1.3[J] MTBE = 2.4 ND for all other VOCs via 8260	ND for all SVOCs via 8270	<1.00	<1.00
	09/18/19	NA	NA	NA	Benzene = 1.6[J] MTBE = 3.7 1,2-Dichloroethane = 1.0[J] Tert-Amyl Alcohol (TAA) = 23.1 ND for all other VOCs via 8260	NA	NA	NA

[1]TPH-GRO = total petroleum hydrocarbons-gasoline range organics analysis via EPA method 8015; reported in micrograms per liter (µg/L).
[2]EDB = ethylene bibromide analysis via EPA method 8011, 8260, or 504.1; reported in µg/L.
[3]DBCP = dibromochloropropane analysis via EPA method 8011, 8260, or 504.1; reported in µg/L.
[4]VOCs = volatile organic compounds analysis via EPA method 8260; reported in µg/L.
[5]SVOCs = semi-volatile organic compounds analysis via EPA method 8270; reported in µg/L.
[6]Total and dissolved lead analysis via EPA method 200.8; reported in µg/L.
[7]ND = Non Detected.
[8]Sampling performed by VA DEQ AWS contractor.
[9]NA = Not Analyzed.
[J]The reported result is flagged with a J qualifier and is considered an estimate.
[B]The reported result was observed in the associated method blank.

Table 6.

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. DW01A is a drilled supply well installed to approximately 292 feet bgs with 6-inch steel casing installed to approximately 87.75 feet bgs. DW01A has been impacted with petroleum and is no longer in use.
		DW01B	~900 feet North-Northeast	During September 2019, deep water monitoring well MW13 was converted to supply well DW01B. DW01B provides potable water to the Chamblissburg Supply facility. DW01B is a drilled supply installed to approximately 300 feet bgs and constructed with approximately 102 feet of 6-inch steel casing. Analytical results of water samples collected from MW13/DW01B have yielded Non Detected for petroleum contamination.
P02	Farkas Residence 10590 Stewartsville Road	DW02A	~235 feet Southeast	DW02A is a drilled well installed to approximately 261 feet bgs with 6-inch PVC casing installed to approximately 88.50 feet bgs. DW02A has been impacted with petroleum and is no longer in use.
		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.
		DW02C	~1,085 feet South-Southwest	During September 2019, deep water monitoring well MW14 was converted to supply well DW02C. DW02C provides potable water to the onsite residence. DW02C is a drilled supply installed to approximately 200 feet bgs and constructed with approximately 102 feet of 6-inch steel casing. Analytical results of water samples collected from MW14/DW02C have yielded Non Detected for petroleum contamination.
		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	Former Dudley Property 10605 Stewartsville Road	DW03A	~170 feet East-Southeast	DW03A is a drilled supply well installed to approximately 197.5 feet bgs with 6-inch steel casing installed to approximately 99 feet bgs. DW03A has been impacted with petroleum and is no longer in use.
		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.
		DW03C	~700 feet North-Northeast	During September 2019, deep water monitoring well MW12 was converted to supply well DW03C. DW03C provides potable water to the onsite residence. DW03C is a drilled supply installed to approximately 260 feet bgs and constructed with approximately 103 feet of 6-inch steel casing. Analytical results of water samples collected from MW12/DW03C have yielded Non Detected for petroleum contamination.

Table 6 (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 6 (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 6 (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 6 (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 6 (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	Bartkiewicz 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 6 (Cont'd).

Summary of the Receptor Survey Results

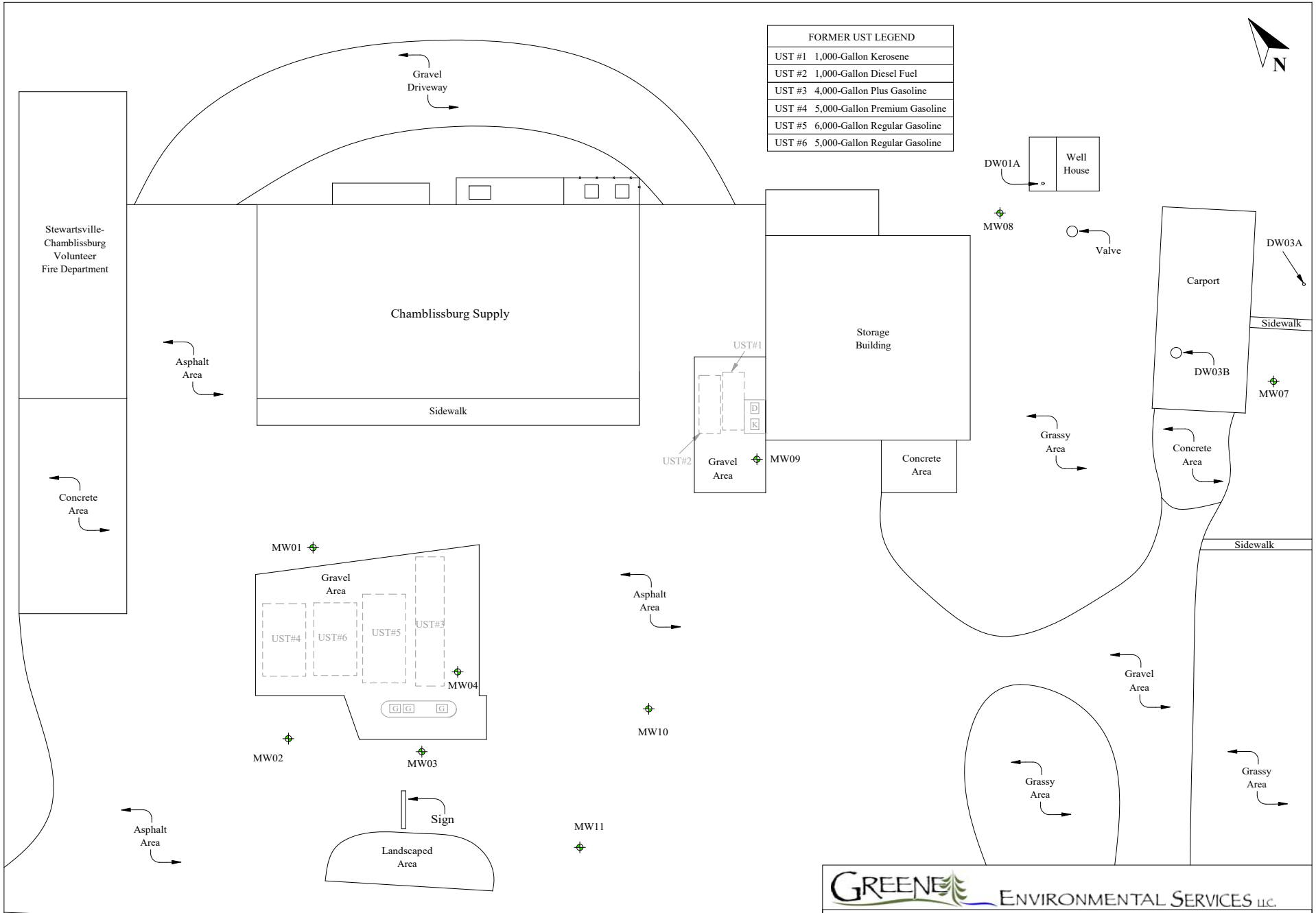
Property ID	Name/Address[1]	Receptor ID	Location From Gasoline UST System	Potential Receptor Information, Current Use, Installation Date, & Construction Details
P41	Simmons Property 10245 Stewartsville Road	DW41A	~1,865 feet Southeast	Supply well DW41A provides potable water to the two onsite residences. 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.

APPENDIX B

Maps

Site Map (10/14/2019)
Aerial Map
Topographic Map
Potential Receptors Location Map
Deep Groundwater Monitoring Well Location Map



GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	SITE MAP (10/14/2019)		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1005A
CLIENT:	ESTATE OF LACY DUDLEY	DATE:	12/11/19
COMMENTS:		DRAWN BY:	MAF

Aerial Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179

GREENE ENVIRONMENTAL SERVICES LLC.
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: IA CAP

Client: Estate of Lacy Dudley

Greene Job #: CSVI1005

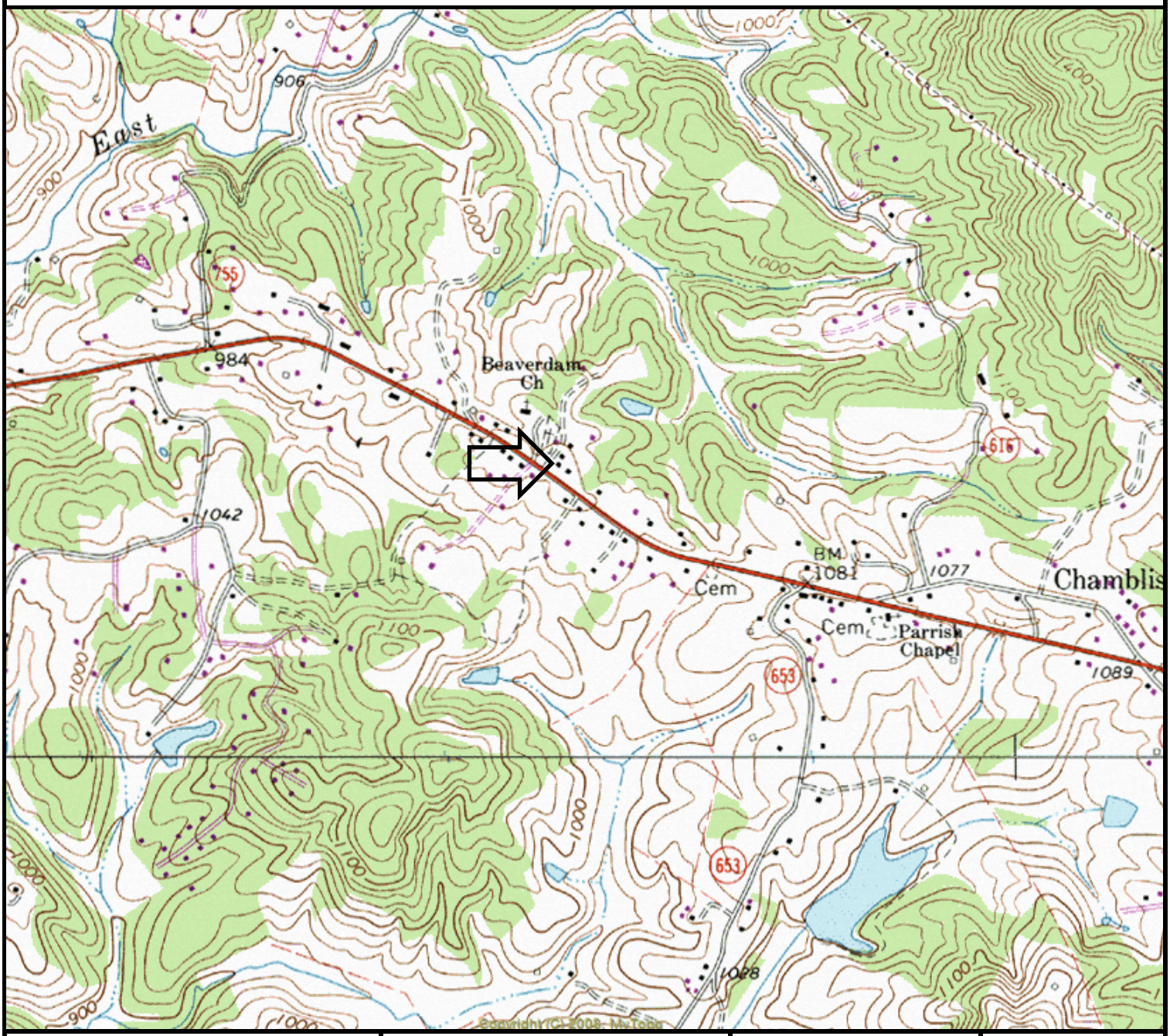
Date: December 11, 2019

N
W E
S

Latitude:
037.257362°N
Longitude:
079.722368° W

Topographic Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179



GREENE
ENVIRONMENTAL SERVICES LLC.
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: IA CAP

Client: Estate of Lacy Dudley

Greene Job #: CSVI1005

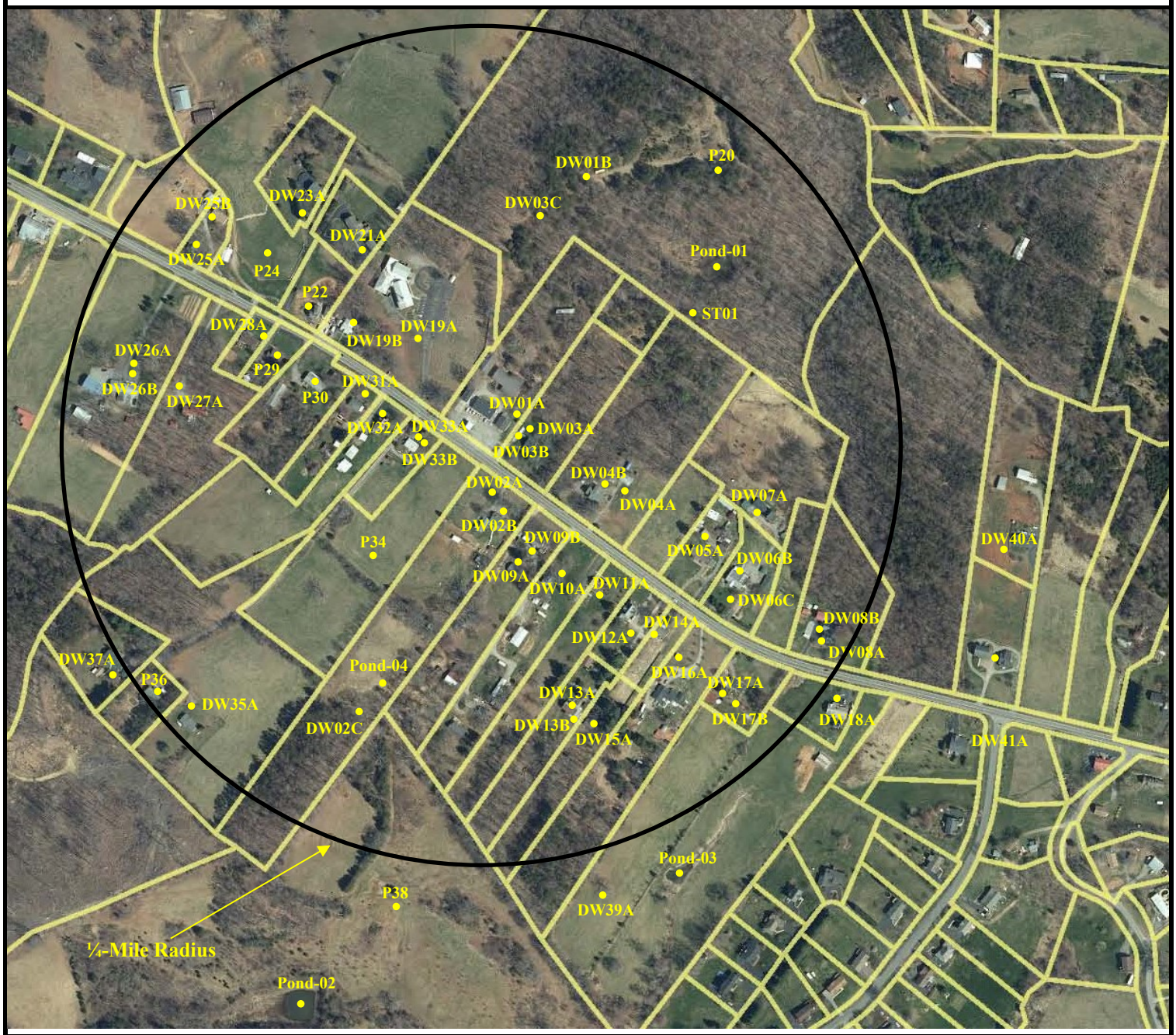
Date: December 11, 2018

N
W E
S

Latitude:
037.257362°N
Longitude:
079.722368° W

Potential Receptors Location Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179



GREENE ENVIRONMENTAL SERVICES LLC.
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: IA CAP

Client: Estate of Lacy Dudley

Greene Job #: CSVI1005

Date: December 11, 2019

N
W E
S

Latitude:
037.257362°N
Longitude:
079.722368° W

Deep Groundwater Monitoring Well Location Map

Chamblissburg Supply
10625 Stewartsville Road
Vinton, VA 24179

GREENE ENVIRONMENTAL SERVICES LLC.
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: IA CAP

Client: Estate of Lacy Dudley

Greene Job #: CSVI1005

Date: December 10, 2019

N
W E
S

Latitude:
037.257362°N
Longitude:
079.722368° W

APPENDIX C

Geologic Information

Soil Boring Logs/Monitoring Well Construction Diagrams

Project No: CSVI1005

Project: IA CAP

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B30

Diagram of Monitoring Well: MW15

Geologist: ADAM FLORA

Generation Date: 12/18/2019

SUBSURFACE PROFILE

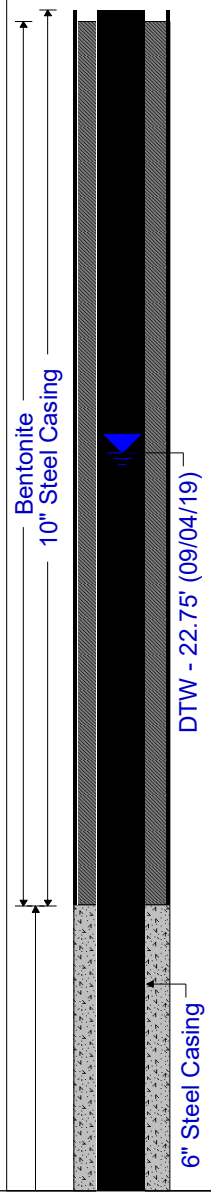
Depth	Description	Depth
	Ground Surface	0.0
	Grass	
	B30-1 (0'-15') Fine-grained; brown; silty/sandy clay; weathered rock material evident; no petroleum odor; no moisture.	15.0
	B30-2 (30') Fine-grained; gray to dark brown; primarily weathered rock material with silty/sandy clay; no petroleum odor; slight moisture.	30.0
	B30-3 (40') Fine-grained; gray to dark brown; primarily weathered rock material with silty/sandy clay; no petroleum odor; slight moisture.	40.0
	B30-4 (50') Fine-grained; gray to dark brown; primarily weathered rock material with silty/sandy clay; no petroleum odor; shallow groundwater evident approximately 46 feet bgs; competent bedrock observed approximately 50 feet bgs.	50.0
	B30-5 (60') Competent bedrock. No sample collected.	60.0

SAMPLE / PID READINGS

Number	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration (ppm)
B30-1	NA	0.0
B30-2	ND / ND	0.0
B30-3	ND / 6.37	0.0
B30-4	NA	0.0

MONITORING WELL DIAGRAM

Well Completion Details



Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/20/19

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1005

Project: IA CAP

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

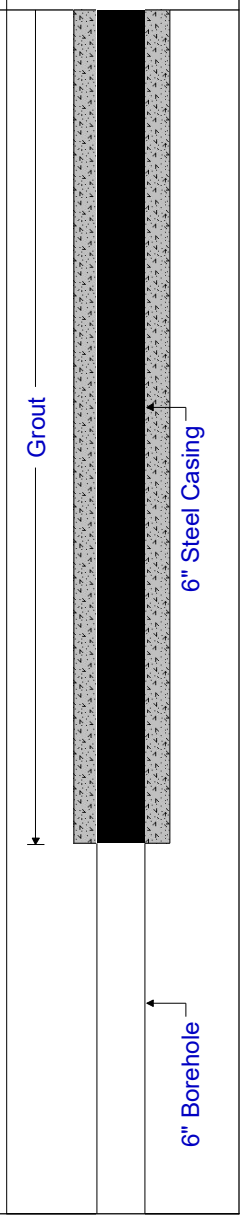
Log of Borehole: B30

Diagram of Monitoring Well: MW15

Geologist: ADAM FLORA

Generation Date: 12/18/2019

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		***B30-6 (70')*** Competent bedrock. No sample collected.	70.0					
70–79		***B30-7 (80')*** Competent bedrock. No sample collected.	80.0					
80–89		***B30-8 (90')*** Competent bedrock. No sample collected.	90.0					
90–101		***B30-9 (102')*** Competent bedrock. No sample collected.	102.0					
102–120		***B30-10 (102'-120')*** Competent bedrock. No sample collected. Fracture observed approximately 120 ' bgs.	120.0					



Drill Method: AIR ROTARY
Drilled by: DAVIDSON DRILLING, INC.
Drill Date: 08/20/19
Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1005

Project: IA CAP

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B30

Diagram of Monitoring Well: MW15

Geologist: ADAM FLORA

Generation Date: 12/18/2019

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		***B30-11 (120'-140')*** Competent bedrock. No sample collected.	140.0					
140–159		***B30-12 (140'-160')*** Competent bedrock. No sample collected.	160.0					6" Borehole
160–179		***B30-13 (160'-180')*** Competent bedrock. No sample collected.	180.0					

Drill Method: AIR ROTARY
Drilled by: DAVIDSON DRILLING, INC.
Drill Date: 08/20/19
Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1005

Project: IA CAP

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B30

Diagram of Monitoring Well: MW15

Geologist: ADAM FLORA

Generation Date: 12/18/2019

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		***B30-14 (180'-200')*** Competent bedrock. No sample collected.	200.0					
200–219		***B30-15 (200'-220')*** Competent bedrock. No sample collected.	220.0					6" Borehole
220–239		***B30-16 (220'-240')*** Competent bedrock. No sample collected.	240.0					

Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/20/19

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

Project No: CSVI1005

Project: IA CAP

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B30

Diagram of Monitoring Well: MW15

Geologist: ADAM FLORA

Generation Date: 12/18/2019

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		***B30-17 (240'-260')*** Competent bedrock. No sample collected. Fracture observed approximately 250 ' bgs.	260.0					
260–279		***B30-18 (260'-280')*** Competent bedrock. No sample collected.						6" Borehole
280–299			300.0					

Drill Method: AIR ROTARY
Drilled by: DAVIDSON DRILLING, INC.
Drill Date: 08/20/19
Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC.

APPENDIX D

Laboratory Data

Laboratory Test Results
Chain of Custody Documentation

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

Thursday, April 11, 2019

TEL: (540) 483-3311
FAX:

RE: CHAMBLISSBURG SUPPLY-CSVI

Work Order #: 19040804

Dear Mr. Trev Greene:

Pace Analytical Services received 3 sample(s) on 4/4/2019 for the analyses presented in the following report.

