Periodic Review Report

Olean Redevelopment Parcel 3
Olean, New York
BCP Site No. C905033

November 2020 0334-016-001

Prepared For:

Solean LLC

Prepared By:

BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

2558 Hamburg Turnpike, Buffalo, New York | phone: (716) 856-0599 | fax: (716) 856-0583

PERIODIC REVIEW REPORT

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2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
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PERIODIC REVIEW REPORT – 2019/2020

Olean Redevelopment Site 3

Table of Contents

PERIODIC REVIEW REPORT – 2019/2020
Olean Redevelopment Site 3
Table of Contents

FIGURES

TABLES

APPENDICIES

1.0 INTRODUCTION

Benchmark Environmental Engineering & Science, PLLC (Benchmark) has prepared this Periodic Review Report (PRR), on behalf of Solean LLC (Solean) to summarize the post-remedial status of New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site No. C905033, located in Olean, Cattaraugus County, New York (Site; see Figures 1-3), commonly referred to as the Olean Redevelopment Parcel 3 (Site).

This PRR has been prepared for the Site in accordance with NYSDEC DER-10/*Technical Guidance for Site Investigation and Remediation* (Ref. 1). The NYSDEC's Institutional and Engineering Controls (IC/EC) Certification Form has been completed for the Site (see Appendix A).

This PRR and the associated inspection form has been completed for post-remedial activities at the Site during the reporting period of October 9, 2019 to October 9, 2020.

1.1 Site Background

Olean Gateway LLC (Olean Gateway) entered into a Brownfield Cleanup Agreement (BCA) (BCP Site No. C905033; Index No. C905033-08-12), with the New York State Department of Environmental Conservation (NYSDEC) in October 2012 to investigate and remediate the approximate 24-acre property comprised of two tax parcels identified as 1420 Buffalo Street (SBL#94.048-1-1.1; 11.8 acres) and 1404-1406R Buffalo Street (SBL# 94.048-1-1.2; 11.7 acres), and 1408 Buffalo Street (SBL #94.048-1-1.3; 0.6 acres) in the City of Olean, Cattaraugus County, New York and referred to as Olean Redevelopment Parcel 3 (ORP3 or Site) (see Figures 1 and 4). The Site was remediated to NYSDEC Part 375 Track 4 commercial soil cleanup objectives (SCOs) and will be used for commercial purposes.

ORP3 is a portion of the larger former refinery operation that operated in the Olean area from the mid-1800s through the 1950s. Separate refineries operated on the property, were merged in 1902 into the Vacuum Oil Company and in 1931 became the Socony-Vacuum Oil Company until 1954 when the refinery closed. The property was divided into multiple parcels in the 1960s. Felmont Oil Company (Felmont) constructed an anhydrous ammonia plant on the northern parcels where they manufactured ammonia from natural gas. Felmont sold the ammonia to Agway for use in manufacturing fertilizer at Agway's plant located on what is now referred to as Olean Redevelopment Parcel 1. In 1983, Agway purchased the portion of the

Felmont property that included the ammonia production plant. Agway dismantled and sold both the ammonia and fertilizer plants in 1984.

The owner of ORP3 at the time of issuance of the Site Management Plan (SMP; Ref. 4) was Olean Gateway LLC. Olean Gateway, LLC conveyed ownership and transferred the Certification of Completion (COC) to Solean LLC in March 2016. In June 2016, the COC was transferred to leaseholders 1406RB PV LLC and 1470B PV LLC.

The properties adjoining and in the neighborhood surrounding the Site primarily include commercial and industrial properties; vacant former industrial (ORP1) immediately south of the Site remediated under the BCP and undergoing redevelopment for commercial use and Dresser-Rand Company property; the Southern Tier Rail line north and east of the Site; and ORP2 west of the Site remediated under the BCP and is undergoing redevelopment as a commercial solar farm. Figure 2 is an aerial view of the Site following remediation and prior to the redevelopment activities.