Sincerely,

Billy Shirley
Project Manager
(304) 250-6214

Pace Analytical Services - Case Narrative

WO#: 19040804

Date Reported: 4/11/2019
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#: 19040804

Date Reported: 4/11/2019
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-01A	**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	1.81	0.200	1.00	NA	µg/L	04/09/19 4:15PM	04/10/19 11:47PM	PA/VA
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: NC**
DBCP	ND	0.00764	0.0201	0.200	µg/L	04/09/19 8:14AM	04/09/19 3:16PM	PA/VA
EDB	ND	0.00392	0.0201	0.050	µg/L	04/09/19 8:14AM	04/09/19 3:16PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: NC**
Acenaphthene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Acenaphthylene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Anthracene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Benzidine	ND	5.47	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Benzo(a)anthracene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Benzo(a)pyrene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Benzo(b)fluoranthene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Benzo(g,h,i)perylene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Benzo(k)fluoranthene	ND	3.28	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.47	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Butyl benzyl phthalate	ND	5.47	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
4-Chloro-3-methylphenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2-Chloronaphthalene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2-Chlorophenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Chrysene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
o-Cresol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
m,p-Cresol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Di-n-butyl phthalate	ND	5.47	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
1,2-Dichlorobenzene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
1,3-Dichlorobenzene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
1,4-Dichlorobenzene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.47	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2,4-Dichlorophenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Diethyl phthalate	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Dimethyl phthalate	ND	5.47	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2,4-Dimethylphenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA

Pace Analytical Services - Analytical Report

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Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-01A	**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	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2,4-Dinitrophenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2,4-Dinitrotoluene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2,6-Dinitrotoluene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Di-n-octyl phthalate	ND	5.47	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
1,2-Diphenylhydrazine	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Fluoranthene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Fluorene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Hexachlorobenzene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Hexachlorobutadiene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Hexachlorocyclopentadiene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Hexachloroethane	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Isophorone	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Naphthalene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Nitrobenzene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2-Nitrophenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
4-Nitrophenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
N-Nitrosodimethylamine	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
N-Nitrosodiphenylamine	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Pentachlorophenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Phenanthrene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Phenol	ND	5.47	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Pyrene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2,4,5-Trichlorophenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
2,4,6-Trichlorophenol	ND	2.19	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:33PM	PA/VA
Surr: 2-Fluorophenol	56.7	NA	17.6-120	NA	%Rec	04/09/19 3:23PM	04/10/19 6:33PM	
Surr: Phenol-d5	37.7	NA	11.4-120	NA	%Rec	04/09/19 3:23PM	04/10/19 6:33PM	
Surr: 2,4,6-Tribromophenol	88.1	NA	18-129	NA	%Rec	04/09/19 3:23PM	04/10/19 6:33PM	
Surr: Nitrobenzene-d5	95.4	NA	21.5-122	NA	%Rec	04/09/19 3:23PM	04/10/19 6:33PM	
Surr: 2-Fluorobiphenyl	88.7	NA	23.7-127	NA	%Rec	04/09/19 3:23PM	04/10/19 6:33PM	
Surr: 4-Terphenyl-d14	82.4	NA	39.9-124	NA	%Rec	04/09/19 3:23PM	04/10/19 6:33PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CB**	
TPH (Gasoline Range: C6 - C10)	ND	220	500	NA	µg/L	04/08/19 7:37AM	04/08/19 2:27PM	PA/VA
Surr: 2,5-Dibromotoluene	120	NA	49.3-147	NA	%Rec	04/08/19 7:37AM	04/08/19 2:27PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: ES**	
Xylenes, Total	ND	NA	0	NA	µg/L		04/10/19 1:47PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 19040804

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Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-01A	**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		04/10/19 1:47PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		04/10/19 1:47PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		04/10/19 1:47PM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		04/10/19 1:47PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA

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Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-01A	**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		04/10/19 1:47PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		04/10/19 1:47PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		04/10/19 1:47PM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		04/10/19 1:47PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		04/10/19 1:47PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Surr: 1,2-Dichloroethane-d4	98.0	NA	75.2-127	NA	%Rec		04/10/19 1:47PM	
Surr: 4-Bromofluorobenzene	99.4	NA	84.5-142	NA	%Rec		04/10/19 1:47PM	
Surr: Dibromofluoromethane	106	NA	69.2-124	NA	%Rec		04/10/19 1:47PM	
Surr: Toluene-d8	97.8	NA	77.6-120	NA	%Rec		04/10/19 1:47PM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL				**Method: SW8260B**			**Analyst: ES**	
tert-Amyl alcohol	ND	0.361	1.00	NA	µg/L		04/10/19 1:47PM	
tert-Amyl Ethyl Ether	ND	0.368	1.00	NA	µg/L		04/10/19 1:47PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	
tert-Butyl alcohol	ND	50.0	200	NA	µg/L		04/10/19 1:47PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		04/10/19 1:47PM	
Ethanol	ND	100	200	NA	µg/L		04/10/19 1:47PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		04/10/19 1:47PM	PA/VA
Surr: 1,2-Dichloroethane-d4	102	NA	72.3-120	NA	%Rec		04/10/19 1:47PM	
Surr: 4-Bromofluorobenzene	101	NA	72.5-134	NA	%Rec		04/10/19 1:47PM	

Pace Analytical Services - Analytical Report

WO#: **19040804**

Date Reported: **4/11/2019**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-01A	**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		04/10/19 1:47PM	
Surr: Toluene-d8	99.4	NA	72.6-119	NA	%Rec		04/10/19 1:47PM	

Pace Analytical Services - Analytical Report

WO#: **19040804**

Date Reported: **4/11/2019**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 1:00:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-01B	**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	04/09/19 4:15PM	04/10/19 11:53PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 19040804

Date Reported: 4/11/2019
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 2:30:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-02A	**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	0.380	0.200	1.00	NA	J	µg/L	04/09/19 4:15PM	04/11/19 12:00AM	PA/VA
EDB AND/OR DBCP				**Method: SW8011**					**Analyst: NC**
DBCP	ND	0.00754	0.0198	0.200		µg/L	04/09/19 8:14AM	04/09/19 3:32PM	PA/VA
EDB	ND	0.00387	0.0198	0.050		µg/L	04/09/19 8:14AM	04/09/19 3:32PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**					**Analyst: NC**
Acenaphthene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Acenaphthylene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Anthracene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Benzidine	ND	5.43	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Benzo(a)anthracene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Benzo(a)pyrene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Benzo(b)fluoranthene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Benzo(g,h,i)perylene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Benzo(k)fluoranthene	ND	3.26	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.43	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Butyl benzyl phthalate	ND	5.43	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
4-Chloro-3-methylphenol	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2-Chloronaphthalene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2-Chlorophenol	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Chrysene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
o-Cresol	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
m,p-Cresol	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Di-n-butyl phthalate	ND	5.43	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
1,2-Dichlorobenzene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
1,3-Dichlorobenzene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
1,4-Dichlorobenzene	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.43	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2,4-Dichlorophenol	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Diethyl phthalate	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Dimethyl phthalate	ND	5.43	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2,4-Dimethylphenol	ND	2.17	10.9	NA		µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 19040804

Date Reported: 4/11/2019
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 2:30:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-02A	**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	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2,4-Dinitrophenol	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2,4-Dinitrotoluene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2,6-Dinitrotoluene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Di-n-octyl phthalate	ND	5.43	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
1,2-Diphenylhydrazine	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Fluoranthene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Fluorene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Hexachlorobenzene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Hexachlorobutadiene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Hexachlorocyclopentadiene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Hexachloroethane	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Isophorone	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Naphthalene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Nitrobenzene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2-Nitrophenol	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
4-Nitrophenol	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
N-Nitrosodimethylamine	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
N-Nitrosodiphenylamine	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Pentachlorophenol	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Phenanthrene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Phenol	ND	5.43	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Pyrene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2,4,5-Trichlorophenol	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
2,4,6-Trichlorophenol	ND	2.17	10.9	NA	µg/L	04/09/19 3:23PM	04/10/19 6:56PM	PA/VA
Surr: 2-Fluorophenol	53.6	NA	17.6-120	NA	%Rec	04/09/19 3:23PM	04/10/19 6:56PM	
Surr: Phenol-d5	34.8	NA	11.4-120	NA	%Rec	04/09/19 3:23PM	04/10/19 6:56PM	
Surr: 2,4,6-Tribromophenol	80.7	NA	18-129	NA	%Rec	04/09/19 3:23PM	04/10/19 6:56PM	
Surr: Nitrobenzene-d5	87.9	NA	21.5-122	NA	%Rec	04/09/19 3:23PM	04/10/19 6:56PM	
Surr: 2-Fluorobiphenyl	82.4	NA	23.7-127	NA	%Rec	04/09/19 3:23PM	04/10/19 6:56PM	
Surr: 4-Terphenyl-d14	79.1	NA	39.9-124	NA	%Rec	04/09/19 3:23PM	04/10/19 6:56PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CB**	
TPH (Gasoline Range: C6 - C10)	ND	220	500	NA	µg/L	04/08/19 7:37AM	04/08/19 2:58PM	PA/VA
Surr: 2,5-Dibromotoluene	108	NA	49.3-147	NA	%Rec	04/08/19 7:37AM	04/08/19 2:58PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: ES**	
Xylenes, Total	ND	NA	0	NA	µg/L		04/10/19 2:18PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 19040804

Date Reported: 4/11/2019
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 2:30:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-02A	**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		04/10/19 2:18PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		04/10/19 2:18PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		04/10/19 2:18PM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		04/10/19 2:18PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 19040804

Date Reported: 4/11/2019
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 2:30:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-02A	**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		04/10/19 2:18PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		04/10/19 2:18PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		04/10/19 2:18PM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		04/10/19 2:18PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		04/10/19 2:18PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Surr: 1,2-Dichloroethane-d4	96.1	NA	75.2-127	NA	%Rec		04/10/19 2:18PM	
Surr: 4-Bromofluorobenzene	98.0	NA	84.5-142	NA	%Rec		04/10/19 2:18PM	
Surr: Dibromofluoromethane	102	NA	69.2-124	NA	%Rec		04/10/19 2:18PM	
Surr: Toluene-d8	97.3	NA	77.6-120	NA	%Rec		04/10/19 2:18PM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL				**Method: SW8260B**			**Analyst: ES**	
tert-Amyl alcohol	ND	0.361	1.00	NA	µg/L		04/10/19 2:18PM	
tert-Amyl Ethyl Ether	ND	0.368	1.00	NA	µg/L		04/10/19 2:18PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	
tert-Butyl alcohol	ND	50.0	200	NA	µg/L		04/10/19 2:18PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		04/10/19 2:18PM	
Ethanol	ND	100	200	NA	µg/L		04/10/19 2:18PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		04/10/19 2:18PM	PA/VA
Surr: 1,2-Dichloroethane-d4	102	NA	72.3-120	NA	%Rec		04/10/19 2:18PM	
Surr: 4-Bromofluorobenzene	101	NA	72.5-134	NA	%Rec		04/10/19 2:18PM	

Pace Analytical Services - Analytical Report

WO#: **19040804**

Date Reported: **4/11/2019**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 2:30:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-02A	**Matrix:**	Groundwater
Client Sample ID:	MW13	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	108	NA	75.9-141	NA	%Rec		04/10/19 2:18PM	
Surr: Toluene-d8	98.3	NA	72.6-119	NA	%Rec		04/10/19 2:18PM	

Pace Analytical Services - Analytical Report

WO#: **19040804**

Date Reported: **4/11/2019**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 2:30:00 PM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-02B	**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	04/09/19 4:15PM	04/11/19 12:06AM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 19040804

Date Reported: 4/11/2019
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 11:20:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-03A	**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	1.68	0.200	1.00	NA		µg/L	04/09/19 4:15PM	04/11/19 12:12AM	PA/VA
EDB AND/OR DBCP				**Method: SW8011**				**Analyst: NC**	
DBCP	ND	0.00762	0.0201	0.200		µg/L	04/08/19 8:19AM	04/08/19 7:32PM	PA/VA
EDB	ND	0.00391	0.0201	0.050		µg/L	04/08/19 8:19AM	04/08/19 7:32PM	PA/VA
SEMIVOLATILE ORGANIC COMPOUNDS				**Method: SW8270D**				**Analyst: CLS**	
Acenaphthene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Acenaphthylene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Anthracene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Benzidine	ND	5.34	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Benzo(a)anthracene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Benzo(a)pyrene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Benzo(b)fluoranthene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Benzo(g,h,i)perylene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Benzo(k)fluoranthene	ND	3.20	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Bis(2-chloroethoxy)methane	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Bis(2-chloroethyl)ether	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Bis(2-chloroisopropyl)ether	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Bis(2-ethylhexyl)phthalate	ND	5.34	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
4-Bromophenyl phenyl ether	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Butyl benzyl phthalate	ND	5.34	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
4-Chloro-3-methylphenol	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2-Chloronaphthalene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2-Chlorophenol	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
4-Chlorophenyl phenyl ether	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Chrysene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
o-Cresol	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
m,p-Cresol	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Dibenzo(a,h)anthracene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Di-n-butyl phthalate	ND	5.34	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
1,2-Dichlorobenzene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
1,3-Dichlorobenzene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
1,4-Dichlorobenzene	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
3,3´-Dichlorobenzidine	ND	5.34	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2,4-Dichlorophenol	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Diethyl phthalate	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Dimethyl phthalate	7.14	5.34	10.7	NA	J	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2,4-Dimethylphenol	ND	2.13	10.7	NA		µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 19040804

Date Reported: 4/11/2019
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 11:20:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-03A	**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	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2,4-Dinitrophenol	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2,4-Dinitrotoluene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2,6-Dinitrotoluene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Di-n-octyl phthalate	ND	5.34	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
1,2-Diphenylhydrazine	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Fluoranthene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Fluorene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Hexachlorobenzene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Hexachlorobutadiene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Hexachlorocyclopentadiene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Hexachloroethane	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Indeno(1,2,3-cd)pyrene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Isophorone	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Naphthalene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Nitrobenzene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2-Nitrophenol	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
4-Nitrophenol	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
N-Nitrosodimethylamine	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
N-Nitrosodiphenylamine	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
N-Nitrosodi-n-propylamine	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Pentachlorophenol	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Phenanthrene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Phenol	ND	5.34	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Pyrene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
1,2,4-Trichlorobenzene	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2,4,5-Trichlorophenol	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
2,4,6-Trichlorophenol	ND	2.13	10.7	NA	µg/L	04/09/19 9:20AM	04/09/19 4:45PM	PA/VA
Surr: 2-Fluorophenol	53.0	NA	17.6-120	NA	%Rec	04/09/19 9:20AM	04/09/19 4:45PM	
Surr: Phenol-d5	37.0	NA	11.4-120	NA	%Rec	04/09/19 9:20AM	04/09/19 4:45PM	
Surr: 2,4,6-Tribromophenol	75.7	NA	18-129	NA	%Rec	04/09/19 9:20AM	04/09/19 4:45PM	
Surr: Nitrobenzene-d5	79.8	NA	21.5-122	NA	%Rec	04/09/19 9:20AM	04/09/19 4:45PM	
Surr: 2-Fluorobiphenyl	80.1	NA	23.7-127	NA	%Rec	04/09/19 9:20AM	04/09/19 4:45PM	
Surr: 4-Terphenyl-d14	77.3	NA	39.9-124	NA	%Rec	04/09/19 9:20AM	04/09/19 4:45PM	
VOLATILE RANGE ORGANICS				**Method: SW8015C**			**Analyst: CB**	
TPH (Gasoline Range: C6 - C10)	ND	220	500	NA	µg/L	04/08/19 7:37AM	04/08/19 3:28PM	PA/VA
Surr: 2,5-Dibromotoluene	111	NA	49.3-147	NA	%Rec	04/08/19 7:37AM	04/08/19 3:28PM	
VOLATILE ORGANIC COMPOUNDS-8260				**Method: SW8260B**			**Analyst: ES**	
Xylenes, Total	ND	NA	0	NA	µg/L		04/10/19 2:49PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 19040804

Date Reported: 4/11/2019
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 11:20:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-03A	**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		04/10/19 2:49PM	PA/VA
Acrolein	ND	5.00	10.0	NA	µg/L		04/10/19 2:49PM	PA/VA
Acrylonitrile	ND	5.00	10.0	NA	µg/L		04/10/19 2:49PM	PA/VA
Benzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Bromobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Bromochloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Bromodichloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Bromoform	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Bromomethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
2-Butanone	ND	5.00	10.0	NA	µg/L		04/10/19 2:49PM	PA/VA
n-Butylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
sec-Butylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
tert-Butylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Carbon disulfide	ND	2.50	5.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Carbon tetrachloride	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Chlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Chloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Chloroform	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Chloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
2-Chlorotoluene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
4-Chlorotoluene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Dibromochloromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,2-Dibromo-3-chloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,2-Dibromoethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Dibromomethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,2-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,3-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,4-Dichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Dichlorodifluoromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,1-Dichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,2-Dichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,1-Dichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
cis-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
trans-1,2-Dichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,3-Dichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
2,2-Dichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,1-Dichloropropene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
cis-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
trans-1,3-Dichloropropene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Ethylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA

Pace Analytical Services - Analytical Report

WO#: 19040804

Date Reported: 4/11/2019
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 11:20:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-03A	**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		04/10/19 2:49PM	PA/VA
2-Hexanone	ND	5.00	10.0	NA	µg/L		04/10/19 2:49PM	PA/VA
Iodomethane	ND	5.00	10.0	NA	µg/L		04/10/19 2:49PM	PA/VA
Isopropylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
4-Isopropyltoluene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Methylene chloride	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
4-Methyl-2-pentanone	ND	5.00	10.0	NA	µg/L		04/10/19 2:49PM	PA/VA
Methyl tert-butyl ether	ND	1.00	5.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Naphthalene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
n-Propylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Styrene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,1,1,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,1,2,2-Tetrachloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Tetrachloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Toluene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,2,3-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,2,4-Trichlorobenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,1,1-Trichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,1,2-Trichloroethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Trichloroethene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Trichlorofluoromethane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,2,3-Trichloropropane	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,2,4-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
1,3,5-Trimethylbenzene	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Vinyl acetate	ND	5.00	10.0	NA	µg/L		04/10/19 2:49PM	PA/VA
Vinyl chloride	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Surr: 1,2-Dichloroethane-d4	98.9	NA	75.2-127	NA	%Rec		04/10/19 2:49PM	
Surr: 4-Bromofluorobenzene	97.1	NA	84.5-142	NA	%Rec		04/10/19 2:49PM	
Surr: Dibromofluoromethane	105	NA	69.2-124	NA	%Rec		04/10/19 2:49PM	
Surr: Toluene-d8	96.7	NA	77.6-120	NA	%Rec		04/10/19 2:49PM	
VOLATILE ORGANIC COMPOUNDS-ADDITIONAL				**Method: SW8260B**			**Analyst: ES**	
tert-Amyl alcohol	ND	0.361	1.00	NA	µg/L		04/10/19 2:49PM	
tert-Amyl Ethyl Ether	ND	0.368	1.00	NA	µg/L		04/10/19 2:49PM	
tert-Amyl Methyl Ether	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	
tert-Butyl alcohol	ND	50.0	200	NA	µg/L		04/10/19 2:49PM	PA/VA
tert-Butyl Ethyl Ether	ND	0.500	1.00	NA	µg/L		04/10/19 2:49PM	
Ethanol	ND	100	200	NA	µg/L		04/10/19 2:49PM	PA/VA
Isopropyl ether	ND	2.50	5.00	NA	µg/L		04/10/19 2:49PM	PA/VA
Surr: 1,2-Dichloroethane-d4	104	NA	72.3-120	NA	%Rec		04/10/19 2:49PM	
Surr: 4-Bromofluorobenzene	101	NA	72.5-134	NA	%Rec		04/10/19 2:49PM	

Pace Analytical Services - Analytical Report

WO#: **19040804**

Date Reported: **4/11/2019**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 11:20:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-03A	**Matrix:**	Groundwater
Client Sample ID:	MW14	**Site ID:**	

Analysis	Result	MDL	PQL	MCL Qual	Units	Prep Date	Date Analyzed	NELAC
Surr: Dibromofluoromethane	111	NA	75.9-141	NA	%Rec		04/10/19 2:49PM	
Surr: Toluene-d8	98.1	NA	72.6-119	NA	%Rec		04/10/19 2:49PM	

Pace Analytical Services - Analytical Report

WO#: **19040804**

Date Reported: **4/11/2019**
Original

Client:	GREENE ENVIRONMENTAL SERVICES, LLC	**Collection Date:**	4/3/2019 11:20:00 AM
Project:	CHAMBLISSBURG SUPPLY-CSVI	**Date Received:**	4/4/2019
Lab ID:	19040804-03B	**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	04/09/19 4:15PM	04/11/19 12:18AM	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:	**19040804**
RCPNo:	**1**	Date and Time Received:	**4/4/2019 10:40:00 AM**	Received by:	**Randy Rose**
Completed By:	**Crystal Sturgill**		Reviewed By:	**Billy Shirley**	
Completed Date:	**4/5/2019 3:46:25 PM**		Reviewed Date:	**4/8/2019 9:50 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 1.7 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: **19040804**

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 Number He

19040804

GRE096
GREENE ENVIRONMENTAL SE
Billy Shirley

ALL SHADED AREAS are for

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 #: / 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: ____

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 ____

* 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	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	4/3/2019	1300				11	X	X	X	X	X	X
MW13	GW	Grab	4/3/2019	1430				11	X	X	X	X	X	X
MW14	GW	Grab	4/3/2019	1120				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#: 13
Cooler 1 Temp Upon Receipt: 2.0 oC
Cooler 1 Therm Corr. Factor: -0.3 oC
Cooler 1 Corrected Temp: 1.7 oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
[signature]	4-4-19 / 1030	[signature]	4-4-19 1040
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 4-4-19 1630
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 4-4-19 1850

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: ____

Page

ENVIRONMENTAL OPTIONS, INC
P.O. Box 879
Rocky Mount, VA 24151
(540) 483- 3920 (TEL)
(540) 483-3855 (FAX)

GREENE ENVIRONMENTAL
570 REDBUD HILL ROAD
ROCKY MOUNT VA 24151

RE: BACTERIOLOGICAL ANALYSIS OF WATER
10625 STEWARTSVILLE ROAD
VINTON VA 24179

COMMISSION NO: 12305

REPORT DATE: MAY 8, 2019

METHOD REFERENCE: STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER: 19TH ED.

SAMPLE ID: 49568 **FIELD ID:** MW 12 05/07/19 1:45 PM **ANALYST:** S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

SAMPLE ID: 49569 **FIELD ID:** MW 13 05/07/19 2:00 PM **ANALYST:** S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

SAMPLE ID: 49570 **FIELD ID:** MW 14 05/07/19 2:20 PM **ANALYST:** S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

***PASSES STATE REQUIREMENTS**

STATE CERTIFICATE NO. 00122
IF ENVIRONMENTAL OPTIONS ANALYTICAL SERVICES MAY BE OF ANY FURTHER ASSISTANCE, PLEASE DO NOT HESITATE TO CONTACT ME.

PAMELA B. WESTGATE
PRESIDENT

Maryland spectral Services

Analytical Chemistry Services

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

10 September 2019

Adam Flora
Greene Environmental LLC
570 Redbud Hill Rd
Rocky Mount, VA 24151
RE: CHAMBLISSBURG SUPPLY

Enclosed are the results of analyses for samples received by the laboratory on 09/06/19 08:50.

Please visit our website at www.mdspectral.com for a complete listing of our accreditations.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Rabecka Koons
Quality Assurance Officer

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW15		9090603-01	Nonpotable Water	09/04/19 16:55	09/06/19 08:50

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Rabecka Koons, Quality Assurance Officer

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

MW15

9090603-01 (Nonpotable Water)
Sample Date: 09/04/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS)									
Acetone	ND		ug/L	10.0	10.0	1	09/09/19	09/09/19 15:30	GM
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	09/09/19	09/09/19 15:30	GM
tert-Amyl methyl ether (TAME)	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Benzene	**1.3**	J	ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Bromobenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Bromochloromethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Bromodichloromethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Bromoform	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Bromomethane	ND		ug/L	5.0	5.0	1	09/09/19	09/09/19 15:30	GM
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	09/09/19	09/09/19 15:30	GM
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	09/09/19	09/09/19 15:30	GM
n-Butylbenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
sec-Butylbenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
tert-Butylbenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Carbon disulfide	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Carbon tetrachloride	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Chlorobenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Chloroethane	ND		ug/L	5.0	5.0	1	09/09/19	09/09/19 15:30	GM
Chloroform	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Chloromethane	ND		ug/L	5.0	5.0	1	09/09/19	09/09/19 15:30	GM
2-Chlorotoluene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
4-Chlorotoluene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Dibromochloromethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,2-Dibromo-3-chloropropane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,2-Dibromoethane (EDB)	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Dibromomethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,2-Dichlorobenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,3-Dichlorobenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,4-Dichlorobenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Dichlorodifluoromethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,1-Dichloroethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,2-Dichloroethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM

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Rabecka Koons, Quality Assurance Officer

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

MW15

9090603-01 (Nonpotable Water)
Sample Date: 09/04/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
1,1-Dichloroethene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
cis-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
trans-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Dichlorofluoromethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,2-Dichloropropane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,3-Dichloropropane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
2,2-Dichloropropane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,1-Dichloropropene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
cis-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
trans-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Diisopropyl ether (DIPE)	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Ethylbenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Hexachlorobutadiene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
2-Hexanone	ND		ug/L	10.0	10.0	1	09/09/19	09/09/19 15:30	GM
Isopropylbenzene (Cumene)	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
4-Isopropyltoluene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Methyl tert-butyl ether (MTBE)	**2.4**		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	09/09/19	09/09/19 15:30	GM
Methylene chloride	ND		ug/L	10.0	10.0	1	09/09/19	09/09/19 15:30	GM
Naphthalene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
n-Propylbenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Styrene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,1,1,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,1,2,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Tetrachloroethene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Toluene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,2,3-Trichlorobenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,2,4-Trichlorobenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,1,1-Trichloroethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,1,2-Trichloroethane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Trichloroethene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM

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Rabecka Koons, Quality Assurance Officer

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

MW15

9090603-01 (Nonpotable Water)
Sample Date: 09/04/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) (continued)									
Trichlorofluoromethane (Freon 11)	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,2,3-Trichloropropane	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,2,4-Trimethylbenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
1,3,5-Trimethylbenzene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Vinyl chloride	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
o-Xylene	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
m- & p-Xylenes	ND		ug/L	2.0	1.0	1	09/09/19	09/09/19 15:30	GM
Surrogate: 1,2-Dichloroethane-d4			*75-120*	*104 %*	*09/09/19*		*09/09/19 15:30*		
Surrogate: Toluene-d8			*75-120*	*93 %*	*09/09/19*		*09/09/19 15:30*		
Surrogate: 4-Bromofluorobenzene			*78-110*	*97 %*	*09/09/19*		*09/09/19 15:30*		
EDB AND DBCP BY EPA 504.1 (MICROEXTRACTION/GC/ECD)									
1,2-Dibromo-3-chloropropane	ND		ug/L	0.055	0.055	1	09/10/19	09/10/19 16:49	GM
1,2-Dibromoethane (EDB)	ND		ug/L	0.022	0.022	1	09/10/19	09/10/19 16:49	GM
SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS)									
Acenaphthene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Acenaphthylene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Anthracene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Benzidine	ND		ug/L	22.8	22.8	1	09/09/19	09/10/19 11:25	WB
Benzo[a]anthracene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Benzo[b]fluoranthene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Benzo[k]fluoranthene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Benzo[ghi]perylene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Benzo[a]pyrene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
4-Bromophenyl phenyl ether	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Butyl benzyl phthalate	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Carbazole	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
4-Chloro-3-methylphenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
4-Chloroaniline	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Bis(2-chloroethoxy)methane	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Bis(2-chloroethyl) ether	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2,2'-Oxybis(1-Chloropropane)	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2-Chloronaphthalene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

MW15

9090603-01 (Nonpotable Water)
Sample Date: 09/04/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) (continued)									
2-Chlorophenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
4-Chlorophenyl phenyl ether	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Chrysene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Di-n-butyl phthalate	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Di-n-octyl phthalate	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Dibenzo[a,h]anthracene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Dibenzofuran	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
1,2-Dichlorobenzene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
1,3-Dichlorobenzene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
1,4-Dichlorobenzene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
3,3-Dichlorobenzidine	ND		ug/L	9.1	9.1	1	09/09/19	09/10/19 11:25	WB
2,4-Dichlorophenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Diethyl phthalate	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Dimethyl phthalate	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2,4-Dimethylphenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2-Methyl-4,6-dinitrophenol	ND		ug/L	22.8	22.8	1	09/09/19	09/10/19 11:25	WB
2,4-Dinitrophenol	ND		ug/L	22.8	22.8	1	09/09/19	09/10/19 11:25	WB
2,4-Dinitrotoluene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2,6-Dinitrotoluene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Bis(2-ethylhexyl) phthalate	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Fluoranthene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Fluorene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Hexachlorobenzene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Hexachlorobutadiene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Hexachlorocyclopentadiene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Hexachloroethane	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Indeno[1,2,3-cd]pyrene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Isophorone	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2-Methylnaphthalene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
3&4-Methylphenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2-Methylphenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
N-Nitroso-di-n-propylamine	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

MW15

9090603-01 (Nonpotable Water)
Sample Date: 09/04/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) (continued)									
N-Nitrosodiphenylamine	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Naphthalene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2-Nitroaniline	ND		ug/L	22.8	22.8	1	09/09/19	09/10/19 11:25	WB
3-Nitroaniline	ND		ug/L	22.8	22.8	1	09/09/19	09/10/19 11:25	WB
4-Nitroaniline	ND		ug/L	22.8	22.8	1	09/09/19	09/10/19 11:25	WB
Nitrobenzene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2-Nitrophenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
4-Nitrophenol	ND		ug/L	22.8	22.8	1	09/09/19	09/10/19 11:25	WB
Pentachlorophenol	ND		ug/L	22.8	22.8	1	09/09/19	09/10/19 11:25	WB
Phenanthrene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Phenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Pyrene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Pyridine	ND		ug/L	4.6	4.6	1	09/09/19	09/10/19 11:25	WB
1,2,4-Trichlorobenzene	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2,4,5-Trichlorophenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
2,4,6-Trichlorophenol	ND		ug/L	4.6	1.8	1	09/09/19	09/10/19 11:25	WB
Surrogate: 2-Fluorophenol			*21-110*	*25 %*		*09/09/19*	*09/10/19 11:25*		
Surrogate: Phenol-d5			*10-110*	*17 %*		*09/09/19*	*09/10/19 11:25*		
Surrogate: Nitrobenzene-d5			*35-114*	*42 %*		*09/09/19*	*09/10/19 11:25*		
Surrogate: 2,4,6-Tribromophenol			*10-123*	*38 %*		*09/09/19*	*09/10/19 11:25*		
Surrogate: 2-Fluorobiphenyl			*43-116*	*39 %*		*09/09/19*	*09/10/19 11:25*		*S-BN*
Surrogate: Terphenyl-d14			*33-141*	*42 %*		*09/09/19*	*09/10/19 11:25*		
GASOLINE RANGE ORGANICS BY EPA 8015C									
Gasoline-Range Organics	ND		ug/L	100	100	1	09/09/19	09/09/19 15:10	GM

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9090603-01 (Nonpotable Water)
Sample Date: 09/04/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
DISSOLVED METALS ANALYSIS BY EPA 200.8									
Lead	ND		ug/L	1.00	1.00	1	09/09/19	09/10/19 12:33	VVD
TOTAL METALS ANALYSIS BY EPA 200.8									
Lead	ND		ug/L	1.00	1.00	1	09/09/19	09/10/19 12:46	VVD

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
Blank (B909093-BLK1)					Prepared & Analyzed: 09/09/19					
Acetone	ND		10.0	ug/L						
tert-Amyl alcohol (TAA)	ND		20.0	ug/L						
tert-Amyl methyl ether (TAME)	ND		2.0	ug/L						
Benzene	ND		2.0	ug/L						
Bromobenzene	ND		2.0	ug/L						
Bromochloromethane	ND		2.0	ug/L						
Bromodichloromethane	ND		2.0	ug/L						
Bromoform	ND		2.0	ug/L						
Bromomethane	ND		5.0	ug/L						
tert-Butanol (TBA)	ND		15.0	ug/L						
2-Butanone (MEK)	ND		10.0	ug/L						
n-Butylbenzene	ND		2.0	ug/L						
sec-Butylbenzene	ND		2.0	ug/L						
tert-Butylbenzene	ND		2.0	ug/L						
Carbon disulfide	ND		2.0	ug/L						
Carbon tetrachloride	ND		2.0	ug/L						
Chlorobenzene	ND		2.0	ug/L						
Chloroethane	ND		2.0	ug/L						
Chloroform	ND		2.0	ug/L						
Chloromethane	ND		5.0	ug/L						
2-Chlorotoluene	ND		2.0	ug/L						
4-Chlorotoluene	ND		2.0	ug/L						
Dibromochloromethane	ND		2.0	ug/L						
1,2-Dibromo-3-chloropropane	ND		2.0	ug/L						
1,2-Dibromoethane (EDB)	ND		2.0	ug/L						
Dibromomethane	ND		2.0	ug/L						
1,2-Dichlorobenzene	ND		2.0	ug/L						
1,3-Dichlorobenzene	ND		2.0	ug/L						
1,4-Dichlorobenzene	ND		2.0	ug/L						
Dichlorodifluoromethane	ND		2.0	ug/L						
1,1-Dichloroethane	ND		2.0	ug/L						

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09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
Blank (B909093-BLK1)					Prepared & Analyzed: 09/09/19					
1,2-Dichloroethane	ND		2.0	ug/L						
1,1-Dichloroethene	ND		2.0	ug/L						
cis-1,2-Dichloroethene	ND		2.0	ug/L						
trans-1,2-Dichloroethene	ND		2.0	ug/L						
Dichlorofluoromethane	ND		2.0	ug/L						
1,2-Dichloropropane	ND		2.0	ug/L						
1,3-Dichloropropane	ND		2.0	ug/L						
2,2-Dichloropropane	ND		2.0	ug/L						
1,1-Dichloropropene	ND		2.0	ug/L						
cis-1,3-Dichloropropene	ND		2.0	ug/L						
trans-1,3-Dichloropropene	ND		2.0	ug/L						
Diisopropyl ether (DIPE)	ND		2.0	ug/L						
Ethyl tert-butyl ether (ETBE)	ND		2.0	ug/L						
Ethylbenzene	ND		2.0	ug/L						
Hexachlorobutadiene	1.1	J	2.0	ug/L						
2-Hexanone	ND		10.0	ug/L						
Isopropylbenzene (Cumene)	ND		2.0	ug/L						
4-Isopropyltoluene	ND		2.0	ug/L						
Methyl tert-butyl ether (MTBE)	ND		2.0	ug/L						
4-Methyl-2-pentanone	ND		10.0	ug/L						
Methylene chloride	ND		5.0	ug/L						
Naphthalene	ND		2.0	ug/L						
n-Propylbenzene	ND		2.0	ug/L						
Styrene	ND		2.0	ug/L						
1,1,1,2-Tetrachloroethane	ND		2.0	ug/L						
1,1,2,2-Tetrachloroethane	ND		2.0	ug/L						
Tetrachloroethene	ND		2.0	ug/L						
Toluene	ND		2.0	ug/L						
1,2,3-Trichlorobenzene	ND		2.0	ug/L						
1,2,4-Trichlorobenzene	ND		2.0	ug/L						
1,1,1-Trichloroethane	ND		2.0	ug/L						

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Project Manager: Adam Flora

Reported:
09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
Blank (B909093-BLK1)					Prepared & Analyzed: 09/09/19					
1,1,2-Trichloroethane	ND		2.0	ug/L						
Trichloroethene	ND		2.0	ug/L						
Trichlorofluoromethane (Freon 11)	ND		2.0	ug/L						
1,2,3-Trichloropropane	ND		2.0	ug/L						
1,2,4-Trimethylbenzene	ND		2.0	ug/L						
1,3,5-Trimethylbenzene	ND		2.0	ug/L						
Vinyl chloride	ND		2.0	ug/L						
o-Xylene	ND		2.0	ug/L						
m- & p-Xylenes	ND		2.0	ug/L						
Xylenes, Total	ND		2.0	ug/L						
Tentatively Identified Compounds (TICs)	0.0			ug/L						
Surrogate: 1,2-Dichloroethane-d4	*51.45*			ug/L	*50.0*		*103*	*75-120*		
Surrogate: Toluene-d8	*47.93*			ug/L	*50.0*		*96*	*75-120*		
Surrogate: 4-Bromofluorobenzene	*48.54*			ug/L	*50.0*		*97*	*78-110*		
LCS (B909093-BS1)					Prepared & Analyzed: 09/09/19					
Acetone	12.5		10.0	ug/L	10.0		125	25-150		
tert-Amyl alcohol (TAA)	23.2		20.0	ug/L	25.0		93	25-150		
tert-Amyl methyl ether (TAME)	4.9		2.0	ug/L	5.00		99	70-140		
Benzene	6.0		2.0	ug/L	5.00		120	70-140		
Bromobenzene	5.7		2.0	ug/L	5.00		113	70-140		
Bromochloromethane	6.6		2.0	ug/L	5.00		131	70-140		
Bromodichloromethane	6.2		2.0	ug/L	5.00		124	70-140		
Bromoform	5.4		2.0	ug/L	5.00		107	70-140		
Bromomethane	4.4	J	5.0	ug/L	5.00		88	25-150		
tert-Butanol (TBA)	26.7		15.0	ug/L	25.0		107	25-150		
2-Butanone (MEK)	13.7		10.0	ug/L	10.0		137	25-150		
n-Butylbenzene	5.5		2.0	ug/L	5.00		110	70-140		
sec-Butylbenzene	5.3		2.0	ug/L	5.00		106	70-140		
tert-Butylbenzene	5.1		2.0	ug/L	5.00		101	70-140		
Carbon disulfide	6.9		2.0	ug/L	5.00		138	70-140		

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Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
LCS (B909093-BS1)					Prepared & Analyzed: 09/09/19					
Carbon tetrachloride	6.0		2.0	ug/L	5.00		121	70-140		
Chlorobenzene	5.8		2.0	ug/L	5.00		115	70-140		
Chloroethane	5.0		2.0	ug/L	5.00		100	25-150		
Chloroform	6.0		2.0	ug/L	5.00		119	70-140		
Chloromethane	6.0		5.0	ug/L	5.00		120	25-150		
2-Chlorotoluene	5.2		2.0	ug/L	5.00		104	70-140		
4-Chlorotoluene	5.1		2.0	ug/L	5.00		102	70-140		
Dibromochloromethane	5.8		2.0	ug/L	5.00		117	70-140		
1,2-Dibromo-3-chloropropane	5.8		2.0	ug/L	5.00		116	70-140		
1,2-Dibromoethane (EDB)	5.0		2.0	ug/L	5.00		99	70-140		
Dibromomethane	6.2		2.0	ug/L	5.00		123	70-140		
1,2-Dichlorobenzene	5.5		2.0	ug/L	5.00		110	70-140		
1,3-Dichlorobenzene	5.5		2.0	ug/L	5.00		109	70-140		
1,4-Dichlorobenzene	5.6		2.0	ug/L	5.00		112	70-140		
Dichlorodifluoromethane	6.8		2.0	ug/L	5.00		136	25-150		
1,1-Dichloroethane	6.2		2.0	ug/L	5.00		123	70-140		
1,2-Dichloroethane	6.3		2.0	ug/L	5.00		125	70-140		
1,1-Dichloroethene	5.9		2.0	ug/L	5.00		118	70-140		
cis-1,2-Dichloroethene	6.3		2.0	ug/L	5.00		126	70-140		
trans-1,2-Dichloroethene	6.3		2.0	ug/L	5.00		126	70-140		
Dichlorofluoromethane	5.7		2.0	ug/L	5.00		114	70-140		
1,2-Dichloropropane	6.3		2.0	ug/L	5.00		126	70-140		
1,3-Dichloropropane	5.3		2.0	ug/L	5.00		105	70-140		
2,2-Dichloropropane	6.1		2.0	ug/L	5.00		122	70-140		
1,1-Dichloropropene	6.1		2.0	ug/L	5.00		122	70-140		
cis-1,3-Dichloropropene	5.2		2.0	ug/L	5.00		103	70-140		
trans-1,3-Dichloropropene	5.4		2.0	ug/L	5.00		108	70-140		
Diisopropyl ether (DIPE)	5.8		2.0	ug/L	5.00		116	70-140		
Ethyl tert-butyl ether (ETBE)	5.3		2.0	ug/L	5.00		107	70-140		
Ethylbenzene	5.2		2.0	ug/L	5.00		105	70-140		
Hexachlorobutadiene	5.8		2.0	ug/L	5.00		116	70-140		

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
LCS (B909093-BS1)					Prepared & Analyzed: 09/09/19					
2-Hexanone	10.8		10.0	ug/L	10.0		108	25-150		
Isopropylbenzene (Cumene)	5.1		2.0	ug/L	5.00		103	70-140		
4-Isopropyltoluene	4.9		2.0	ug/L	5.00		98	70-140		
Methyl tert-butyl ether (MTBE)	5.5		2.0	ug/L	5.00		109	70-140		
4-Methyl-2-pentanone	11.3		10.0	ug/L	10.0		113	25-150		
Methylene chloride	6.7		5.0	ug/L	5.00		133	25-150		
Naphthalene	5.2		2.0	ug/L	5.00		103	70-140		
n-Propylbenzene	5.5		2.0	ug/L	5.00		110	70-140		
Styrene	5.0		2.0	ug/L	5.00		99	70-140		
1,1,1,2-Tetrachloroethane	5.5		2.0	ug/L	5.00		110	70-140		
1,1,2,2-Tetrachloroethane	5.6		2.0	ug/L	5.00		112	70-140		
Tetrachloroethene	5.3		2.0	ug/L	5.00		107	70-140		
Toluene	5.4		2.0	ug/L	5.00		108	70-140		
1,2,3-Trichlorobenzene	5.4		2.0	ug/L	5.00		108	70-140		
1,2,4-Trichlorobenzene	5.6		2.0	ug/L	5.00		112	70-140		
1,1,1-Trichloroethane	5.9		2.0	ug/L	5.00		118	70-140		
1,1,2-Trichloroethane	5.6		2.0	ug/L	5.00		112	70-140		
Trichloroethene	6.2		2.0	ug/L	5.00		123	70-140		
Trichlorofluoromethane (Freon 11)	5.0		2.0	ug/L	5.00		100	70-140		
1,2,3-Trichloropropane	5.4		2.0	ug/L	5.00		108	70-140		
1,2,4-Trimethylbenzene	4.8		2.0	ug/L	5.00		97	70-140		
1,3,5-Trimethylbenzene	5.0		2.0	ug/L	5.00		100	70-140		
Vinyl chloride	5.9		2.0	ug/L	5.00		118	25-150		
o-Xylene	5.4		2.0	ug/L	5.00		108	70-140		
m- & p-Xylenes	10.5		2.0	ug/L	10.0		105	70-140		
Xylenes, Total	15.9		2.0	ug/L	15.0		106	70-140		
Surrogate: 1,2-Dichloroethane-d4	*50.78*			ug/L	*50.0*		*102*	*75-120*		
Surrogate: Toluene-d8	*47.93*			ug/L	*50.0*		*96*	*75-120*		
Surrogate: 4-Bromofluorobenzene	*49.61*			ug/L	*50.0*		*99*	*78-110*		

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MD DW LabID 153

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
Matrix Spike (B909093-MS1)			**Source: 9090412-01**		Prepared & Analyzed: 09/10/19					
Acetone	23.9		10.0	ug/L	10.0	14.8	92	25-150		
tert-Amyl alcohol (TAA)	44.8		20.0	ug/L	50.0	ND	90	25-150		
tert-Amyl methyl ether (TAME)	9.0		2.0	ug/L	10.0	ND	90	70-140		
Benzene	10.6		2.0	ug/L	10.0	ND	106	70-140		
Bromobenzene	9.2		2.0	ug/L	10.0	ND	92	70-140		
Bromochloromethane	10.1		2.0	ug/L	10.0	ND	101	70-140		
Bromodichloromethane	10.3		2.0	ug/L	10.0	ND	103	70-140		
Bromoform	9.1		2.0	ug/L	10.0	ND	91	70-140		
Bromomethane	ND		5.0	ug/L	10.0	ND		25-150		
tert-Butanol (TBA)	54.6		15.0	ug/L	50.0	ND	109	25-150		
2-Butanone (MEK)	12.5		10.0	ug/L	10.0	ND	125	25-150		
n-Butylbenzene	7.8		2.0	ug/L	10.0	ND	78	70-140		
sec-Butylbenzene	8.1		2.0	ug/L	10.0	ND	81	70-140		
tert-Butylbenzene	8.4		2.0	ug/L	10.0	ND	84	70-140		
Carbon disulfide	10.5		2.0	ug/L	10.0	ND	105	70-140		
Carbon tetrachloride	10.3		2.0	ug/L	10.0	ND	103	70-140		
Chlorobenzene	9.5		2.0	ug/L	10.0	ND	95	70-140		
Chloroethane	10.2		2.0	ug/L	10.0	ND	102	25-150		
Chloroform	10.8		2.0	ug/L	10.0	ND	108	70-140		
Chloromethane	9.3		5.0	ug/L	10.0	ND	93	25-150		
2-Chlorotoluene	8.7		2.0	ug/L	10.0	ND	87	70-140		
4-Chlorotoluene	8.7		2.0	ug/L	10.0	ND	87	70-140		
Dibromochloromethane	9.3		2.0	ug/L	10.0	ND	93	70-140		
1,2-Dibromo-3-chloropropane	8.1		2.0	ug/L	10.0	ND	81	70-140		
1,2-Dibromoethane (EDB)	9.7		2.0	ug/L	10.0	ND	97	70-140		
Dibromomethane	10.6		2.0	ug/L	10.0	ND	106	70-140		
1,2-Dichlorobenzene	9.1		2.0	ug/L	10.0	ND	91	70-140		
1,3-Dichlorobenzene	9.1		2.0	ug/L	10.0	ND	91	70-140		
1,4-Dichlorobenzene	8.8		2.0	ug/L	10.0	ND	88	70-140		
Dichlorodifluoromethane	9.9		2.0	ug/L	10.0	ND	99	25-150		
1,1-Dichloroethane	10.3		2.0	ug/L	10.0	ND	103	70-140		

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
Matrix Spike (B909093-MS1)		**Source: 9090412-01**		Prepared & Analyzed: 09/10/19						
1,2-Dichloroethane	10.1		2.0	ug/L	10.0	ND	101	70-140		
1,1-Dichloroethene	10.5		2.0	ug/L	10.0	ND	105	70-140		
cis-1,2-Dichloroethene	10.7		2.0	ug/L	10.0	ND	107	70-140		
trans-1,2-Dichloroethene	10.6		2.0	ug/L	10.0	ND	106	70-140		
Dichlorofluoromethane	11.2		2.0	ug/L	10.0	ND	112	70-140		
1,2-Dichloropropane	10.7		2.0	ug/L	10.0	ND	107	70-140		
1,3-Dichloropropane	9.7		2.0	ug/L	10.0	ND	97	70-140		
2,2-Dichloropropane	8.0		2.0	ug/L	10.0	ND	80	70-140		
1,1-Dichloropropene	10.3		2.0	ug/L	10.0	ND	103	70-140		
cis-1,3-Dichloropropene	8.5		2.0	ug/L	10.0	ND	85	70-140		
trans-1,3-Dichloropropene	8.1		2.0	ug/L	10.0	ND	81	70-140		
Diisopropyl ether (DIPE)	9.5		2.0	ug/L	10.0	ND	95	70-140		
Ethyl tert-butyl ether (ETBE)	9.2		2.0	ug/L	10.0	ND	92	70-140		
Ethylbenzene	8.9		2.0	ug/L	10.0	ND	89	70-140		
Hexachlorobutadiene	7.4		2.0	ug/L	10.0	ND	74	70-140		
2-Hexanone	8.5	J	10.0	ug/L	10.0	ND	85	25-150		
Isopropylbenzene (Cumene)	8.7		2.0	ug/L	10.0	ND	87	70-140		
4-Isopropyltoluene	7.9		2.0	ug/L	10.0	ND	79	70-140		
Methyl tert-butyl ether (MTBE)	9.4		2.0	ug/L	10.0	ND	94	70-140		
4-Methyl-2-pentanone	9.9	J	10.0	ug/L	10.0	ND	99	25-150		
Methylene chloride	11.1		5.0	ug/L	10.0	ND	111	25-150		
Naphthalene	7.5		2.0	ug/L	10.0	ND	75	70-140		
n-Propylbenzene	8.9		2.0	ug/L	10.0	ND	89	70-140		
Styrene	7.9		2.0	ug/L	10.0	ND	79	70-140		
1,1,1,2-Tetrachloroethane	9.5		2.0	ug/L	10.0	ND	95	70-140		
1,1,2,2-Tetrachloroethane	9.6		2.0	ug/L	10.0	ND	96	70-140		
Tetrachloroethene	9.2		2.0	ug/L	10.0	ND	92	70-140		
Toluene	9.3		2.0	ug/L	10.0	ND	93	70-140		
1,2,3-Trichlorobenzene	7.9		2.0	ug/L	10.0	ND	79	70-140		
1,2,4-Trichlorobenzene	7.8		2.0	ug/L	10.0	ND	78	70-140		
1,1,1-Trichloroethane	9.8		2.0	ug/L	10.0	ND	98	70-140		

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MD DW LabID 153

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
Matrix Spike (B909093-MS1)		**Source: 9090412-01**		Prepared & Analyzed: 09/10/19						
1,1,2-Trichloroethane	9.4		2.0	ug/L	10.0	ND	94	70-140		
Trichloroethene	10.1		2.0	ug/L	10.0	ND	101	70-140		
Trichlorofluoromethane (Freon 11)	10.4		2.0	ug/L	10.0	ND	104	70-140		
1,2,3-Trichloropropane	8.9		2.0	ug/L	10.0	ND	89	70-140		
1,2,4-Trimethylbenzene	8.0		2.0	ug/L	10.0	ND	80	70-140		
1,3,5-Trimethylbenzene	8.3		2.0	ug/L	10.0	ND	83	70-140		
Vinyl chloride	9.6		2.0	ug/L	10.0	ND	96	25-150		
o-Xylene	9.2		2.0	ug/L	10.0	ND	92	70-140		
m- & p-Xylenes	18.1		2.0	ug/L	20.0	ND	91	70-140		
Xylenes, Total	27.3		2.0	ug/L	30.0	ND	91	70-140		
Surrogate: 1,2-Dichloroethane-d4	*49.53*			ug/L	*50.0*		*99*	*75-120*		
Surrogate: Toluene-d8	*46.29*			ug/L	*50.0*		*93*	*75-120*		
Surrogate: 4-Bromofluorobenzene	*49.32*			ug/L	*50.0*		*99*	*78-110*		
Matrix Spike Dup (B909093-MSD1)		**Source: 9090412-01**		Prepared & Analyzed: 09/10/19						
Acetone	30.7		10.0	ug/L	10.0	14.8	159	25-150	25	30
tert-Amyl alcohol (TAA)	53.9		20.0	ug/L	50.0	ND	108	25-150	18	30
tert-Amyl methyl ether (TAME)	10.1		2.0	ug/L	10.0	ND	101	70-140	12	20
Benzene	11.8		2.0	ug/L	10.0	ND	118	70-140	10	20
Bromobenzene	11.1		2.0	ug/L	10.0	ND	111	70-140	19	20
Bromochloromethane	11.8		2.0	ug/L	10.0	ND	118	70-140	16	20
Bromodichloromethane	11.7		2.0	ug/L	10.0	ND	117	70-140	13	20
Bromoform	10.1		2.0	ug/L	10.0	ND	101	70-140	10	20
Bromomethane	3.3	J	5.0	ug/L	10.0	ND	33	25-150		30
tert-Butanol (TBA)	55.2		15.0	ug/L	50.0	ND	110	25-150	1	30
2-Butanone (MEK)	15.0		10.0	ug/L	10.0	ND	150	25-150	18	30
n-Butylbenzene	8.8		2.0	ug/L	10.0	ND	88	70-140	12	20
sec-Butylbenzene	9.5		2.0	ug/L	10.0	ND	95	70-140	15	20
tert-Butylbenzene	9.4		2.0	ug/L	10.0	ND	94	70-140	12	20
Carbon disulfide	11.3		2.0	ug/L	10.0	ND	113	70-140	7	20
Carbon tetrachloride	11.6		2.0	ug/L	10.0	ND	116	70-140	12	20
Chlorobenzene	10.8		2.0	ug/L	10.0	ND	108	70-140	13	20

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MD DW LabID 153

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
Matrix Spike Dup (B909093-MSD1)			**Source: 9090412-01**		Prepared & Analyzed: 09/10/19					
Chloroethane	11.8		2.0	ug/L	10.0	ND	118	25-150	14	30
Chloroform	11.6		2.0	ug/L	10.0	ND	116	70-140	7	20
Chloromethane	10.2		5.0	ug/L	10.0	ND	102	25-150	9	30
2-Chlorotoluene	9.6		2.0	ug/L	10.0	ND	96	70-140	9	20
4-Chlorotoluene	9.2		2.0	ug/L	10.0	ND	92	70-140	6	20
Dibromochloromethane	10.3		2.0	ug/L	10.0	ND	103	70-140	11	20
1,2-Dibromo-3-chloropropane	10.5		2.0	ug/L	10.0	ND	105	70-140	26	20
1,2-Dibromoethane (EDB)	10.8		2.0	ug/L	10.0	ND	108	70-140	11	20
Dibromomethane	12.1		2.0	ug/L	10.0	ND	121	70-140	13	20
1,2-Dichlorobenzene	10.3		2.0	ug/L	10.0	ND	103	70-140	13	20
1,3-Dichlorobenzene	9.6		2.0	ug/L	10.0	ND	96	70-140	6	20
1,4-Dichlorobenzene	9.9		2.0	ug/L	10.0	ND	99	70-140	11	20
Dichlorodifluoromethane	10.7		2.0	ug/L	10.0	ND	107	25-150	9	30
1,1-Dichloroethane	11.5		2.0	ug/L	10.0	ND	115	70-140	11	20
1,2-Dichloroethane	12.5		2.0	ug/L	10.0	ND	125	70-140	21	20
1,1-Dichloroethene	11.3		2.0	ug/L	10.0	ND	113	70-140	8	20
cis-1,2-Dichloroethene	11.8		2.0	ug/L	10.0	ND	118	70-140	10	20
trans-1,2-Dichloroethene	11.5		2.0	ug/L	10.0	ND	115	70-140	9	20
Dichlorofluoromethane	12.6		2.0	ug/L	10.0	ND	126	70-140	11	20
1,2-Dichloropropane	11.6		2.0	ug/L	10.0	ND	116	70-140	8	20
1,3-Dichloropropane	10.7		2.0	ug/L	10.0	ND	107	70-140	11	20
2,2-Dichloropropane	8.5		2.0	ug/L	10.0	ND	85	70-140	7	20
1,1-Dichloropropene	11.5		2.0	ug/L	10.0	ND	115	70-140	12	20
cis-1,3-Dichloropropene	9.5		2.0	ug/L	10.0	ND	95	70-140	12	20
trans-1,3-Dichloropropene	9.1		2.0	ug/L	10.0	ND	91	70-140	12	20
Diisopropyl ether (DIPE)	10.4		2.0	ug/L	10.0	ND	104	70-140	10	20
Ethyl tert-butyl ether (ETBE)	10.3		2.0	ug/L	10.0	ND	103	70-140	11	20
Ethylbenzene	10.2		2.0	ug/L	10.0	ND	102	70-140	14	20
Hexachlorobutadiene	9.2		2.0	ug/L	10.0	ND	92	70-140	21	20
2-Hexanone	10.0		10.0	ug/L	10.0	ND	100	25-150		30
Isopropylbenzene (Cumene)	9.8		2.0	ug/L	10.0	ND	98	70-140	12	20

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909093 - GCMS-WATER-VOLATILES										
Matrix Spike Dup (B909093-MSD1)			**Source: 9090412-01**		Prepared & Analyzed: 09/10/19					
4-Isopropyltoluene	8.7		2.0	ug/L	10.0	ND	87	70-140	10	20
Methyl tert-butyl ether (MTBE)	10.4		2.0	ug/L	10.0	ND	104	70-140	10	20
4-Methyl-2-pentanone	11.0		10.0	ug/L	10.0	ND	110	25-150		30
Methylene chloride	12.3		5.0	ug/L	10.0	1.3	110	25-150	11	30
Naphthalene	8.4		2.0	ug/L	10.0	ND	84	70-140	12	20
n-Propylbenzene	10.2		2.0	ug/L	10.0	ND	102	70-140	14	20
Styrene	9.4		2.0	ug/L	10.0	ND	94	70-140	17	20
1,1,1,2-Tetrachloroethane	10.3		2.0	ug/L	10.0	ND	103	70-140	9	20
1,1,2,2-Tetrachloroethane	11.0		2.0	ug/L	10.0	ND	110	70-140	13	20
Tetrachloroethene	10.0		2.0	ug/L	10.0	ND	100	70-140	8	20
Toluene	10.6		2.0	ug/L	10.0	ND	106	70-140	13	20
1,2,3-Trichlorobenzene	8.8		2.0	ug/L	10.0	ND	88	70-140	11	20
1,2,4-Trichlorobenzene	8.7		2.0	ug/L	10.0	ND	87	70-140	11	20
1,1,1-Trichloroethane	11.2		2.0	ug/L	10.0	ND	112	70-140	12	20
1,1,2-Trichloroethane	10.7		2.0	ug/L	10.0	ND	107	70-140	13	20
Trichloroethene	11.5		2.0	ug/L	10.0	ND	115	70-140	13	20
Trichlorofluoromethane (Freon 11)	11.4		2.0	ug/L	10.0	ND	114	70-140	9	20
1,2,3-Trichloropropane	10.0		2.0	ug/L	10.0	ND	100	70-140	11	20
1,2,4-Trimethylbenzene	9.0		2.0	ug/L	10.0	ND	90	70-140	12	20
1,3,5-Trimethylbenzene	9.3		2.0	ug/L	10.0	ND	93	70-140	11	20
Vinyl chloride	10.9		2.0	ug/L	10.0	ND	109	25-150	13	30
o-Xylene	10.4		2.0	ug/L	10.0	ND	104	70-140	12	20
m- & p-Xylenes	20.0		2.0	ug/L	20.0	ND	100	70-140	10	20
Xylenes, Total	30.3		2.0	ug/L	30.0	ND	101	70-140	11	20
Surrogate: 1,2-Dichloroethane-d4	*49.98*			ug/L	*50.0*		*100*	*75-120*		
Surrogate: Toluene-d8	*46.30*			ug/L	*50.0*		*93*	*75-120*		
Surrogate: 4-Bromofluorobenzene	*49.01*			ug/L	*50.0*		*98*	*78-110*		

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

EDB AND DBCP BY EPA 504.1 (MICROEXTRACTION/GC/ECD) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909114 - 504.1 EDB/DBCP										
Blank (B909114-BLK1)					Prepared & Analyzed: 09/10/19					
1,2-Dibromo-3-chloropropane	0.056		0.050	ug/L						
1,2-Dibromoethane (EDB)	ND		0.020	ug/L						

Rabecka Koons

Rabecka Koons, Quality Assurance Officer

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909099 - 3510-GCMS(Sep Funnel) Acid 1st										
Blank (B909099-BLK1)					Prepared: 09/09/19 Analyzed: 09/10/19					
Acenaphthene	ND		5.0	ug/L						
Acenaphthylene	ND		5.0	ug/L						
Anthracene	ND		5.0	ug/L						
Atrazine	ND		5.0	ug/L						
Benzaldehyde	ND		5.0	ug/L						
Benzidine	ND		25.0	ug/L						
Benzo[a]anthracene	ND		5.0	ug/L						
Benzo[b]fluoranthene	ND		5.0	ug/L						
Benzo[k]fluoranthene	ND		5.0	ug/L						
Benzo[ghi]perylene	ND		5.0	ug/L						
Benzo[a]pyrene	ND		5.0	ug/L						
4-Bromophenyl phenyl ether	ND		5.0	ug/L						
Butyl benzyl phthalate	ND		5.0	ug/L						
Carbazole	ND		5.0	ug/L						
4-Chloro-3-methylphenol	ND		5.0	ug/L						
4-Chloroaniline	ND		5.0	ug/L						
Bis(2-chloroethoxy)methane	ND		5.0	ug/L						
Bis(2-chloroethyl) ether	ND		5.0	ug/L						
2,2'-Oxybis(1-Chloropropane)	ND		5.0	ug/L						
2-Chloronaphthalene	ND		5.0	ug/L						
2-Chlorophenol	ND		5.0	ug/L						
4-Chlorophenyl phenyl ether	ND		5.0	ug/L						
Chrysene	ND		5.0	ug/L						
Di-n-butyl phthalate	ND		5.0	ug/L						
Di-n-octyl phthalate	ND		5.0	ug/L						
Dibenzo[a,h]anthracene	ND		5.0	ug/L						
Dibenzofuran	ND		5.0	ug/L						
1,2-Dichlorobenzene	ND		5.0	ug/L						
1,3-Dichlorobenzene	ND		5.0	ug/L						
1,4-Dichlorobenzene	ND		5.0	ug/L						
3,3-Dichlorobenzidine	ND		10.0	ug/L						

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Project Manager: Adam Flora

Reported:
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SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909099 - 3510-GCMS(Sep Funnel) Acid 1st										
Blank (B909099-BLK1)					Prepared: 09/09/19 Analyzed: 09/10/19					
2,4-Dichlorophenol	ND		5.0	ug/L						
Diethyl phthalate	ND		5.0	ug/L						
Dimethyl phthalate	ND		5.0	ug/L						
2,4-Dimethylphenol	ND		5.0	ug/L						
2-Methyl-4,6-dinitrophenol	ND		25.0	ug/L						
2,4-Dinitrophenol	ND		25.0	ug/L						
2,4-Dinitrotoluene	ND		5.0	ug/L						
2,6-Dinitrotoluene	ND		5.0	ug/L						
Bis(2-ethylhexyl) phthalate	ND		5.0	ug/L						
Fluoranthene	ND		5.0	ug/L						
Fluorene	ND		5.0	ug/L						
Hexachlorobenzene	ND		5.0	ug/L						
Hexachlorobutadiene	ND		5.0	ug/L						
Hexachlorocyclopentadiene	ND		5.0	ug/L						
Hexachloroethane	ND		5.0	ug/L						
Indeno[1,2,3-cd]pyrene	ND		5.0	ug/L						
Isophorone	ND		5.0	ug/L						
2-Methylnaphthalene	ND		5.0	ug/L						
3&4-Methylphenol	ND		5.0	ug/L						
2-Methylphenol	ND		5.0	ug/L						
N-Nitroso-di-n-propylamine	ND		5.0	ug/L						
N-Nitrosodiphenylamine	ND		5.0	ug/L						
Naphthalene	ND		5.0	ug/L						
2-Nitroaniline	ND		25.0	ug/L						
3-Nitroaniline	ND		25.0	ug/L						
4-Nitroaniline	ND		25.0	ug/L						
Nitrobenzene	ND		5.0	ug/L						
2-Nitrophenol	ND		5.0	ug/L						
4-Nitrophenol	ND		25.0	ug/L						
Pentachlorophenol	ND		25.0	ug/L						
Phenanthrene	ND		5.0	ug/L						

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Project Manager: Adam Flora

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SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909099 - 3510-GCMS(Sep Funnel) Acid 1st										
Blank (B909099-BLK1)					Prepared: 09/09/19 Analyzed: 09/10/19					
Phenol	ND		5.0	ug/L						
Pyrene	ND		5.0	ug/L						
Pyridine	ND		5.0	ug/L						
1,2,4-Trichlorobenzene	ND		5.0	ug/L						
2,4,5-Trichlorophenol	ND		5.0	ug/L						
2,4,6-Trichlorophenol	ND		5.0	ug/L						
Tentatively Identified Compounds (TICs)	0.0			ug/L						
Surrogate: 2-Fluorophenol	*56.1*			mg/L	*200*		*28*	*21-110*		
Surrogate: Phenol-d5	*39.0*			mg/L	*200*		*19*	*10-110*		
Surrogate: Nitrobenzene-d5	*39.8*			mg/L	*100*		*40*	*35-114*		
Surrogate: 2,4,6-Tribromophenol	*76.3*			mg/L	*200*		*38*	*10-123*		
Surrogate: 2-Fluorobiphenyl	*38.7*	*S-BN*		mg/L	*100*		*39*	*43-116*		
Surrogate: Terphenyl-d14	*40.7*			mg/L	*100*		*41*	*33-141*		
LCS (B909099-BS1)					Prepared: 09/09/19 Analyzed: 09/10/19					
Acenaphthene	9.0		5.0	ug/L	10.0		90	50-110		
Acenaphthylene	8.9		5.0	ug/L	10.0		89	50-110		
Anthracene	9.0		5.0	ug/L	10.0		90	50-110		
Benzidine	12.4	J	25.0	ug/L	20.0		62	20-110		
Benzo[a]anthracene	8.6		5.0	ug/L	10.0		86	50-110		
Benzo[b]fluoranthene	8.3		5.0	ug/L	10.0		83	50-110		
Benzo[k]fluoranthene	9.7		5.0	ug/L	10.0		97	50-110		
Benzo[ghi]perylene	8.8		5.0	ug/L	10.0		88	50-110		
Benzo[a]pyrene	9.6		5.0	ug/L	10.0		96	50-110		
4-Bromophenyl phenyl ether	9.0		5.0	ug/L	10.0		90	50-110		
Butyl benzyl phthalate	9.6		5.0	ug/L	10.0		96	50-110		
Carbazole	9.0		5.0	ug/L	10.0		90	50-110		
4-Chloro-3-methylphenol	9.0		5.0	ug/L	10.0		90	50-110		
4-Chloroaniline	8.4		5.0	ug/L	10.0		84	50-110		
Bis(2-chloroethoxy)methane	8.7		5.0	ug/L	10.0		87	50-110		
Bis(2-chloroethyl) ether	9.8		5.0	ug/L	10.0		98	50-110		
2,2'-Oxybis(1-Chloropropane)	8.9		5.0	ug/L	10.0		89	50-110		

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

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SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909099 - 3510-GCMS(Sep Funnel) Acid 1st										
LCS (B909099-BS1)					Prepared: 09/09/19 Analyzed: 09/10/19					
2-Chloronaphthalene	8.8		5.0	ug/L	10.0		88	50-110		
2-Chlorophenol	8.4		5.0	ug/L	10.0		84	50-110		
4-Chlorophenyl phenyl ether	9.4		5.0	ug/L	10.0		94	50-110		
Chrysene	9.0		5.0	ug/L	10.0		90	50-110		
Di-n-butyl phthalate	9.5		5.0	ug/L	10.0		95	50-110		
Di-n-octyl phthalate	9.6		5.0	ug/L	10.0		96	50-110		
Dibenzo[a,h]anthracene	8.6		5.0	ug/L	10.0		86	50-110		
Dibenzofuran	9.0		5.0	ug/L	10.0		90	50-110		
1,2-Dichlorobenzene	8.0		5.0	ug/L	10.0		80	50-110		
1,3-Dichlorobenzene	8.1		5.0	ug/L	10.0		81	50-110		
1,4-Dichlorobenzene	8.3		5.0	ug/L	10.0		83	50-110		
3,3-Dichlorobenzidine	17.4		10.0	ug/L	20.0		87	20-110		
2,4-Dichlorophenol	9.0		5.0	ug/L	10.0		90	50-110		
Diethyl phthalate	9.1		5.0	ug/L	10.0		91	50-110		
Dimethyl phthalate	9.1		5.0	ug/L	10.0		91	50-110		
2,4-Dimethylphenol	9.1		5.0	ug/L	10.0		91	50-110		
2-Methyl-4,6-dinitrophenol	8.6	J	25.0	ug/L	10.0		86	20-110		
2,4-Dinitrophenol	5.0	J	25.0	ug/L	10.0		50	20-110		
2,4-Dinitrotoluene	8.7		5.0	ug/L	10.0		87	50-110		
2,6-Dinitrotoluene	8.4		5.0	ug/L	10.0		84	50-110		
Bis(2-ethylhexyl) phthalate	9.1		5.0	ug/L	10.0		91	50-110		
Fluoranthene	9.2		5.0	ug/L	10.0		92	50-110		
Fluorene	9.5		5.0	ug/L	10.0		95	50-110		
Hexachlorobenzene	8.5		5.0	ug/L	10.0		85	50-110		
Hexachlorobutadiene	8.8		5.0	ug/L	10.0		88	50-110		
Hexachlorocyclopentadiene	7.6		5.0	ug/L	10.0		76	10-110		
Hexachloroethane	8.2		5.0	ug/L	10.0		82	50-110		
Indeno[1,2,3-cd]pyrene	8.1		5.0	ug/L	10.0		81	50-110		
Isophorone	8.9		5.0	ug/L	10.0		89	50-110		
2-Methylnaphthalene	8.6		5.0	ug/L	10.0		86	50-110		
3&4-Methylphenol	7.9		5.0	ug/L	10.0		79	50-110		

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909099 - 3510-GCMS(Sep Funnel) Acid 1st										
LCS (B909099-BS1)					Prepared: 09/09/19 Analyzed: 09/10/19					
2-Methylphenol	8.0		5.0	ug/L	10.0		80	50-110		
N-Nitroso-di-n-propylamine	9.4		5.0	ug/L	10.0		94	50-110		
N-Nitrosodiphenylamine	9.0		5.0	ug/L	10.0		90	50-110		
Naphthalene	8.5		5.0	ug/L	10.0		85	50-110		
2-Nitroaniline	9.0	J	25.0	ug/L	10.0		90	40-110		
3-Nitroaniline	8.3	J	25.0	ug/L	10.0		83	40-110		
4-Nitroaniline	8.8	J	25.0	ug/L	10.0		88	40-110		
Nitrobenzene	9.1		5.0	ug/L	10.0		91	50-110		
2-Nitrophenol	8.4		5.0	ug/L	10.0		84	50-110		
4-Nitrophenol	4.6	J	25.0	ug/L	10.0		46	20-110		
Pentachlorophenol	5.6	J	25.0	ug/L	10.0		56	10-110		
Phenanthrene	9.1		5.0	ug/L	10.0		91	50-110		
Phenol	4.3	J	5.0	ug/L	10.0		43	20-110		
Pyrene	8.8		5.0	ug/L	10.0		88	50-110		
Pyridine	4.8	J	5.0	ug/L	10.0		48	20-110		
1,2,4-Trichlorobenzene	8.1		5.0	ug/L	10.0		81	50-110		
2,4,5-Trichlorophenol	8.5		5.0	ug/L	10.0		85	50-110		
2,4,6-Trichlorophenol	9.0		5.0	ug/L	10.0		90	50-110		
Surrogate: 2-Fluorophenol	*59.4*			mg/L	*200*		*30*	*21-110*		
Surrogate: Phenol-d5	*41.5*			mg/L	*200*		*21*	*10-110*		
Surrogate: Nitrobenzene-d5	*40.8*			mg/L	*100*		*41*	*35-114*		
Surrogate: 2,4,6-Tribromophenol	*78.8*			mg/L	*200*		*39*	*10-123*		
Surrogate: 2-Fluorobiphenyl	*40.6*	*S-BN*		mg/L	*100*		*41*	*43-116*		
Surrogate: Terphenyl-d14	*41.4*			mg/L	*100*		*41*	*33-141*		
Matrix Spike (B909099-MS1)		**Source: 9090603-01**			Prepared: 09/09/19 Analyzed: 09/10/19					
Acenaphthene	7.6		4.6	ug/L	9.22	ND	82	46-118		
Acenaphthylene	7.8		4.6	ug/L	9.22	ND	84	50-130		
Anthracene	8.4		4.6	ug/L	9.22	ND	91	50-130		
Benzidine	11.0	J	23.0	ug/L	18.4	ND	60	20-130		
Benzo[a]anthracene	8.0		4.6	ug/L	9.22	ND	86	50-130		
Benzo[b]fluoranthene	7.9		4.6	ug/L	9.22	ND	86	50-130		

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909099 - 3510-GCMS(Sep Funnel) Acid 1st										
Matrix Spike (B909099-MS1)			**Source: 9090603-01**		Prepared: 09/09/19 Analyzed: 09/10/19					
Benzo[k]fluoranthene	9.2		4.6	ug/L	9.22	ND	100	50-130		
Benzo[ghi]perylene	7.9		4.6	ug/L	9.22	ND	86	50-130		
Benzo[a]pyrene	8.8		4.6	ug/L	9.22	ND	95	50-130		
4-Bromophenyl phenyl ether	8.1		4.6	ug/L	9.22	ND	88	50-130		
Butyl benzyl phthalate	9.0		4.6	ug/L	9.22	ND	98	50-130		
Carbazole	8.4		4.6	ug/L	9.22	ND	91	50-130		
4-Chloro-3-methylphenol	8.2		4.6	ug/L	9.22	ND	89	23-97		
4-Chloroaniline	7.3		4.6	ug/L	9.22	ND	80	50-130		
Bis(2-chloroethoxy)methane	7.7		4.6	ug/L	9.22	ND	84	50-130		
Bis(2-chloroethyl) ether	7.4		4.6	ug/L	9.22	ND	80	50-130		
2,2'-Oxybis(1-Chloropropane)	8.2		4.6	ug/L	9.22	ND	89	50-130		
2-Chloronaphthalene	7.1		4.6	ug/L	9.22	ND	78	50-130		
2-Chlorophenol	7.4		4.6	ug/L	9.22	ND	80	27-123		
4-Chlorophenyl phenyl ether	8.4		4.6	ug/L	9.22	ND	91	50-130		
Chrysene	8.2		4.6	ug/L	9.22	ND	89	50-130		
Di-n-butyl phthalate	8.7		4.6	ug/L	9.22	ND	95	50-130		
Di-n-octyl phthalate	8.7		4.6	ug/L	9.22	ND	94	50-130		
Dibenzo[a,h]anthracene	8.0		4.6	ug/L	9.22	ND	86	50-130		
Dibenzofuran	8.0		4.6	ug/L	9.22	ND	87	50-130		
1,2-Dichlorobenzene	6.1		4.6	ug/L	9.22	ND	66	50-130		
1,3-Dichlorobenzene	6.2		4.6	ug/L	9.22	ND	68	50-130		
1,4-Dichlorobenzene	6.1		4.6	ug/L	9.22	ND	67	50-130		
3,3-Dichlorobenzidine	16.3		9.2	ug/L	18.4	ND	89	20-130		
2,4-Dichlorophenol	7.4		4.6	ug/L	9.22	ND	80	50-130		
Diethyl phthalate	8.5		4.6	ug/L	9.22	ND	92	50-130		
Dimethyl phthalate	7.9		4.6	ug/L	9.22	ND	86	50-130		
2,4-Dimethylphenol	8.0		4.6	ug/L	9.22	ND	87	50-130		
2-Methyl-4,6-dinitrophenol	7.9	J	23.0	ug/L	9.22	ND	86	20-130		
2,4-Dinitrophenol	5.4	J	23.0	ug/L	9.22	ND	59	20-130		
2,4-Dinitrotoluene	8.5		4.6	ug/L	9.22	ND	92	24-96		
2,6-Dinitrotoluene	7.9		4.6	ug/L	9.22	ND	86	50-130		

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909099 - 3510-GCMS(Sep Funnel) Acid 1st										
Matrix Spike (B909099-MS1)		**Source: 9090603-01**		Prepared: 09/09/19 Analyzed: 09/10/19						
Bis(2-ethylhexyl) phthalate	8.7		4.6	ug/L	9.22	ND	94	50-130		
Fluoranthene	8.5		4.6	ug/L	9.22	ND	92	50-130		
Fluorene	8.5		4.6	ug/L	9.22	ND	92	50-130		
Hexachlorobenzene	7.9		4.6	ug/L	9.22	ND	86	50-130		
Hexachlorobutadiene	6.0		4.6	ug/L	9.22	ND	65	50-130		
Hexachlorocyclopentadiene	5.4		4.6	ug/L	9.22	ND	59	20-130		
Hexachloroethane	6.2		4.6	ug/L	9.22	ND	68	50-130		
Indeno[1,2,3-cd]pyrene	7.6		4.6	ug/L	9.22	ND	82	50-130		
Isophorone	7.9		4.6	ug/L	9.22	ND	86	50-130		
2-Methylnaphthalene	6.9		4.6	ug/L	9.22	ND	75	50-130		
3&4-Methylphenol	6.7		4.6	ug/L	9.22	ND	73	50-130		
2-Methylphenol	6.7		4.6	ug/L	9.22	ND	73	50-130		
N-Nitroso-di-n-propylamine	8.5		4.6	ug/L	9.22	ND	92	41-116		
N-Nitrosodiphenylamine	8.3		4.6	ug/L	9.22	ND	90	50-130		
Naphthalene	6.8		4.6	ug/L	9.22	ND	74	50-130		
2-Nitroaniline	8.1	J	23.0	ug/L	9.22	ND	88	20-130		
3-Nitroaniline	7.9	J	23.0	ug/L	9.22	ND	86	20-130		
4-Nitroaniline	8.4	J	23.0	ug/L	9.22	ND	92	20-130		
Nitrobenzene	7.9		4.6	ug/L	9.22	ND	86	50-130		
2-Nitrophenol	7.3		4.6	ug/L	9.22	ND	79	50-130		
4-Nitrophenol	3.5	J	23.0	ug/L	9.22	ND	38	10-80		
Pentachlorophenol	4.9	J	23.0	ug/L	9.22	ND	53	9-103		
Phenanthrene	8.3		4.6	ug/L	9.22	ND	90	50-130		
Phenol	3.4	J	4.6	ug/L	9.22	ND	37	12-110		
Pyrene	8.2		4.6	ug/L	9.22	ND	89	26-127		
Pyridine	4.0	J	4.6	ug/L	9.22	ND	43	20-130		
1,2,4-Trichlorobenzene	6.3		4.6	ug/L	9.22	ND	68	50-130		
2,4,5-Trichlorophenol	7.6		4.6	ug/L	9.22	ND	83	50-130		
2,4,6-Trichlorophenol	7.4		4.6	ug/L	9.22	ND	80	50-130		
Surrogate: 2-Fluorophenol	*49.0*			mg/L	*200*		*25*	*21-110*		
Surrogate: Phenol-d5	*31.4*			mg/L	*200*		*16*	*10-110*		

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Rabecka Koons, Quality Assurance Officer

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
MD DW LabID 153

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

SEMIVOLATILE ORGANICS BY EPA METHOD 8270D (GC/MS) - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909099 - 3510-GCMS(Sep Funnel) Acid 1st										
Matrix Spike (B909099-MS1)			**Source: 9090603-01**		Prepared: 09/09/19 Analyzed: 09/10/19					
Surrogate: Nitrobenzene-d5	*37.0*			mg/L	*100*		*37*	*35-114*		
Surrogate: 2,4,6-Tribromophenol	*75.4*			mg/L	*200*		*38*	*10-123*		
Surrogate: 2-Fluorobiphenyl	*36.6*	*S-BN*		mg/L	*100*		*37*	*43-116*		
Surrogate: Terphenyl-d14	*39.8*			mg/L	*100*		*40*	*33-141*		

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Rabecka Koons, Quality Assurance Officer

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Baltimore MD 21227
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MD DW LabID 153

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

GASOLINE RANGE ORGANICS BY EPA 8015C - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909092 - GC-WATER-VOLATILES										
Blank (B909092-BLK1)					Prepared & Analyzed: 09/09/19					
Gasoline-Range Organics	ND		100	ug/L						
Surrogate: a,a,a-Trifluorotoluene	*383*			ug/L	*400*		*96*	*85-115*		
Surrogate: a,a,a-Trifluorotoluene [2C]	*391*			ug/L	*400*		*98*	*85-115*		
LCS (B909092-BS1)					Prepared & Analyzed: 09/09/19					
Gasoline-Range Organics	174		100	ug/L	145		120	70-130		
Surrogate: a,a,a-Trifluorotoluene	*393*			ug/L	*400*		*98*	*85-115*		
Surrogate: a,a,a-Trifluorotoluene [2C]	*398*			ug/L	*400*		*100*	*85-115*		
Duplicate (B909092-DUP1)		**Source: 9090602-01**			Prepared & Analyzed: 09/09/19					
Gasoline-Range Organics	ND		100	ug/L		ND				20
Surrogate: a,a,a-Trifluorotoluene	*388*			ug/L	*400*		*97*	*85-115*		
Surrogate: a,a,a-Trifluorotoluene [2C]	*391*			ug/L	*400*		*98*	*85-115*		
Matrix Spike (B909092-MS1)		**Source: 9090602-01**			Prepared & Analyzed: 09/09/19					
Gasoline-Range Organics	151		100	ug/L	145	ND	104	70-130		
Surrogate: a,a,a-Trifluorotoluene	*390*			ug/L	*400*		*97*	*85-115*		
Surrogate: a,a,a-Trifluorotoluene [2C]	*397*			ug/L	*400*		*99*	*85-115*		

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

DISSOLVED METALS ANALYSIS BY EPA 200.8 - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909095 - 3010A-Metals Digestion (Dissolved)										
Blank (B909095-BLK1)					Prepared: 09/09/19	Analyzed: 09/10/19				
Lead	ND		1.00	ug/L						
LCS (B909095-BS1)					Prepared: 09/09/19	Analyzed: 09/10/19				
Lead	46.9		1.00	ug/L	50.0		94	80-120		
Duplicate (B909095-DUP1)		**Source: 9090603-01**			Prepared: 09/09/19	Analyzed: 09/10/19				
Lead	ND		1.00	ug/L		ND				20
Matrix Spike (B909095-MS1)		**Source: 9090603-01**			Prepared: 09/09/19	Analyzed: 09/10/19				
Lead	46.1		1.00	ug/L	50.0	ND	92	80-120		

Rabecka Koons

Rabecka Koons, Quality Assurance Officer

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

TOTAL METALS ANALYSIS BY EPA 200.8 - Quality Control

Analyte	Result	Notes	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B909098 - 3010A-Metals Digestion										
Blank (B909098-BLK1)					Prepared: 09/09/19	Analyzed: 09/10/19				
Lead	ND		1.00	ug/L						
LCS (B909098-BS1)					Prepared: 09/09/19	Analyzed: 09/10/19				
Lead	46.9		1.00	ug/L	50.0		94	80-120		
Duplicate (B909098-DUP1)		**Source: 9090616-01**			Prepared: 09/09/19	Analyzed: 09/10/19				
Lead	ND		1.00	ug/L		ND				20
Matrix Spike (B909098-MS1)		**Source: 9090616-01**			Prepared: 09/09/19	Analyzed: 09/10/19				
Lead	45.6		1.00	ug/L	50.0	ND	91	80-120		

Rabecka Koons

Rabecka Koons, Quality Assurance Officer

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/10/19 17:24

Notes and Definitions

S-BN	Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.
J	Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
%-Solids	Percent Solids is a supportive test and as such does not require accredidation

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Rabecka Koons, Quality Assurance Officer

CHAIN-OF-CUSTODY RECORD

Company Name: Greene Environmental Services

Project Manager: Adam Flora/Trev Greene

Project Name: Chamblissburg Supply

Project ID: CSVI1005

Sampler(s): AF

P.O. Number:

Maryland Spectral Services, Inc.
1500 Caton Center Drive, Suite G
Baltimore, MD 21227
410–247–7600 • Fax 410–247–7602
labman@mdspectral.com

Matrix Codes: NW (nonpotable water)
PW (potable water)

Analysis Requested

Field Sample ID	Date	Time	Water	Soil	Other	No. of Containers	TPH-GRO via 8015	VOCs + oxygenates via 8260	SVOCs via 8270	EDB/DBCP via 504.1	Total Lead via 200.8	Dissolved Lead via 200.8					Preservative: 1+1 HCL, H_2SO_4, Methanol, $Na_2S_2O_3$, $NaHCO_3$	Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank	MSS Lab ID
MW15	9/4/19	1655	X			12	X	X	X	X	X	X					HCL, Nitric, Ice		9090603-01

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
(Printed) Adam Flora	9-5-19 1500	*(Printed)*	*(Printed)*		*(Printed)*
Relinquished by: *(Signature)*	Date/Time	Received by Lab: *(Signature)*			
(Printed)	9/6/19 850	*(Printed)* Kim Dinh			

Turn Around Time:

- ☐ Normal (7 day)
- ☐ 5 day
- ☐ 4 day
- ☐ 3 day
- X Rush (2 day)
- ☐ Next Day
- ☐ Other: _____
- ☐ Specific Due Date: _____

Lab Use:

Temp: 2.9 °C
- ☑ Received on Ice
- ☐ Received same day
- ☐ Preservation Appropriate

Delivery Method:

- ☐ Courier
- ☐ Client
- ☐ UPS
- X FedEx
- ☐ USPS
- ☐ Other:_____

Special Instructions/QC Requirements & Comments:

48-HR TAT
Amber liters unpreserved (2)
40 mL HCL VOAs (6)
40 mL VOAs unpreserved (2)
250 plastic nitric (1)
250 plastic nitric field filtered (1)

Sample Disposal:

- ☐ Return to Client
- ☐ Disposal by lab
- ☐ Archive for _____ days

Maryland spectral Services

Analytical Chemistry Services

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
VELAP ID 460040

25 September 2019

Adam Flora
Greene Environmental Services LLC
570 Redbud Hill Rd
Rocky Mount, VA 24151
RE: CHAMBLISSBURG SUPPLY

Enclosed are the results of analyses for samples received by the laboratory on 09/19/19 08:49.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Will Brewington
President

Maryland spectral Services

Analytical Chemistry Services

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/25/19 10:35

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW15		9091901-01	Nonpotable Water	09/18/19 12:55	09/19/19 08:49

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Will Brewington, President

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Maryland spectral Services

Analytical Chemistry Services

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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/25/19 10:35

MW15

9091901-01 (Nonpotable Water)
Sample Date: 09/18/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES									
Acetone	ND		ug/L	10.0	10.0	1	09/23/19	09/23/19 01:30	GM
tert-Amyl alcohol (TAA)	**23.1**		ug/L	20.0	20.0	1	09/23/19	09/23/19 01:30	GM
tert-Amyl methyl ether (TAME)	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Benzene	**1.6**	J	ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Bromobenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Bromochloromethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Bromodichloromethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Bromoform	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Bromomethane	ND		ug/L	5.0	5.0	1	09/23/19	09/23/19 01:30	GM
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	09/23/19	09/23/19 01:30	GM
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	09/23/19	09/23/19 01:30	GM
n-Butylbenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
sec-Butylbenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
tert-Butylbenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Carbon disulfide	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Carbon tetrachloride	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Chlorobenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Chloroethane	ND		ug/L	5.0	5.0	1	09/23/19	09/23/19 01:30	GM
Chloroform	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Chloromethane	ND		ug/L	5.0	5.0	1	09/23/19	09/23/19 01:30	GM
2-Chlorotoluene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
4-Chlorotoluene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Dibromochloromethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,2-Dibromo-3-chloropropane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,2-Dibromoethane (EDB)	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Dibromomethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,2-Dichlorobenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,3-Dichlorobenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,4-Dichlorobenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Dichlorodifluoromethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,1-Dichloroethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,2-Dichloroethane	**1.0**	J	ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,1-Dichloroethene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM

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Will Brewington, President

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Maryland spectral Services

Analytical Chemistry Services

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Baltimore MD 21227
410-247-7600
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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/25/19 10:35

MW15

9091901-01 (Nonpotable Water)
Sample Date: 09/18/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES (conti									
cis-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
trans-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Dichlorofluoromethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,2-Dichloropropane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,3-Dichloropropane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
2,2-Dichloropropane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,1-Dichloropropene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
cis-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
trans-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Diisopropyl ether (DIPE)	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Ethylbenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Hexachlorobutadiene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
2-Hexanone	ND		ug/L	10.0	10.0	1	09/23/19	09/23/19 01:30	GM
Isopropylbenzene (Cumene)	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
4-Isopropyltoluene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Methyl tert-butyl ether (MTBE)	**3.7**		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	09/23/19	09/23/19 01:30	GM
Methylene chloride	ND		ug/L	10.0	10.0	1	09/23/19	09/23/19 01:30	GM
Naphthalene	ND		ug/L	2.0	2.0	1	09/23/19	09/23/19 01:30	GM
n-Propylbenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Styrene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,1,1,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,1,2,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Tetrachloroethene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Toluene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,2,3-Trichlorobenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,2,4-Trichlorobenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,1,1-Trichloroethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,1,2-Trichloroethane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Trichloroethene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Trichlorofluoromethane (Freon 11)	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,2,3-Trichloropropane	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM

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Will Brewington, President

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410-247-7600
www.mdspectral.com

Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/25/19 10:35

MW15

9091901-01 (Nonpotable Water)
Sample Date: 09/18/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES (conti									
1,2,4-Trimethylbenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
1,3,5-Trimethylbenzene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Vinyl chloride	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
o-Xylene	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
m- & p-Xylenes	ND		ug/L	2.0	1.0	1	09/23/19	09/23/19 01:30	GM
Surrogate: 1,2-Dichloroethane-d4			*75-120*	*110 %*	*09/23/19*		*09/23/19 01:30*		
Surrogate: Toluene-d8			*75-120*	*99 %*	*09/23/19*		*09/23/19 01:30*		
Surrogate: 4-Bromofluorobenzene			*78-110*	*90 %*	*09/23/19*		*09/23/19 01:30*		

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Will Brewington, President

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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1005
Project Manager: Adam Flora

Reported:
09/25/19 10:35

Notes and Definitions

J	Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
%-Solids	Percent Solids is a supportive test and as such does not require accreditation

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Will Brewington, President

All analyses performed at Maryland Spectral Services included in the report are TNI certified except as indicated at the end of the report.

CHAIN-OF-CUSTODY RECORD

Company Name: Greene Environmental Services

Project Manager: Adam Flora/Trev Greene

Project Name: Chamblissburg Supply

Project ID: CSVI1005

Sampler(s): AF

P.O. Number:

Maryland Spectral Services, Inc.
1500 Caton Center Drive, Suite G
Baltimore, MD 21227
410–247–7600 • Fax 410–247–7602
labman@mdspectral.com

Matrix Codes: NW (nonpotable water)
PW (potable water)

Analysis Requested

Field Sample ID	Date	Time	Water	Soil	Other	No. of Containers	VOCs + oxygenates via 8260										Preservative: 1+1 HCL, H_2SO_4, Methanol, $Na_2S_2O_3$, $NaHCO_3$	Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank	MSS Lab ID
MW15	9/18/19	1255	X			3	X										HCL		9091901-01 ABC

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
(Printed)		*(Printed)*	*(Printed)*		*(Printed)*

Relinquished by: *(Signature)*	Date/Time	Received by Lab: *(Signature)*
Fed Ex	8:49 9-19-19	K. McAdoo
(Printed)		*(Printed)* Karla McAdoo

Turn Around Time:

- X Normal (7 day)
- ☐ 5 day
- ☐ 4 day
- ☐ 3 day
- ☐ Rush (2 day)
- ☐ Next Day
- ☐ Other: _____
- ☐ Specific Due Date: _____

Lab Use:

Temp: 4.9 °C

- ☒ Received on Ice
- ☐ Received same day
- ☐ Preservation Appropriate

Delivery Method:

- Courier
- Client
- UPS
- FedEx
- USPS
- Other: _____

Special Instructions/QC Requirements & Comments:

Sample Disposal:

- ☐ Return to Client
- ☐ Disposal by lab
- ☐ Archive for _____ days

MSS-F001-03/13

Maryland spectral Services

Analytical Chemistry Services

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com
VELAP ID 460040

29 October 2019

Adam Flora
Greene Environmental Services LLC
570 Redbud Hill Rd
Rocky Mount, VA 24151
RE: CHAMBLISSBURG SUPPLY

Enclosed are the results of analyses for samples received by the laboratory on 10/17/19 16:21.

Maryland Spectral Services, Inc. is a TNI 2009 Standard accredited laboratory and as such, all analyses performed at Maryland Spectral Services included in this report are 2009 TNI certified except as indicated at the end of this report. Please visit our website at www.mdspectral.com for a complete listing of our TNI 2009 Standard accreditations.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Will Brewington
President

Maryland spectral Services

Analytical Chemistry Services

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW01		9101713-01	Nonpotable Water	10/14/19 10:15	10/17/19 16:21
MW02		9101713-02	Nonpotable Water	10/14/19 10:40	10/17/19 16:21
MW03		9101713-03	Nonpotable Water	10/14/19 11:45	10/17/19 16:21
MW04		9101713-04	Nonpotable Water	10/14/19 11:45	10/17/19 16:21
MW05		9101713-05	Nonpotable Water	10/14/19 08:30	10/17/19 16:21
MW06		9101713-06	Nonpotable Water	10/14/19 08:55	10/17/19 16:21
MW07		9101713-07	Nonpotable Water	10/14/19 09:30	10/17/19 16:21
MW08		9101713-08	Nonpotable Water	10/14/19 09:40	10/17/19 16:21
MW09		9101713-09	Nonpotable Water	10/14/19 09:55	10/17/19 16:21
MW10		9101713-10	Nonpotable Water	10/14/19 11:25	10/17/19 16:21
MW11		9101713-11	Nonpotable Water	10/14/19 11:05	10/17/19 16:21
DW01A		9101713-12	Nonpotable Water	10/14/19 16:05	10/17/19 16:21
DW01B		9101713-13	Nonpotable Water	10/14/19 16:30	10/17/19 16:21
DW02A		9101713-14	Nonpotable Water	10/14/19 09:16	10/17/19 16:21
DW02C		9101713-15	Nonpotable Water	10/14/19 09:45	10/17/19 16:21
DW03A		9101713-16	Nonpotable Water	10/14/19 08:30	10/17/19 16:21
DW03C		9101713-17	Nonpotable Water	10/14/19 08:15	10/17/19 16:21
DW04A		9101713-18	Nonpotable Water	10/14/19 10:25	10/17/19 16:21
DW04B		9101713-19	Nonpotable Water	10/14/19 10:50	10/17/19 16:21
DW05A		9101713-20	Nonpotable Water	10/14/19 14:40	10/17/19 16:21
DW06B		9101713-21	Nonpotable Water	10/14/19 14:00	10/17/19 16:21
DW06C		9101713-22	Nonpotable Water	10/14/19 13:50	10/17/19 16:21
DW07A		9101713-23	Nonpotable Water	10/14/19 14:25	10/17/19 16:21
DW09A		9101713-24	Nonpotable Water	10/14/19 11:47	10/17/19 16:21
DW09B		9101713-25	Nonpotable Water	10/14/19 11:45	10/17/19 16:21
DW10A		9101713-26	Nonpotable Water	10/14/19 15:05	10/17/19 16:21

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Maryland spectral Services

Analytical Chemistry Services

1500 Caton Center Dr Suite G
Baltimore MD 21227
410-247-7600
www.mdspectral.com

Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

Client Sample ID	Alternate Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DW11A		9101713-27	Nonpotable Water	10/14/19 15:20	10/17/19 16:21
DW33A		9101713-28	Nonpotable Water	10/14/19 14:10	10/17/19 16:21
DW33B		9101713-29	Nonpotable Water	10/14/19 14:25	10/17/19 16:21
ST01		9101713-30	Nonpotable Water	10/14/19 15:40	10/17/19 16:21
POND01		9101713-31	Nonpotable Water	10/14/19 15:50	10/17/19 16:21

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Baltimore MD 21227
410-247-7600
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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW01B

9101713-13 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
EDB AND DBCP BY EPA 504.1 (MICROEXTRACTION/GC/ECD) Prepared by 504.1 EDB/DBCP									
1,2-Dibromo-3-chloropropane	ND		ug/L	0.047	0.047	1	10/25/19	10/25/19 15:23	GM
1,2-Dibromoethane (EDB)	ND		ug/L	0.019	0.019	1	10/25/19	10/25/19 15:23	GM

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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW01B

9101713-13RE1 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES									**QC-6**
Acetone	ND		ug/L	10.0	10.0	1	10/29/19	10/29/19 15:37	GM
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	10/29/19	10/29/19 15:37	GM
tert-Amyl methyl ether (TAME)	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Benzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Bromobenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Bromochloromethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Bromodichloromethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Bromoform	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Bromomethane	ND		ug/L	5.0	5.0	1	10/29/19	10/29/19 15:37	GM
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	10/29/19	10/29/19 15:37	GM
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	10/29/19	10/29/19 15:37	GM
n-Butylbenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
sec-Butylbenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
tert-Butylbenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Carbon disulfide	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Carbon tetrachloride	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Chlorobenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Chloroethane	ND		ug/L	5.0	5.0	1	10/29/19	10/29/19 15:37	GM
Chloroform	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Chloromethane	ND		ug/L	5.0	5.0	1	10/29/19	10/29/19 15:37	GM
2-Chlorotoluene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
4-Chlorotoluene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Dibromochloromethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,2-Dibromo-3-chloropropane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,2-Dibromoethane (EDB)	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Dibromomethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,2-Dichlorobenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,3-Dichlorobenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,4-Dichlorobenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Dichlorodifluoromethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,1-Dichloroethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,2-Dichloroethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,1-Dichloroethene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW01B

9101713-13RE1 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES (conti									**QC-6**
cis-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
trans-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Dichlorofluoromethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,2-Dichloropropane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,3-Dichloropropane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
2,2-Dichloropropane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,1-Dichloropropene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
cis-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
trans-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Diisopropyl ether (DIPE)	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Ethylbenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Hexachlorobutadiene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
2-Hexanone	ND		ug/L	10.0	10.0	1	10/29/19	10/29/19 15:37	GM
Isopropylbenzene (Cumene)	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
4-Isopropyltoluene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Methyl tert-butyl ether (MTBE)	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	10/29/19	10/29/19 15:37	GM
Methylene chloride	ND		ug/L	10.0	10.0	1	10/29/19	10/29/19 15:37	GM
Naphthalene	ND		ug/L	2.0	2.0	1	10/29/19	10/29/19 15:37	GM
n-Propylbenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Styrene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,1,1,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,1,2,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Tetrachloroethene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Toluene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,2,3-Trichlorobenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,2,4-Trichlorobenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,1,1-Trichloroethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,1,2-Trichloroethane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Trichloroethene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Trichlorofluoromethane (Freon 11)	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,2,3-Trichloropropane	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM

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Will Brewington, President

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410-247-7600
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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW01B

9101713-13RE1 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES (conti									**QC-6**
1,2,4-Trimethylbenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
1,3,5-Trimethylbenzene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Vinyl chloride	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
o-Xylene	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
m- & p-Xylenes	ND		ug/L	2.0	1.0	1	10/29/19	10/29/19 15:37	GM
Surrogate: 1,2-Dichloroethane-d4			*75-120*	*102 %*	*10/29/19*		*10/29/19 15:37*		
Surrogate: Toluene-d8			*75-120*	*97 %*	*10/29/19*		*10/29/19 15:37*		
Surrogate: 4-Bromofluorobenzene			*78-110*	*99 %*	*10/29/19*		*10/29/19 15:37*		

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410-247-7600
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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW02C

9101713-15 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES									
Acetone	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 13:41	GM
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	10/25/19	10/25/19 13:41	GM
tert-Amyl methyl ether (TAME)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Benzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Bromobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Bromochloromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Bromodichloromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Bromoform	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Bromomethane	ND		ug/L	5.0	5.0	1	10/25/19	10/25/19 13:41	GM
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	10/25/19	10/25/19 13:41	GM
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 13:41	GM
n-Butylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
sec-Butylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
tert-Butylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Carbon disulfide	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Carbon tetrachloride	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Chlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Chloroethane	ND		ug/L	5.0	5.0	1	10/25/19	10/25/19 13:41	GM
Chloroform	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Chloromethane	ND		ug/L	5.0	5.0	1	10/25/19	10/25/19 13:41	GM
2-Chlorotoluene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
4-Chlorotoluene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Dibromochloromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,2-Dibromo-3-chloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,2-Dibromoethane (EDB)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Dibromomethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,2-Dichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,3-Dichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,4-Dichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Dichlorodifluoromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,1-Dichloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,2-Dichloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,1-Dichloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM

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Baltimore MD 21227
410-247-7600
www.mdspectral.com

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW02C

9101713-15 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES (conti									
cis-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
trans-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Dichlorofluoromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,2-Dichloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,3-Dichloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
2,2-Dichloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,1-Dichloropropene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
cis-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
trans-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Diisopropyl ether (DIPE)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Ethylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Hexachlorobutadiene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
2-Hexanone	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 13:41	GM
Isopropylbenzene (Cumene)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
4-Isopropyltoluene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Methyl tert-butyl ether (MTBE)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 13:41	GM
Methylene chloride	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 13:41	GM
Naphthalene	ND		ug/L	2.0	2.0	1	10/25/19	10/25/19 13:41	GM
n-Propylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Styrene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,1,1,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,1,2,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Tetrachloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Toluene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,2,3-Trichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,2,4-Trichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,1,1-Trichloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,1,2-Trichloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Trichloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Trichlorofluoromethane (Freon 11)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,2,3-Trichloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM

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Baltimore MD 21227
410-247-7600
www.mdspectral.com

Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW02C

9101713-15 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES (conti									
1,2,4-Trimethylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
1,3,5-Trimethylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Vinyl chloride	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
o-Xylene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
m- & p-Xylenes	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 13:41	GM
Surrogate: 1,2-Dichloroethane-d4			*75-120*	*107 %*	*10/25/19*		*10/25/19 13:41*		
Surrogate: Toluene-d8			*75-120*	*104 %*	*10/25/19*		*10/25/19 13:41*		
Surrogate: 4-Bromofluorobenzene			*78-110*	*94 %*	*10/25/19*		*10/25/19 13:41*		
EDB AND DBCP BY EPA 504.1 (MICROEXTRACTION/GC/ECD) Prepared by 504.1 EDB/DBCP									
1,2-Dibromo-3-chloropropane	ND		ug/L	0.047	0.047	1	10/25/19	10/25/19 16:19	GM
1,2-Dibromoethane (EDB)	ND		ug/L	0.019	0.019	1	10/25/19	10/25/19 16:19	GM

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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW03C

9101713-17 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES									
Acetone	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 14:31	GM
tert-Amyl alcohol (TAA)	ND		ug/L	20.0	20.0	1	10/25/19	10/25/19 14:31	GM
tert-Amyl methyl ether (TAME)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Benzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Bromobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Bromochloromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Bromodichloromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Bromoform	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Bromomethane	ND		ug/L	5.0	5.0	1	10/25/19	10/25/19 14:31	GM
tert-Butanol (TBA)	ND		ug/L	15.0	15.0	1	10/25/19	10/25/19 14:31	GM
2-Butanone (MEK)	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 14:31	GM
n-Butylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
sec-Butylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
tert-Butylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Carbon disulfide	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Carbon tetrachloride	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Chlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Chloroethane	ND		ug/L	5.0	5.0	1	10/25/19	10/25/19 14:31	GM
Chloroform	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Chloromethane	ND		ug/L	5.0	5.0	1	10/25/19	10/25/19 14:31	GM
2-Chlorotoluene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
4-Chlorotoluene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Dibromochloromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,2-Dibromo-3-chloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,2-Dibromoethane (EDB)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Dibromomethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,2-Dichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,3-Dichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,4-Dichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Dichlorodifluoromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,1-Dichloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,2-Dichloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,1-Dichloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM

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Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW03C

9101713-17 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES (conti									
cis-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
trans-1,2-Dichloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Dichlorofluoromethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,2-Dichloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,3-Dichloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
2,2-Dichloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,1-Dichloropropene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
cis-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
trans-1,3-Dichloropropene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Diisopropyl ether (DIPE)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Ethyl tert-butyl ether (ETBE)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Ethylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Hexachlorobutadiene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
2-Hexanone	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 14:31	GM
Isopropylbenzene (Cumene)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
4-Isopropyltoluene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Methyl tert-butyl ether (MTBE)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
4-Methyl-2-pentanone	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 14:31	GM
Methylene chloride	ND		ug/L	10.0	10.0	1	10/25/19	10/25/19 14:31	GM
Naphthalene	ND		ug/L	2.0	2.0	1	10/25/19	10/25/19 14:31	GM
n-Propylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Styrene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,1,1,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,1,2,2-Tetrachloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Tetrachloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Toluene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,2,3-Trichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,2,4-Trichlorobenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,1,1-Trichloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,1,2-Trichloroethane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Trichloroethene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Trichlorofluoromethane (Freon 11)	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,2,3-Trichloropropane	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM

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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

DW03C

9101713-17 (Nonpotable Water)
Sample Date: 10/14/19

Analyte	Result	Notes	Units	Reporting Limit (MRL)	Detection Limit (LOD)	Dilution	Prepared	Analyzed	Analyst
VOLATILE ORGANICS BY EPA METHOD 8260B (GC/MS) Prepared by GCMS-WATER-VOLATILES (conti									
1,2,4-Trimethylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
1,3,5-Trimethylbenzene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Vinyl chloride	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
o-Xylene	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
m- & p-Xylenes	ND		ug/L	2.0	1.0	1	10/25/19	10/25/19 14:31	GM
Surrogate: 1,2-Dichloroethane-d4			*75-120*	*109 %*	*10/25/19*		*10/25/19 14:31*		
Surrogate: Toluene-d8			*75-120*	*103 %*	*10/25/19*		*10/25/19 14:31*		
Surrogate: 4-Bromofluorobenzene			*78-110*	*94 %*	*10/25/19*		*10/25/19 14:31*		
EDB AND DBCP BY EPA 504.1 (MICROEXTRACTION/GC/ECD) Prepared by 504.1 EDB/DBCP									
1,2-Dibromo-3-chloropropane	ND		ug/L	0.047	0.047	1	10/25/19	10/25/19 17:17	GM
1,2-Dibromoethane (EDB)	ND		ug/L	0.019	0.019	1	10/25/19	10/25/19 17:17	GM

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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

Maryland Spectral Services does not maintain certification for the following analytical parameters:

Maryland Spectral Services

Matrix , Method , Analyte	
Water | 8270 (BNA Full List) | Benzidine	Water | 8270 (BNA Full List) | Pyridine

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Analytical Results

Project: CHAMBLISSBURG SUPPLY

Project Number: CSVI1004
Project Manager: Adam Flora

Reported:
10/29/19 16:34

Notes and Definitions

S-FAIL	Surrogate recovery was outside of established QC limits
S-BN	Base/Neutral surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two base/neutral surrogates.
S-AC	Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.
S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
QC-6	Sample was originally analyzed within hold time. Reanalysis was performed outside of recommended hold time and the reanalysis has been reported.
J	Detected but below the reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
%-Solids	Percent Solids is a supportive test and as such does not require accreditation

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CHAIN-OF-CUSTODY RECORD

Company Name: Greene Environmental Services

Project Manager: Adam Flora/Trev Greene

Project Name: Chamblissburg Supply

Project ID: CSVI1004

Sampler(s): AF, TG, BM, AR

P.O. Number:

Maryland Spectral Services, Inc.
1500 Caton Center Drive, Suite G
Baltimore, MD 21227
410-247-7600 • Fax 410-247-7602
labman@mdspectral.com

Matrix Codes: NW (nonpotable water)
PW (potable water)

Analysis Requested

Field Sample ID	Date	Time	Water	Soil	Other	No. of Containers	TPH-GRO via 8015	TPH-DRO via 8015	BTEX, MTBE, NAP via 8260	VOCs + oxygenates via 8260	SVOCs via 8270	EDB/DBCP via 8011				Preservative: 1+1 HCL, H_2SO_4, Methanol, $Na_2S_2O_3$, $NaHCO_3$	Field pH, Residual Chlorine, QC Request, Trip Blank, Field Blank	MSS Lab ID
MW11	10-14-19	1105	X			7	X	X	X							HCL, Ice		9161713-11
DW01A	10-14-19	1605	X			5				X		X				HCL, Ice		
DW01B	10-14-19	1630	X			5				X		X				HCL, Ice		
DW02A	10-14-19	0916	X			5				X		X				HCL, Ice		
DW02C	10-14-19	0945	X			5				X		X				HCL, Ice		
DW03A	10-14-19	0830	X			5				X		X				HCL, Ice		
DW03C	10-14-19	0815	X			5				X		X				HCL, Ice		
DW04A	10-14-19	1025	X			5				X		X				HCL, Ice		
DW04B	10-14-19	1050	X			5				X		X				HCL, Ice		
DW05A	10-14-19	1440	X			5				X		X				HCL, Ice		20

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
(Printed) Adam Flora	10-16-19 0800	(Printed)	(Printed)		(Printed)
Relinquished by: (Signature)	Date/Time 10/17/19 15:02	Received by Lab: (Signature)			
(Printed)		(Printed) Cory Koons			

Delivery Method:
- ☐ Courier
- ☐ Client
- ☐ UPS
- X FedEx
- ☐ USPS
- ☐ Other:_____

Special Instructions/QC Requirements & Comments:

Page 2 of 4

Turn Around Time:
- X Normal (7 day)
- ☐ 5 day
- ☐ 4 day
- ☐ 3 day
- ☐ Rush (2 day)
- ☐ Next Day
- ☐ Other: _____
- ☐ Specific Due Date: _____

Lab Use:
Temp: 3.5 °C
- ✓ Received on Ice
- ☐ Received same day
- ✓ Preservation Appropriate

Sample Disposal:
- ☐ Return to Client
- ☐ Disposal by lab
- ☐ Archive for _____ days

MSS-F001-03/13

APPENDIX E

Alternate Water Supply Documentation

Well Installation Permits – Virginia Department of Health
Office of Drinking Water Letter Dated June 20, 2019
Photographic Documentation – Installation of Alternate Water Supply Systems

WELL PERMIT (MW12)

Water Supply and/or Sewage Disposal System Construction Permit

Commonwealth of Virginia
Department of Health
BEDFORD CO Health Department

Health Department Identification Number 109-19-0221
Map Reference 176-A-67

General Information

Water Supply System: New X Repair ___ Public ___ FHA ___ VA ___ Case No. ___
~~Sewage Disposal System: New ___ Repair ___ Expanded ___ Conditional ___ Public ___~~
Based on the application for a sewage disposal system construction permit filed in accordance with Section 2.13 E, of the Sewage Handling and Disposal Regulations and/or Section 2.13 of the Private Well Regulations a construction permit is hereby issued to:
Owner Elei Sator Telephone ___
Address 10625 Stewartsville Rd - Vinton, VA 24179 ~~For a Type ___ Sewage Disposal System~~ or Well to be constructed on/at Tax # 176-A-67
Subdivision ___ Section/Block ___ Lot ___ Actual or estimated water use ___

DESIGN	NOTE: SEWAGE DISPOSAL SYSTEM INSPECTION RESULTS
Water supply, existing: (describe) EXISTING WELL TO BE CONVERTED TO A PRIVATE WELL **To be installed:** class ___ cased ___ grouted ___	**Water supply location:** Satisfactory yes ☐ no ☐ comments Completion Report G. W. 2 Received: yes ☐ no ☐ not applicable ☐
Building sewer: ___ I.D. PVC Schedule 40, or equivalent. Slope 1.25" per 10' (minimum). ☐ Other ___	**Building sewer:** yes ☐ no ☐ comments Satisfactory
Septic tank: Capacity ___ gals. (minimum). ☐ Other ___	**Pretreatment unit:** yes ☐ no ☐ comments Satisfactory
Inlet-outlet structure: PVC Schedule 40, 4" tees or equivalent. ☐ Other ___	**Inlet-outlet structure:** yes ☐ no ☐ comments Satisfactory
Pump and pump station: No ☐ Yes ☐ describe and show design. if yes: ___	**Pump & pump station:** yes ☐ no ☐ comments Satisfactory
Gravity mains: 3" or larger I.D., minimum 6" fall per 100', 1500 lb. crush strength or equivalent. ☐ Other ___	**Conveyance method:** yes ☐ no ☐ comments Satisfactory
Distribution box: Precast concrete with ___ ports. ☐ Other ___	**Distribution box:** yes ☐ no ☐ comments Satisfactory
Header lines: Material: 4" I.D. 1500 lb. crush strength plastic or equivalent from distribution box to 2' into absorption trench. Slope 2" minimum. ☐ Other ___	**Header lines:** yes ☐ no ☐ comments Satisfactory
Percolation lines: Gravity 4" plastic 1000 lb. per foot bearing load or equivalent, slope 2" 4" (min. max.) per 100'. ☐ Other ___	**Percolation lines:** yes ☐ no ☐ comments Satisfactory
Absorption trenches: Square ft. required ___: depth from ground surface to bottom of trench ___; aggregate size ___: Trench bottom slope ___; center to center spacing ___; trench width ___ Depth of aggregate ___; Trench length ___; Number of trenches ___	**Absorption trenches:** yes ☐ no ☐ comments Satisfactory Date ___ Inspected and approved by: ___ Sanitarian

CHS 202A

Health Department
Identification Number 109-19-0221

Schematic drawing of sewage disposal and/or water supply system and topographic features.

Show the lot lines of the building site, sketch of property showing any topographic features which may impact on the design of the well or sewage disposal system, including existing and/or proposed structures and sewage disposal systems and wells within 200 feet. The schematic drawing of the well site or area and/or sewage disposal system shall show sewer lines, pretreatment unit, pump station, conveyance system, and subsurface soil absorption system, reserve area, etc. When a nonpublic drinking water supply is to be permitted, show all sources of pollution within 200 feet.

☐ The information required above has been drawn on the attached copy of the sketch submitted with the application. Attach additional sheets as necessary to illustrate the design.

* SEE ATTACHED GIS AERIAL

* EXISTING MONITORING WELL TO BE CONVERTED TO A PRIVATE WELL (MW12)

This sewage disposal system and/or water supply is to be constructed as specified by the permit_____ or attached plans and specifications_____.

This sewage disposal system and/or well construction permit is null and void if (a) conditions are changed from those shown on the application (b) conditions are changed from those shown on the construction permit.

No part of any installation shall be covered or used until inspected, corrections made if necessary, and approved, by the local health department or unless expressly authorized by the local health dept. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon the direction of the Department.

Date: 7/15/19 **Issued by:** MATTHEW BEAMER Sanitarian

Date: _____ **Reviewed by:** _____ Supervisory Sanitarian

This Construction Permit Valid until 7/14/24

If FHA or VA financing

Reviewed by Date _____ _____ Supervisory Sanitarian **Date** _____ _____ Regional Sanitarian

C.H.S. 202B

Form GW-2
Revised 7/1/2015

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

1. Contact Information

Contact:	Name	Address	Phone
Owner	Lacy Dudley Estate	4118 Mudlick Road, Roanoke, VA 24019	
Driller	Davidson Drilling, Inc.	6510 Shingle Road, Roanoke, VA 24018	540-871-0155
System Provider			

2. Well Location

Physical Address: No address listed on GIS; undeveloped land | **County/City:** Bedford County

Subdivision Name: | **Section:** | **Block:** | **Lot:**

Tax Map/GPIN #: 176 A 67 Parcel# 17607600 | **Well Designation or Number:** MW12

Latitude: 37.259221 N | **Longitude:** 79.721868 W

Datum Source **Horizontal:** ☐ WGS84 ☐ NAD83 ☐ NAD27 **Vertical:** ☐ NGVD29 ☐ NAVD88

Lat/Long Source (Check One): ☐ Map ☐ GPS ☐ PPDGPS ☐ Survey ☒ Imagery ☐ WASS

Location Information Collected By : Greene Environmental Services, LLC from Google Earth

Physical Location Description: Well is on undeveloped parcel of land. Currently there are no plans for development.

3. Facility & Use

Type of Facility (Check One):	Type of Use (Check All That Apply):		
☐ Waterworks	■ Drinking/Domestic Use	☐ Food Processing	☐ Cooling/Heating
☐ Observation/Monitoring Well	☐ Agricultural	☐ Manufacturing	☐ Injection
☒ Private Well	☐ Irrigation	☐ Fire Safety	☐ Geothermal

4. Well Construction

Well designation, Name or Number: MW12

Date Started: 08/14/2018 | **Date Completed:** 08/16/2018 | **Type Rig:** Air Rotary

Class Well (Check One): ☐ I ☐ IIA ☐ IIB ☐ IIIA ☒ IIIB ☐ IIIC ☐ IIID ☐ IIIE ☐ IV

Construction Type (Check One): ☒ New ☐ Existing-Modified

Well Depth: 260 ft. | **Borehole Depth:** 260 ft. | **Depth to Bedrock:** 75 ft.

Hole Size (Include reamed zones): 10 inches from 0 to 103 ft. | 6.25 Inches from 103 to 260 ft.

Height of Casing above Land Surface: 2 ft. inches

Casing Size (I.D.) and Materials: (below) | Total Depth of Casing: 103 ft.

6 inches from 0 to 103 ft.	Material steel	Weight per ft. 13	or wall thickness .18 in.
inches from to ft.	Material	Weight per ft.	or wall thickness in.
inches from to ft.	Material	Weight per ft.	or wall thickness in.
inches from to ft.	Material	Weight per ft.	or wall thickness in.
inches from to ft.	Material	Weight per ft.	or wall thickness in.

Screen Size & Mesh:

inches from to ft.	Mesh Size	Type
inches from to ft.	Mesh Size	Type
inches from to ft.	Mesh Size	Type

Water Zones: from 113 to ft.	from 185 to ft.	from 250 to ft.
Gravel Pack: from to ft.	from to ft.	from to ft.
Grout Type: neat cement from 20 to 103 ft.	**Grouting Method:** pumping	**Type of Seal:**

This information was collected by Camera Survey: ☐ Yes ■ No **Date Conducted:**

Additional Well Construction Form Information Attached: ☐ Yes ■ No

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

Well designation, Name or Number: MW12

5. Disinfection

Well Disinfected: ☐ Yes ■ No	**Date:**

6. Abandonment (*When abandoning a well, Sections 1 thru 6 are required to be completed)

Date Started:	**Date Completed:**	**Type Rig:**
Static Water Level (unpumped level measured): ft.		
Casing Size (I.D.) and Materials:	**Casing Pulled:** ☐ Yes ☐ No ☐ Uncased Well	
Depth of Fill:	**Type and Source of Fill:**	
Grout: From to Type:	**From to Type:**	
Method of permanently marking location:		

7. Pump Test

Static Water Level (unpumped level measured): ft.	
Date:	**Method (Check One):** ☐ Water Tape ☐ Airline ☐ Transducer ☐ Other
Stabilized measured pumping water level: ft.	
Date:	**Method (Check One):** ☐ Top of Well ☐ Top of Casing ☐ Surface Level
Test Pump Intake Depth: ft	**Stabilized Yield:** gpm after hours
Natural Flow: ☐ Yes ☐ No Flow Rate gpm	

8. Pump Data

Type:	**Motor HP:**
Production Pump Intake Depth: ft	**Rated Capacity:** gpm at ft TDH

9. Geologic Information

Formation:	**Type Logs:**
Lithology:	**Cuttings:**
Province:	**Aquifer Test Performed:**
Geologic Map Used:	
Water Quality Results Attached: Yes ☐ No ☐	

Comments:

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

10. Driller's Log (Use additional sheets if necessary)

Well designation, Name or Number: MW12

Depth (feet)		Type of Rock or Soil	Remarks	Drilling Time (Min.)	Diagram of Well Construction (with dimensions)
From	To	(Color, material, fossils, hardness, etc)	(Water, caving, cavities, etc.)		
		Please see attached well log			

I certify that the information contained herein is true and correct and that this well and/or system has been installed and constructed in accordance with the applicable permit and further that the well complies with all applicable federal, state and local regulations, ordinances and laws.

Signature: _____ Date: 5/10/19

License Number: 2719000089

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

Additional Well Construction Data

Well designation, Name or Number: MW12

Physical Location: No address listed on GIS; unde **Date Started:** 08/14/2018 **Date Completed:** 08/16/2018

Hole Size (Include reamed zones):

inches	from	to	ft.	inches	from	to	ft.	inches	from	to	ft.
inches	from	to	ft.	inches	from	to	ft.	inches	from	to	ft.
inches	from	to	ft.	inches	from	to	ft.	inches	from	to	ft.

Casing Size (I.D.) and Materials:

inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.

Screen Size & Mesh:

inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type

Water Zones:

From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.

Gravel Pack:

From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.

Grout: Type: bentonite	from 0	to 20	ft.
Grout: Type:	from	to	ft.
Grout: Type:	from	to	ft.

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)	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: SURA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

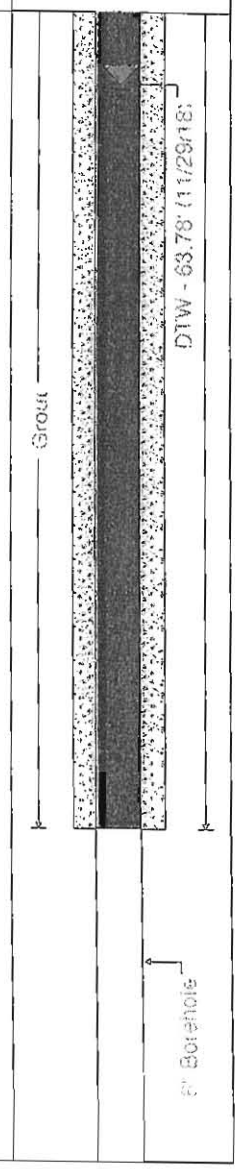
Log of Borehole: B27

Diagram of Monitoring Well: MW 12

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)	Well Completion Details
		B26-5 (70') Weathered rock observed approximately 63' bgs. No sample collected.	70.0					
		B27-6 (80') Competent bedrock observed approximately 75' bgs. No sample collected.	80.0					
		B27-7 (90') Competent bedrock. No sample collected.	90.0					
		B27-8 (103') Competent bedrock. No sample collected.	103.0					
		B27-9 (103'-120') Competent bedrock. No sample collected. Fracture observed approximately 113' bgs; estimated 3 gpm.	120.0					



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: SORA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

Log of Borehole: B27

Diagram of Monitoring Well: MW 12

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)	Well Completion Details	
120–140		*B27-10 (120'-140')* Competent bedrock. No sample collected.	140.0						
140–160		*B27-11 (140'-160')* Competent bedrock. No sample collected.	160.0						6" Borehole
160–180		*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
181–200		*B27-13 (180'-200')* Competent bedrock. No sample collected. Fracture observed approximately 185' bgs; estimated 8-10 gpm.	200.0					6" Borehole
201–220		*B27-14 (200'-220')* Competent bedrock. No sample collected.	220.0					
221–240		*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: CSV110[illegible]3

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: 12/13/2016

SUBSURFACE PROFILE				SAMPLE			PID READINGS	MONITORING WELL DIAGRAM
Depth	Symbol	Description	Depth	Number	Type	Lab Results (TPH-GRO) (TPH-DRO)	VOC Concentration ppm 25 50 75	Well Completion Details
241		*B27-16 (240'-260')* Competent bedrock. No sample collected. Fracture observed approximately 250 ' bgs; estimated 50-75 gpm.						6" Borehole
242								
243								
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256								
257								
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259								
260			260.0					
261		End of Borehole						
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300								

Drill Method: AIR ROTARY

Drilled by: DAVIDSON DRILLING, INC.

Drill Date: 08/14/13

Hole Size: 10-INCH

GREENE ENVIRONMENTAL SERVICES LLC

Sheet: [illegible]

ENVIRONMENTAL OPTIONS, INC
P.O. Box 879
Rocky Mount VA 24151
(540) 483- 3920 (TEL)
(540) 483-3855 (FAX)

GREENE ENVIRONMENTAL
570 REDBUD HILL ROAD
ROCKY MOUNT VA 24151

RE: BACTERIOLOGICAL ANALYSIS OF WATER
10625 STEWARTSVILLE ROAD
VINTON VA 24179

COMMISSION NO: 12305

REPORT DATE: MAY 8, 2019

METHOD REFERENCE: STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER: 19TH ED.

SAMPLE ID: 49568 FIELD ID: MW 12 05/07/19 1:45 PM ANALYST: S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

SAMPLE ID: 49569 FIELD ID: MW 13 05/07/19 2:00 PM ANALYST: S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

SAMPLE ID: 49570 FIELD ID: MW 14 05/07/19 2:20 PM ANALYST: S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

*PASSES STATE REQUIREMENTS

STATE CERTIFICATE NO. 00122
IF ENVIRONMENTAL OPTIONS ANALYTICAL SERVICES MAY BE OF ANY FURTHER ASSISTANCE, PLEASE DO NOT HESITATE TO CONTACT ME.

PAMELA B. WESTGATE
PRESIDENT

GREENE ENVIRONMENTAL SERVICES LLC.

TITLE.	MW12 & MW13 LOCATION MAP		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1005
CLIENT:	LACY DUDLEY ESTATE	DATE:	05/09/19
COMMENTS.		DRAWN BY:	MAF

WELL PERMIT (MWIS)

Water Supply and/or Sewage Disposal System Construction Permit

Commonwealth of Virginia
Department of Health
BEDFORD CO. Health Department

Health Department Identification Number 109-A-0218
Map Reference 176-A-67

General Information

Water Supply System: New ☒ Repair ___ Public ___ FHA ___ VA ___ Case No. ___
~~Sewage Disposal System: New ___ Repair ___ Expanded ___ Conditional ___ Public ___~~

Based on the application for a sewage disposal system construction permit filed in accordance with Section 2.13 E, of the Sewage Handling and Disposal Regulations and/or Section 2.13 of the Private Well Regulations a construction permit is hereby issued to:

Owner Elai Schrock Telephone ___
Address 106 25th Stewartsville Rd - Vinton, VA 24179 For a Type ___ ~~Sewage Disposal System or~~ Well to be constructed on/at Tax Map #176-A-67
Subdivision ___ Section/Block ___ Lot ___ Actual or estimated water use ___

DESIGN	NOTE: SEWAGE DISPOSAL SYSTEM INSPECTION RESULTS
Water supply, existing: (describe) EXISTING WELL TO BE CONVERTED TO A PRIVATE WELL **To be installed:** class ___ cased ___ grouted ___	**Water supply location:** Satisfactory yes ☐ no ☐ comments Completion Report G. W. 2 Received: yes ☐ no ☐ not applicable ☐
Building sewer: ___ I.D. PVC Schedule 40, or equivalent. Slope 1.25" per 10' (minimum). ☐ Other ___	**Building sewer:** yes ☐ no ☐ comments Satisfactory
Septic tank: Capacity ___ gals. (minimum). ☐ Other ___	**Pretreatment unit:** yes ☐ no ☐ comments Satisfactory
Inlet-outlet structure: PVC Schedule 40, 4" tees or equivalent. ☐ Other ___	**Inlet-outlet structure:** yes ☐ no ☐ comments Satisfactory
Pump and pump station: No ☐ Yes ☐ describe and show design. if yes: ___	**Pump & pump station:** yes ☐ no ☐ comments Satisfactory
Gravity mains: 3" or larger I.D., minimum 6" fall per 100', 1500 lb. crush strength or equivalent. ☐ Other ___	**Conveyance method:** yes ☐ no ☐ comments Satisfactory
Distribution box: Precast concrete with ___ ports. ☐ Other ___	**Distribution box:** yes ☐ no ☐ comments Satisfactory
Header lines: Material: 4" I.D. 1500 lb. crush strength plastic or equivalent from distribution box to 2' into absorption trench. Slope 2" minimum. ☐ Other ___	**Header lines:** yes ☐ no ☐ comments Satisfactory
Percolation lines: Gravity 4" plastic 1000 lb. per foot bearing load or equivalent, slope 2" 4" (min. max.) per 100'. ☐ Other ___	**Percolation lines:** yes ☐ no ☐ comments Satisfactory
Absorption trenches: Square ft. required ___; depth from ground surface to bottom of trench ___; aggregate size ___; Trench bottom slope ___; center to center spacing ___; trench width ___ Depth of aggregate ___; Trench length ___; Number of trenches ___	**Absorption trenches:** yes ☐ no ☐ comments Satisfactory Date ___ Inspected and approved by: ___ Sanitarian

C.H.S 202A

Health Department Identification Number 109-19-0218

Schematic drawing of sewage disposal and/or water supply system and topographic features.

Show the lot lines of the building site, sketch of property showing any topographic features which may impact on the design of the well or sewage disposal system, including existing and/or proposed structures and sewage disposal systems and wells within 200 feet. The schematic drawing of the well site or area and/or sewage disposal system shall show sewer lines, pretreatment unit, pump station, conveyance system, and subsurface soil absorption system, reserve area, etc. When a nonpublic drinking water supply is to be permitted, show all sources of pollution within 200 feet.

~~☐ The information required above has been drawn on the attached copy of the sketch submitted with the application. Attach additional sheets as necessary to illustrate the design.~~

* SEE ATTACHED GIS AERIAL

* EXISTING MONITORING WELL TO BE CONVERTED TO A PRIVATE WELL (MW13)

~~**This sewage disposal system and/or water supply is to be constructed as specified by the permit or attached plans and specifications.**~~

This sewage disposal system and/or well construction permit is null and void if (a) conditions are changed from those shown on the application (b) conditions are changed from those shown on the construction permit.

No part of any installation shall be covered or used until inspected, corrections made if necessary, and approved, by the local health department or unless expressly authorized by the local health dept. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon the direction of the Department.

Date: 7/15/19 **Issued by:** [signature] MATTHEW BEAVER Sanitarian

This Construction Permit Valid until 7/14/24

Date: _____ **Reviewed by:** _____ Supervisory Sanitarian

If FHA or VA financing

Reviewed by Date _____ _____ **Date** _____ _____

Supervisory Sanitarian Regional Sanitarian

C H.S. 202B

+ WELL
MWIS

COMMONWEALTH of VIRGINIA

M. Norman Oliver, MD, MA
State Health Commissioner

DEPARTMENT OF HEALTH
OFFICE OF DRINKING WATER
Danville Field Office

211 Nor Dan Drive, Suite 1040
Danville, VA 24540
Phone: 434-836-8416
Fax: 434-836-8424

June 20, 2019

SUBJECT: Bedford County
Elei's Convenience Store

Mr. Zouhir Safar
Safar's Discount Tobacco & Grocery
10625 Stewartsville Road
Vinton, VA 24179

Dear Mr. Safar:

The Virginia Department of Health ("VDH") recently contacted you regarding the status of your waterworks facility located at Elei's Convenience Store, in Bedford County, Virginia. The intent of that contact was to gather information about the water system serving the subject convenience store. The information was necessary to enable the VDH to determine if the water system met the current definition of a "waterworks."

Based on the information provided in your questionnaire received on June 10, 2019, the subject water system provides water services to one service connection, serving a total of 3 employees. The facility does not have public restroom access and does not prepare or serve food to the public. As noted in previous correspondence, a waterworks is "a system that serves piped water for human consumption to at least 15 service connections or 25 or more individuals for at least 60 days out of the year." Therefore, the subject facility is not regarded as a public waterworks.

Please be aware, should you expand the subject waterworks or provide water services to the general public, then you may be considered to be operating a public water supply. Should the number of individuals served by the subject facility be 25 or more people, then you would be considered to be operating a public water system. At such time, you would be required to contact VDH and to meet all applicable construction, operational, and monitoring requirements of the *Waterworks Regulations*.

Should you have any questions, please feel free to contact me for assistance.

Sincerely,

T. Chad Merricks

T. Chad Merricks
Environmental Health Specialist Consultant

RLP:jas
cc: Bedford County Health Dept., Attn: Environmental Health Manager
VDH-ODW-Central
Trev Greene, Greene Environmental

Form GW-2
Revised 7/1/2015

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

1. Contact Information

Contact:	Name	Address	Phone
Owner	Lacy Dudley Estate	4118 Mudlick Road, Roanoke, VA 24019	
Driller	Davidson Drilling, Inc.	6510 Shingle Road, Roanoke, VA 24018	540-871-0155
System Provider			

2. Well Location

Physical Address: No address listed on GIS; undeveloped land | **County/City:** Bedford County

Subdivision Name: | **Section:** | **Block:** | **Lot:**

Tax Map/GPIN #: 176 A 67 Parcel# 17607600 | **Well Designation or Number:** MW13

Latitude: 37.259602 N | **Longitude:** 79.720988 W

Datum Source | **Horizontal:** ☐ WGS84 ☐ NAD83 ☐ NAD27 | **Vertical:** ☐ NGVD29 ☐ NAVD88

Lat/Long Source (Check One): ☐ Map ☐ GPS ☐ PPDGPS ☐ Survey ☒ Imagery ☐ WASS

Location Information Collected By : Greene Environmental Services, LLC from Google Earth

Physical Location Description: Well is on undeveloped parcel of land. Currently there are no plans for development.

3. Facility & Use

Type of Facility (Check One):	Type of Use (Check All That Apply):		
☐ Waterworks	■ Drinking/Domestic Use	☐ Food Processing	☐ Cooling/Heating
☐ Observation/Monitoring Well	☐ Agricultural	☐ Manufacturing	☐ Injection
☒ Private Well	☐ Irrigation	☐ Fire Safety	☐ Geothermal

4. Well Construction

Well designation, Name or Number: MW13

Date Started: 08/23/2018 | **Date Completed:** 08/31/2018 | **Type Rig:** Air Rotary

Class Well (Check One): ☐ I ☐ IIA ☐ IIB ☐ IIIA ☒ IIIB ☐ IIIC ☐ IIID ☐ IIIE ☐ IV

Construction Type (Check One): ☒ New ☐ Existing-Modified

Well Depth: 300 ft. | **Borehole Depth:** 300 ft. | **Depth to Bedrock:** 80 ft.

Hole Size (Include reamed zones): 10 inches from 0 to 102 ft. | 6.25 Inches from 102 to 300 ft.

Height of Casing above Land Surface: 2 ft. inches

Casing Size (I.D.) and Materials: (below) | Total Depth of Casing: 102 ft.

6 inches from 0 to 102 ft.	Material steel	Weight per ft. 13	or wall thickness .18 in.
inches from to ft.	Material	Weight per ft.	or wall thickness in.
inches from to ft.	Material	Weight per ft.	or wall thickness in.
inches from to ft.	Material	Weight per ft.	or wall thickness in.
inches from to ft.	Material	Weight per ft.	or wall thickness in.

Screen Size & Mesh:

inches from to ft.	Mesh Size	Type
inches from to ft.	Mesh Size	Type
inches from to ft.	Mesh Size	Type

Water Zones: from 135 to ft. | from 270 to ft. | from to ft.

Gravel Pack: from to ft. | from to ft. | from to ft.

Grout Type: grout from 70 to 102 ft. | **Grouting Method:** pumping | **Type of Seal:**

This information was collected by Camera Survey: ☐ Yes ■ No | **Date Conducted:**

Additional Well Construction Form Information Attached: ☐ Yes ■ No

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

Well designation, Name or Number: MW13

5. Disinfection

Well Disinfected: ☐ Yes ☒ No	**Date:**

6. Abandonment (*When abandoning a well, Sections 1 thru 6 are required to be completed)

Date Started:	**Date Completed:**	**Type Rig:**
Static Water Level (unpumped level measured): ft.		
Casing Size (I.D.) and Materials:	**Casing Pulled:** ☐ Yes ☐ No ☐ Uncased Well	
Depth of Fill:	**Type and Source of Fill:**	
Grout: From to Type:	**From to Type:**	
Method of permanently marking location:		

7. Pump Test

Static Water Level (unpumped level measured): ft.		
Date:	**Method (Check One):** ☐ Water Tape ☐ Airline ☐ Transducer ☐ Other	
Stabilized measured pumping water level: ft.		
Date:	**Method (Check One):** ☐ Top of Well ☐ Top of Casing ☐ Surface Level	
Test Pump Intake Depth: ft	**Stabilized Yield:** gpm after hours	
Natural Flow: ☐ Yes ☐ No	Flow Rate gpm	

8. Pump Data

Type:	**Motor HP:**
Production Pump Intake Depth: ft	**Rated Capacity:** gpm at ft TDH

9. Geologic Information

Formation:	**Type Logs:**
Lithology:	**Cuttings:**
Province:	**Aquifer Test Performed:**
Geologic Map Used:	
Water Quality Results Attached: Yes ☐ No ☐	

Comments:

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

10. Driller's Log (Use additional sheets if necessary)

Well designation, Name or Number: MW13

Depth (feet)		Type of Rock or Soil	Remarks	Drilling Time (Min.)	Diagram of Well Construction (with dimensions)
From	To	(Color, material, fossils, hardness, etc.)	(Water, caving, cavities, etc.)		
		Please see attached well log			

I certify that the information contained herein is true and correct and that this well and/or system has been installed and constructed in accordance with the applicable permit and further that the well complies with all applicable federal, state and local regulations, ordinances and laws.

Signature: _____ Date: 5/10/19

License Number: 2719000089

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

Additional Well Construction Data

Well designation, Name or Number: MW13

Physical Location: No address listed on GIS; undev **Date Started:** 08/23/2018 **Date Completed:** 08/31/2018

Hole Size (Include reamed zones):

inches	from	to	ft.	inches	from	to	ft.	inches	from	to	ft.
inches	from	to	ft.	inches	from	to	ft.	inches	from	to	ft.
inches	from	to	ft.	inches	from	to	ft.	inches	from	to	ft.

Casing Size (I.D.) and Materials:

inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.

Screen Size & Mesh:

inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type

Water Zones:

From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.

Gravel Pack:

From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.

Grout: Type: bentonite	from 0	to 70	ft.
Grout: Type:	from	to	ft.
Grout: Type:	from	to	ft.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

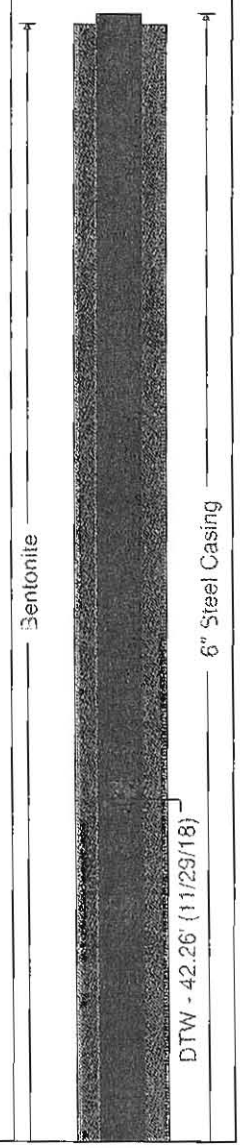
Log of Borehole: B28

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

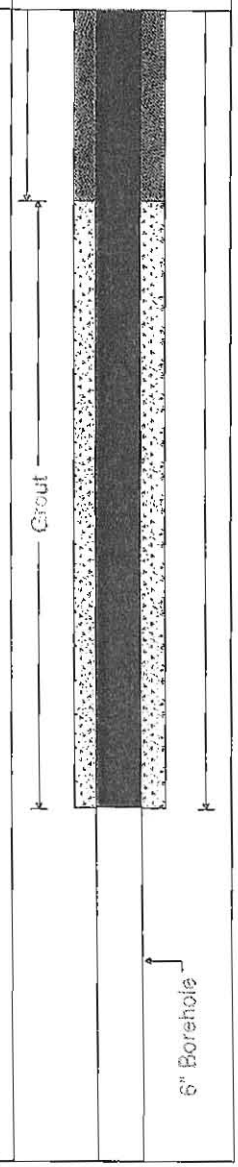
Log of Borehole: B28

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
61–70		*B28-5 (70')* Weathered rock. No sample collected.	70.0					
71–80		*B28-6 (80')* Competent bedrock observed approximately 80' bgs. No sample collected.	80.0					
81–90		*B28-7 (90')* Competent bedrock. No sample collected.	90.0					
91–102		*B28-8 (102')* Competent bedrock. No sample collected.	102.0					
103–120		*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
131–140		*B28-10 (130'-140')* Competent bedrock No sample collected. Fracture observed approximately 135 ' bgs; estimated 3 gpm.	140.0					
141–160		*B28-11 (140'-160')* Competent bedrock. No sample collected.	160.0					8" Borehole
161–180		*B28-12 (160'-180')* Competent bedrock. No sample collected.	180.0					

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
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
241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260		*B28-16 (240'-260')* Competent bedrock. No sample collected.	260.0					
261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280		*B28-17 (260'-280')* Competent bedrock. No sample collected. Fracture observed approximately 270 ' bgs; estimated 50 gpm.	280.0					6" Borehole
281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300		*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

ENVIRONMENTAL OPTIONS, INC
P.O. Box 879
Rocky Mount, VA 24151
(540) 483-3920 (TEL)
(540) 483-3855 (FAX)

GREENE ENVIRONMENTAL
570 REDBUD HILL ROAD
ROCKY MOUNT VA 24151

RE: BACTERIOLOGICAL ANALYSIS OF WATER
10625 STEWARTSVILLE ROAD
VINTON VA 24179

COMMISSION NO: 12305

REPORT DATE: MAY 8, 2019

METHOD REFERENCE: STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER: 19TH ED.

SAMPLE ID: 49568 FIELD ID: MW 12 05/07/19 1:45 PM ANALYST: S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

SAMPLE ID: 49569 FIELD ID: MW 13 05/07/19 2:00 PM ANALYST: S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

SAMPLE ID: 49570 FIELD ID: MW 14 05/07/19 2:20 PM ANALYST: S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

*PASSES STATE REQUIREMENTS

STATE CERTIFICATE NO. 00122
IF ENVIRONMENTAL OPTIONS ANALYTICAL SERVICES MAY BE OF ANY FURTHER ASSISTANCE, PLEASE DO NOT HESITATE TO CONTACT ME.

PAMELA B. WESTGATE
PRESIDENT

GREENE ENVIRONMENTAL SERVICES LLC.

TITLE:	MW12 & MW13 LOCATION MAP		
SITE.	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1005
CLIENT.	LACY DUDLEY ESTATE	DATE:	05/09/19
COMMENTS:		DRAWN BY:	MAF

WELL PERMIT (MW14)

Water Supply and/or Sewage Disposal System Construction Permit

Commonwealth of Virginia
Department of Health
BEDFORD CO Health Department

Health Department Identification Number 109-19-0219
Map Reference 176-A-49

General Information

Water Supply System: New X Repair ___ Public ___ FHA ___ VA ___ Case No. ___
~~Sewage Disposal System: New ___ Repair ___ Expanded ___ Conditional ___ Public ___~~
Based on the application for a sewage disposal system construction permit filed in accordance with Section 2.13 E, of the Sewage Handling and Disposal Regulations and/or Section 2.13 of the Private Well Regulations a construction permit is hereby issued to:
Owner Edward & Debra Parks Telephone ___
Address 10590 Stewartsville Rd - Vinton, VA 24179 ~~For a Type ___ Sewage Disposal System~~ or Well to be constructed on/at TM # 176-A-49
Subdivision ___ Section/Block ___ Lot ___ Actual or estimated water use ___

DESIGN	NOTE: SEWAGE DISPOSAL SYSTEM INSPECTION RESULTS
Water supply, existing: (describe) EXISTING WELL TO BE CONVERTED TO A PRIVATE WELL **To be installed:** class ___ cased ___ grouted ___	**Water supply location:** Satisfactory yes ☐ no ☐ comments Completion Report G. W. 2 Received: yes ☐ no ☐ not applicable ☐
Building sewer: ___ I.D. PVC Schedule 40, or equivalent. Slope 1.25" per 10' (minimum). ☐ Other ___	**Building sewer:** yes ☐ no ☐ comments Satisfactory
Septic tank: Capacity ___ gals. (minimum). ☐ Other ___	**Pretreatment unit:** yes ☐ no ☐ comments Satisfactory
Inlet-outlet structure: PVC Schedule 40, 4" tees or equivalent. ☐ Other ___	**Inlet-outlet structure:** yes ☐ no ☐ comments Satisfactory
Pump and pump station: No ☐ Yes ☐ describe and show design. if yes: ___	**Pump & pump station:** yes ☐ no ☐ comments Satisfactory
Gravity mains: 3" or larger I.D., minimum 6" fall per 100', 1500 lb. crush strength or equivalent. ☐ Other ___	**Conveyance method:** yes ☐ no ☐ comments Satisfactory
Distribution box: Precast concrete with ___ ports. ☐ Other ___	**Distribution box:** yes ☐ no ☐ comments Satisfactory
Header lines: Material: 4" I.D. 1500 lb. crush strength plastic or equivalent from distribution box to 2' into absorption trench. Slope 2" minimum. ☐ Other ___	**Header lines:** yes ☐ no ☐ comments Satisfactory
Percolation lines: Gravity 4" plastic 1000 lb. per foot bearing load or equivalent, slope 2" 4" (min. max.) per 100'. ☐ Other ___	**Percolation lines:** yes ☐ no ☐ comments Satisfactory
Absorption trenches: Square ft. required ___; depth from ground surface to bottom of trench ___; aggregate size ___; Trench bottom slope ___; center to center spacing ___; trench width ___ Depth of aggregate ___; Trench length ___; Number of trenches ___	**Absorption trenches:** yes ☐ no ☐ comments Satisfactory Date ___ Inspected and approved by: ___ Sanitarian

C.H.S. 202A

Health Department Identification Number 109-19-0219

Schematic drawing of sewage disposal and/or water supply system and topographic features.

Show the lot lines of the building site, sketch of property showing any topographic features which may impact on the design of the well or sewage disposal system, including existing and/or proposed structures and sewage disposal systems and wells within 200 feet. The schematic drawing of the well site or area and/or sewage disposal system shall show sewer lines, pretreatment unit, pump station, conveyance system, and subsurface soil absorption system, reserve area, etc. When a nonpublic drinking water supply is to be permitted, show all sources of pollution within 200 feet.

☐ The information required above has been drawn on the attached copy of the sketch submitted with the application. Attach additional sheets as necessary to illustrate the design.

* SEE ATTACHED GIS AERIAL

* EXISTING MONITORING WELL TO BE CONVERTED TO A PRIVATE WELL (MW14)

This sewage disposal system and/or water supply is to be constructed as specified by the permit_____ or attached plans and specifications_____.

This sewage disposal system and/or well construction permit is null and void if (a) conditions are changed from those shown on the application (b) conditions are changed from those shown on the construction permit.

No part of any installation shall be covered or used until inspected, corrections made if necessary, and approved, by the local health department or unless expressly authorized by the local health dept. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon the direction of the Department.

Date: 7/15/19 **Issued by:** [signature] MATTHEW DEANER Sanitarian

This Construction Permit Valid until 7/14/24

Date: _____ **Reviewed by:** _____ Supervisory Sanitarian

If FHA or VA financing

Reviewed by Date _____ _____ Supervisory Sanitarian **Date** _____ _____ Regional Sanitarian

C H.S. 2028

REVISED GW-2

Form GW-2
Revised 7/1/2015

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

1. Contact Information

Contact:	Name	Address	Phone
Owner	Edward & Debra Farkas	10590 Stewartsville Road, Vinton, VA 24179	
Driller	Davidson Drilling, Inc.	6510 Shingle Road, Roanoke, VA 24018	540-871-0155
System Provider			

2. Well Location

Physical Address: 10590 Stewartsville Road, Vinton, VA 24179 | **County/City:** Bedford County

Subdivision Name: | **Section:** | **Block:** | **Lot:**

Tax Map/GPIN #: 176 A 49 Parcel# 17605600 | **Well Designation or Number:** MW14

Latitude: 37.254577 N | **Longitude:** 79.723726 W

Datum Source **Horizontal:** ☐ WGS84 ☐ NAD83 ☐ NAD27 **Vertical:** ☐ NGVD29 ☐ NAVD88

Lat/Long Source (Check One): ☐ Map ☐ GPS ☐ PPDGPS ☐ Survey ☒ Imagery ☐ WASS

Location Information Collected By : Greene Environmental Services, LLC from Google Earth

Physical Location Description: Well is located in a wooded area on a residential parcel of land.

3. Facility & Use

Type of Facility (Check One):	Type of Use (Check All That Apply):		
☐ Waterworks	☒ Drinking/Domestic Use	☐ Food Processing	☐ Cooling/Heating
☐ Observation/Monitoring Well	☐ Agricultural	☐ Manufacturing	☐ Injection
☒ Private Well	☐ Irrigation	☐ Fire Safety	☐ Geothermal

4. Well Construction

Well designation, Name or Number: MW14

Date Started: 09/04/2018 | **Date Completed:** 09/07/2018 | **Type Rig:** Air Rotary

Class Well (Check One): ☐ I ☐ IIA ☐ IIB ☐ IIIA ☒ IIIB ☐ IIIC ☐ IIID ☐ IIIE ☐ IV

Construction Type (Check One): ☒ New ☐ Existing-Modified

Well Depth: 200 ft. | **Borehole Depth:** 200 ft. | **Depth to Bedrock:** 70 ft.

Hole Size (Include reamed zones): 10 inches from 0 to 102 ft. | 6.25 Inches from 102 to 200 ft.

Height of Casing above Land Surface: 2 ft. inches

Casing Size (I.D.) and Materials: (below) | Total Depth of Casing: 102 ft.

10	inches	from 0	to 62	ft.	Material steel	Weight per ft. 13	or wall thickness .1[illegible] in.
6	inches	from 0	to 102	ft.	Material steel	Weight per ft. 13	or wall thickness .1[illegible] in.
	inches	from	to	ft.	Material	Weight per ft.	or wall thickness in.
	inches	from	to	ft.	Material	Weight per ft.	or wall thickness in.
	inches	from	to	ft.	Material	Weight per ft.	or wall thickness in.

Screen Size & Mesh:

inches	from	to	ft.	Mesh Size	Type	
inches	from	to	ft.	Mesh Size	Type	
inches	from	to	ft.	Mesh Size	Type	

Water Zones: from 170 to ft. | from 185 to ft. | from to ft.

Gravel Pack: from to ft. | from to ft. | from to ft.

Grout Type: grout from 70 to 102 ft. | **Grouting Method:** pumping | **Type of Seal:**

This information was collected by Camera Survey: ☐ Yes ☒ No | **Date Conducted:**

Additional Well Construction Form Information Attached: ☐ Yes ☒ No

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

Well designation, Name or Number: MW14

5. Disinfection

Well Disinfected: ☐ Yes ☒ No	**Date:**

6. Abandonment (*When abandoning a well, Sections 1 thru 6 are required to be completed)

Date Started:	**Date Completed:**	**Type Rig:**
Static Water Level (unpumped level measured): ft.		
Casing Size (I.D.) and Materials:		**Casing Pulled:** ☐ Yes ☐ No ☐ Uncased Well
Depth of Fill:	**Type and Source of Fill:**	
Grout: From to Type:	**From to Type:**	
Method of permanently marking location:		

7. Pump Test

Static Water Level (unpumped level measured): ft.		
Date:	**Method (Check One):** ☐ Water Tape ☐ Airline ☐ Transducer ☐ Other	
Stabilized measured pumping water level: ft.		
Date:	**Method (Check One):** ☐ Top of Well ☐ Top of Casing ☐ Surface Level	
Test Pump Intake Depth: ft	**Stabilized Yield:** gpm after hours	
Natural Flow: ☐ Yes ☐ No	Flow Rate gpm	

8. Pump Data

Type:	**Motor HP:**
Production Pump Intake Depth: ft	**Rated Capacity:** gpm at ft TDH

9. Geologic Information

Formation:	**Type Logs:**
Lithology:	**Cuttings:**
Province:	**Aquifer Test Performed:**
Geologic Map Used:	
Water Quality Results Attached: Yes ☐ No ☐	

Comments:

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

10. Driller's Log (Use additional sheets if necessary)

Well designation, Name or Number: MW14

Depth (feet)		Type of Rock or Soil	Remarks	Drilling Time (Min.)	Diagram of Well Construction (with dimensions)
From	To	(Color, material, fossils, hardness, etc.)	(Water, caving, cavities, etc.)		
		"Please see attached well log"			

I certify that the information contained herein is true and correct and that this well and/or system has been installed and constructed in accordance with the applicable permit and further that the well complies with all applicable federal, state and local regulations, ordinances and laws.

Signature: _____ Date: 5/10/19

License Number: 2719000089

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # _____
VDH PWSID # _____

Additional Well Construction Data

Well designation, Name or Number: MW14

Physical Location: 10590 Stewartsville Road, Vinto **Date Started:** 09/04/2018 **Date Completed:** 09/07/2018

Hole Size (Include reamed zones):

inches	from	to	ft.	inches	from	to	ft.	inches	from	to	ft.
inches	from	to	ft.	inches	from	to	ft.	inches	from	to	ft.
inches	from	to	ft.	inches	from	to	ft.	inches	from	to	ft.

Casing Size (I.D.) and Materials:

inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.
inches	from	to	ft.	Material	Weight per ft.	or wall thickness	in.

Screen Size & Mesh:

inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type
inches	from	to	ft.	Mesh Size	Type

Water Zones:

From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.	From	to	ft.

Gravel Pack:

From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.
From	to	ft.	From	to	ft.	From	to	ft.

Grout: Type: bentonite	from 0	to 70	ft.
Grout: Type:	from	to	ft.
Grout: Type:	from	to	ft.

Project No: CSVI1003

Project: SCRA

Client: THE ESTATE OF LACY DUDLEY

Location: CHAMBLISSBURG SUPPLY

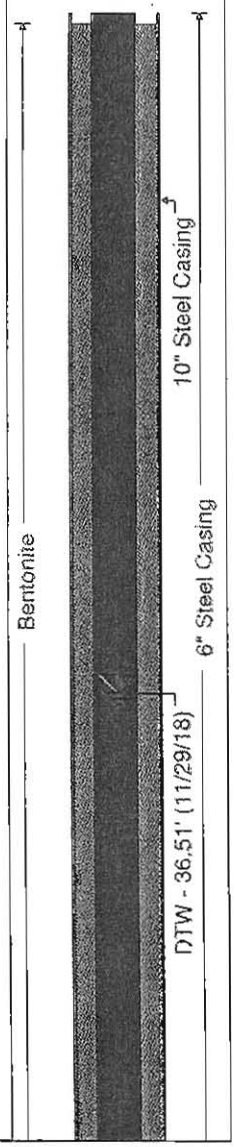
Log of Borehole: B29

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

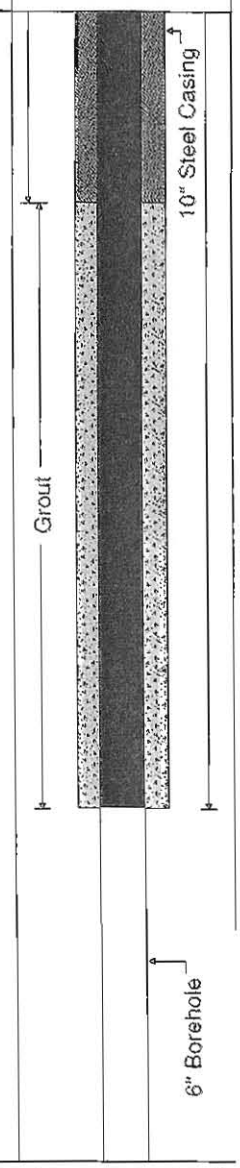
Log of Borehole: B29

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					
102–119		*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: CSV'1003

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		*B29-14 (180'-200')* Competent bedrock. No sample collected. Fracture observed approximately 185 ' bgs; estimated 75 gpm.						6" Borehole
182								
183								
184								
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189								
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195								
196								
197								
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199								
200			200.0					
201		End of Borehole						
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240								

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

GREENE ENVIRONMENTAL SERVICES LLC.

ENVIRONMENTAL OPTIONS, INC
P.O. Box 87?
Rocky Mount, VA 24151
(540) 483-3920 (TEL)
(540) 483-3855 (FAX)

GREENE ENVIRONMENTAL
570 REDBUD HILL ROAD
ROCKY MOUNT VA 24151

RE: BACTERIOLOGICAL ANALYSIS OF WATER
10625 STEWARTSVILLE ROAD
VINTON VA 24179

COMMISSION NO: 12305

REPORT DATE: MAY 8, 2019

METHOD REFERENCE: STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER: 19TH ED.

SAMPLE ID: 49568 **FIELD ID:** MW 12 05/07/19 1:45 PM **ANALYST:** S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

SAMPLE ID: 49569 **FIELD ID:** MW 13 05/07/19 2:00 PM **ANALYST:** S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

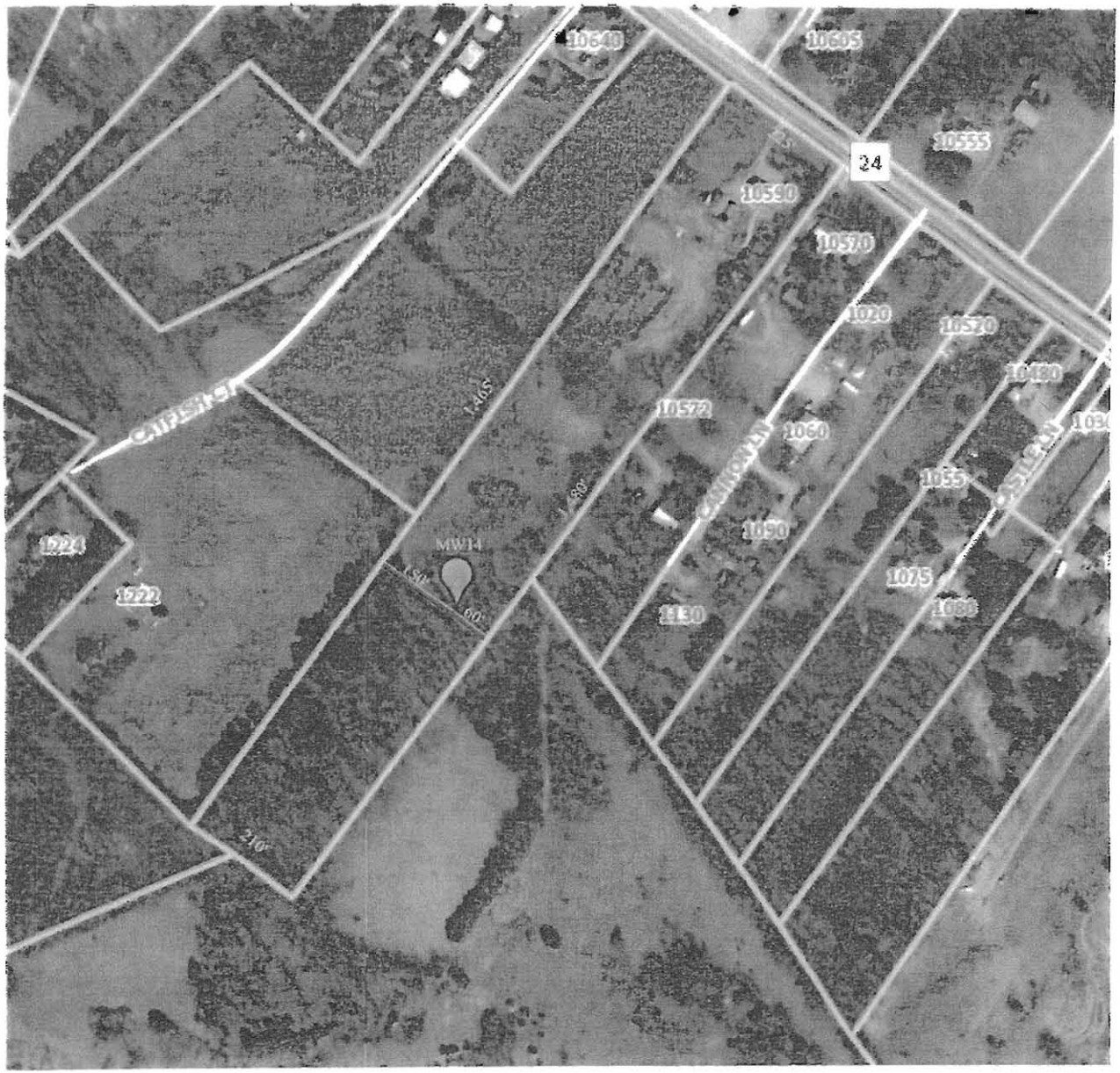
SAMPLE ID: 49570 **FIELD ID:** MW 14 05/07/19 2:20 PM **ANALYST:** S. SECRIST

ANALYSIS	RESULT	METHOD
TOTAL COLIFORM	NEGATIVE*	9223B
E. COLI	NEGATIVE*	9223B

*PASSES STATE REQUIREMENTS

STATE CERTIFICATE NO. 00122
IF ENVIRONMENTAL OPTIONS ANALYTICAL SERVICES MAY BE OF ANY FURTHER ASSISTANCE, PLEASE DO NOT HESITATE TO CONTACT ME.

PAMELA B. WESTGATE
PRESIDENT



GREENE ENVIRONMENTAL SERVICES LLC

TITLE:	MW14 LOCATION MAP		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #	CSVI1005
CLIENT:	LACY DUDLEY ESTATE	DATE:	05/09/19
COMMENTS:		DRAWN BY:	MAF

III B WELL PERMIT

Water Supply and/or Sewage Disposal System Construction Permit

Commonwealth of Virginia
Department of Health
BEDFORD CO Health Department

Health Department Identification Number 109-19-0220
Map Reference 176-A-13

General Information

Water Supply System: New X Repair ___ Public ___ FHA ___ VA ___ Case No. ___
~~Sewage Disposal System: New ___ Repair ___ Expanded ___ Conditional ___ Public ___~~
Based on the application for a sewage disposal system construction permit filed in accordance with Section 2.13 E, of the Sewage Handling and Disposal Regulations and/or Section 2.13 of the Private Well Regulations a construction permit is hereby issued to:
Owner Tom Houck Telephone ___
Address 10555 Stewartsville Rd - Vinton, VA 24179 ~~For a Type ___ Sewage Disposal System~~ or Well to be constructed on/at TM # 176-A-13
Subdivision ___ Section/Block ___ Lot ___ Actual or estimated water use ___

DESIGN	NOTE: SEWAGE DISPOSAL SYSTEM INSPECTION RESULTS
Water supply, existing: (describe) ___ **To be installed:** class III B cased 50 FT grouted 50 FT	**Water supply location:** Satisfactory yes ☐ no ☐ comments Completion Report G. W. 2 Received: yes ☐ no ☐ not applicable ☐
Building sewer: ___ I.D. PVC Schedule 40, or equivalent. Slope 1.25" per 10' (minimum). ☐ Other ___	**Building sewer:** yes ☐ no ☐ comments Satisfactory
Septic tank: Capacity ___ gals. (minimum). ☐ Other ___	**Pretreatment unit:** yes ☐ no ☐ comments Satisfactory
Inlet-outlet structure: PVC Schedule 40, 4" tees or equivalent. ☐ Other ___	**Inlet-outlet structure:** yes ☐ no ☐ comments Satisfactory
Pump and pump station: No ☐ Yes ☐ describe and show design. if yes: ___	**Pump & pump station:** yes ☐ no ☐ comments Satisfactory
Gravity mains: 3" or larger I.D., minimum 6" fall per 100', 1500 lb. crush strength or equivalent. ☐ Other ___	**Conveyance method:** yes ☐ no ☐ comments Satisfactory
Distribution box: Precast concrete with ___ ports. ☐ Other ___	**Distribution box:** yes ☐ no ☐ comments Satisfactory
Header lines: Material: 4" I.D. 1500 lb. crush strength plastic or equivalent from distribution box to 2' into absorption trench. Slope 2" minimum. ☐ Other ___	**Header lines:** yes ☐ no ☐ comments Satisfactory
Percolation lines: Gravity 4" plastic 1000 lb. per foot bearing load or equivalent, slope 2" 4" (min. max.) per 100'. ☐ Other ___	**Percolation lines:** yes ☐ no ☐ comments Satisfactory
Absorption trenches: Square ft required ___: depth from ground surface to bottom of trench ___; aggregate size ___: Trench bottom slope ___; center to center spacing ___; trench width ___ Depth of aggregate ___; Trench length ___; Number of trenches ___	**Absorption trenches:** yes ☐ no ☐ comments Satisfactory Date ___ Inspected and approved by. ___ Sanitarian

C.H.S 202A

Health Department Identification Number 109-19-0222

Schematic drawing of sewage disposal and/or water supply system and topographic features.

Show the lot lines of the building site, sketch of property showing any topographic features which may impact on the design of the well or sewage disposal system, including existing and/or proposed structures and sewage disposal systems and wells within 200 feet. The schematic drawing of the well site or area and/or sewage disposal system shall show sewer lines, pretreatment unit, pump station, conveyance system, and subsurface soil absorption system, reserve area, etc. When a nonpublic drinking water supply is to be permitted, show all sources of pollution within 200 feet.

~~☐ The information required above has been drawn on the attached copy of the sketch submitted with the application. Attach additional sheets as necessary to illustrate the design.~~

* SEE ATTACHED PERMIT DRAWING

III B

- 50 FT CASING
- 50 FT GROUT

MINIMUM !!

~~**This sewage disposal system and/or water supply is to be constructed as specified by the permit _____ or attached plans and specifications _____.**~~

This sewage disposal system and/or well construction permit is null and void if (a) conditions are changed from those shown on the application (b) conditions are changed from those shown on the construction permit.

No part of any installation shall be covered or used until inspected, corrections made if necessary, and approved, by the local health department or unless expressly authorized by the local health dept. Any part of any installation which has been covered prior to approval shall be uncovered, if necessary, upon the direction of the Department.

Date: 7/15/19 **Issued by:** [signature]
MATTHEW BEAMER Sanitarian

Date: _____ **Reviewed by:** _____
Supervisory Sanitarian

This Construction Permit Valid until 7/14/24

If FHA or VA financing

Reviewed by Date _____ _____ **Date** _____ _____
Supervisory Sanitarian Regional Sanitarian

C.H.S. 202B

WELL COMMENTS

* A copy of a Uniform Water Well Completion Report shall be provided to the local health department within 30 days of the completion of the well (12 VAC 5-630-440).

* Class IIIB well to be 50' + from sewage disposal system or any other potential source of contamination.

* Confirm that well location flagged in the field is in accordance with measured distances as shown on construction site plan.

* Keep well outside of any public utility easements (PUEs) and Drainage Easements

* Maintain 50' minimum separation distance from property line due to Agricultural Operation.

* Mark all utilities prior to drilling well (Miss Utility Dial 811)

* No Class III private well shall be placed closer than 50 feet from a building foundation that has been chemically treated with any termiticide or other pesticide.(12 VAC 5-630-380 F.).

* The well casing shall be extended at least 12 inches above grade (12 VAC 5-630-410 A.4.).

* The well may not be placed in a low area or an area subject to the collection of pollutants (12 VAC 5-630-380 C.).

* The well site shall be graded to divert surface water away from the well (12 VAC 5-630-390 C.).

** Please submit (GW2) Water Well Completion Report (from well driller) and the Bacteriological Laboratory Testing Results to the Health Department.

** This Permit is valid for drilling only one (1) well.

* The well site shall be barricaded from heavy equipment and livestock to avoid damage and contamination. (12 VAC 5-630-390 B.).

PERMIT DRAWING

HDID#
109-19-0220
Tax Map#
176-A-13

NOT-TO-SCALE

INSTALL IIIB
Well

* Install One (1) IIIB well within the designated well area in accordance w/permit & specifications

Proposed IIIB Well Area (10' x 10')

NOTE
* Well MUST BE AT LEAST 50FT to All Property Lines

— SOFT CASING & GROUT MINIMUM!!

GREENE ENVIRONMENTAL SERVICES LLC.			
TITLE:	MW14 LOCATION MAP		
SITE:	CHAMBLISSBURG SUPPLY	DRAWING #:	CSVI1005
CLIENT:	LACY DUDLEY ESTATE	DATE:	05/09/19
COMMENTS:		DRAWN BY:	MAF

7/15/19
MEB

COMMONWEALTH of VIRGINIA

M. Norman Oliver, MD, MA
State Health Commissioner

DEPARTMENT OF HEALTH
OFFICE OF DRINKING WATER
Danville Field Office

211 Nor Dan Drive, Suite 1040
Danville, VA 24540
Phone: 434-836-8416
Fax: 434-836-8424

June 20, 2019

SUBJECT: Bedford County
Elei's Convenience Store

Mr. Zouhir Safar
Safar's Discount Tobacco & Grocery
10625 Stewartsville Road
Vinton, VA 24179

Dear Mr. Safar:

The Virginia Department of Health ("VDH") recently contacted you regarding the status of your waterworks facility located at Elei's Convenience Store, in Bedford County, Virginia. The intent of that contact was to gather information about the water system serving the subject convenience store. The information was necessary to enable the VDH to determine if the water system met the current definition of a "waterworks."

Based on the information provided in your questionnaire received on June 10, 2019, the subject water system provides water services to one service connection, serving a total of 3 employees. The facility does not have public restroom access and does not prepare or serve food to the public. As noted in previous correspondence, a waterworks is "a system that serves piped water for human consumption to at least 15 service connections or 25 or more individuals for at least 60 days out of the year." Therefore, the subject facility is not regarded as a public waterworks.

Please be aware, should you expand the subject waterworks or provide water services to the general public, then you may be considered to be operating a public water supply. Should the number of individuals served by the subject facility be 25 or more people, then you would be considered to be operating a public water system. At such time, you would be required to contact VDH and to meet all applicable construction, operational, and monitoring requirements of the *Waterworks Regulations*.

Should you have any questions, please feel free to contact me for assistance.

Sincerely,

T. Chad Merricks

T. Chad Merricks
Environmental Health Specialist Consultant

RLP:jas
cc: Bedford County Health Dept., Attn: Environmental Health Manager
VDH-ODW-Central
Trev Greene, Greene Environmental

View of MW13/DW01B subsequent to installing the pitless adapter, supply piping, and electrical wire.

View of the supply piping and electrical wire for DW01B being installed.

Additional view of the supply piping and electrical wire for DW01B being installed.

View of MW12/DW03C subsequent to installing the pitless adapter, supply piping, and electrical wire.

View of the supply piping and electrical wire for both DW01B and DW03C being installed in the same trench.

Additional view of the supply piping and electrical wire for both DW01B and DW03C being installed in the same trench.

Additional view of the supply piping and electrical wire for both DW01B and DW03C being installed in the same trench.

View of the supply piping and electrical wire for both DW01B and DW03C during installation activities.

View of MW14/DW02C subsequent to installing the pitless adapter, supply piping, and electrical wire. The area has been backfilled.

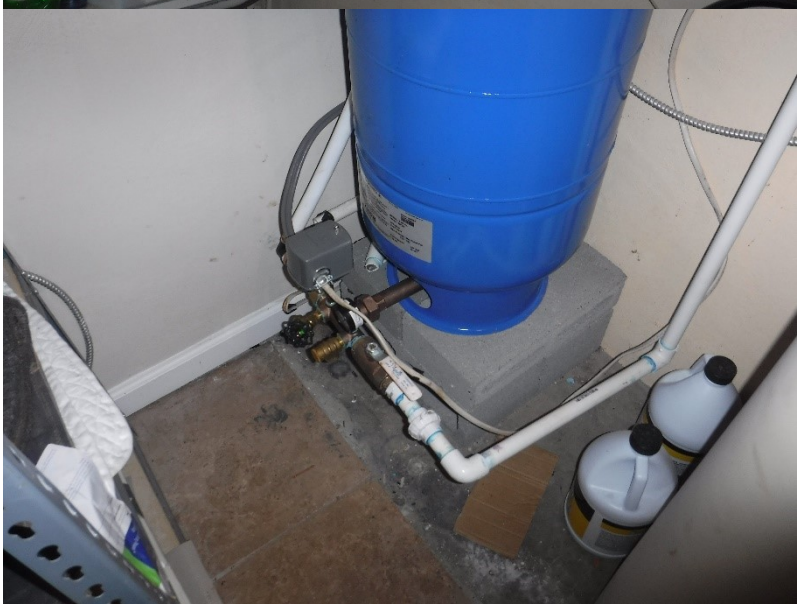
View of the supply piping and electrical wire for DW02C being installed.

View of the supply piping and electrical wire trench for DW02C subsequent to being backfilled and resurfaced with grass seed and straw mulch.

Additional view of the supply piping and electrical wire trench for DW02C subsequent to being backfilled and resurfaced with grass seed and straw mulch.

View of the supply piping and electrical wire for DW02C entering the basement of the Farkas Residence.

View of the supply piping and electrical wire for DW02C within the basement of the Farkas Residence.



View of the final connections at the pressure tank to allow DW02C to provide potable water to the Farkas Residence.

APPENDIX F

Associated Documents

Site Access Agreement – Mr. Elei Safar

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. Elei Safar
c/o Mr. Zouhir Safar
10625 Stewartsville Road
Vinton, Virginia 24179
Sent via email only (Zouhir_Safar@yahoo.com)

August 5, 2019

Dear Mr. Safar,

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 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. Install groundwater monitoring well(s).
2. Conduct routine groundwater monitoring and sampling activities as applicable.
4. Install replacement supply wells and associated water lines as necessary.
3. 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 (tgreene@greene-environmental.com), or mail (570 Redbud Hill Road, Rocky Mount, VA 24151).

ELEI SAFAR / 8-13-19

Thank you for your time and help in this matter. Please feel free to contact me at 540-483-3311 (office) or 540-493-8738 (mobile) if you have any questions or if additional information is required.

Sincerely,

Trevilian Greene

Trevilian Greene
Project Manager

By my signature below, I represent that as an authorized representative of the owner of the 10625 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

8-13-19
Date

ELEI SAFAR LAND OWNER
Printed Name & Title