The Site has been redeveloped as a photovoltaic solar system consisting of nominally 1,000 solar arrays to in feed the nearby National Grid commercial electrical system (grid) as described in the July 2017 PRR (Ref. 5). During 2016 reconstruction activities, the cover system became rutted and vegetation disturbed. The damaged cover system was repaired in the summer and fall 2017 in accordance with the July 2017 Work Plan for Soil Cover Restoration Activities. Figure 3 is an aerial view of the Site following redevelopment.

1.2 Purpose/Scope

The SMP requires, among other things, periodic inspection and certification that the institutional and engineering controls implemented at the Site remain in place and are functioning as designed. This PRR serves that purpose as well as documenting post-remedial actions taken during this reporting period.

2.0 SITE OVERVIEW

Interim Remedial Measures (IRM) activities were performed per the IRM Work Plan prepared by ExxonMobil (Ref. 6). The IRM Report for the Buffalo Street Properties (Olean Redevelopment Parcels 1, 2 & 3) was prepared in March 2011 (Ref. 7). A Remedial Action Work Plan (RAWP) was submitted by Olean Gateway, LLC in March 2014 (Ref. 8) to address the residual soil and groundwater remediation and was approved by the NYSDEC on April 11, 2014. The remedial program was successful in achieving the remedial objectives for the Site. The October 2015 SMP (Ref. 4) and Final Engineering Report (FER; Ref. 9) were approved by the Department. The COC was issued to Olean Gateway LLC and recorded on December 24, 2015.

Prior remedial activities described below occurred between 2010 and 2015 and were performed under an approved Interim Remedial Measures (IRM) Work Plan and the approved RAWP.

2.1 Interim Remedial Measures (IRMs)

IRMs were previously performed in 2010 (prior to purchase of the property by Olean Gateway) by ExxonMobil in accordance with the IRM Work Plan. The IRM Report for the Buffalo Street Properties (Olean Redevelopment Parcels 1, 2 & 3) was prepared in March 2011. The previous IRM activities associated with ORP3 consisted of the following:

- Removal of one 2,000-gallon and two 500-gallon steel USTs associated with former Building 2. The purpose and original contents of these tanks was not provided by W&C. Upon excavation, the 2,000-gallon UST was filled with water and minor amounts of sediment. The water sample from the tank contained minor detections of petroleum constituents. The two 500-gallon USTs were reportedly empty except for the presence of nominally 2 inches of rust-colored material in the bottom of one of the tanks. The tanks and their contents were disposed off-site per the IRM Report.
- Closure/removal of several suspected septic tanks:
    - Building 1: One vertical concrete tank (36" diameter) of unreported length had its liquid and solid contents removed. The tank and its contents were disposed off-Site.
    - Pump House Tank: One 500-gallon steel tank had its liquid and solid contents removed and was closed in-place.

  - Trench 8: One steel tank filled with soil/fill of unknown size removed.

- Targeted removal of soil/fill in the vicinity of former soil boring SB28 to remove elevated levels of arsenic and lead in shallow soil (0 to 2 feet below grade).
- Targeted removal of soil/fill in the vicinity of former soil boring SB48 to remove elevated levels of chromium, copper, selenium, zinc and lead.
- Recovery of measurable light non-aqueous phase liquid (LNAPL) from groundwater monitoring wells via sorbent socks.

2.2 Remedial Actions

The following is a summary of the remedial actions completed by Olean Gateway at ORP3:

- Approximately 425 tons of arsenic-contaminated soil/fill was excavated, loaded, and transported off-site by D&H Excavating for disposal at Waste Management's Chaffee Landfill, located in Chaffee, NY.
- Approximately 235 tons of grossly contaminated petroleum soil (GCPS) was excavated, loaded, and transported off-site by D&H Excavating for disposal at Waste Management's Chaffee Landfill, located in Chaffee, NY.
- Approximately 7,592 tons of lead-contaminated soil/fill were stabilized in-place using a mixture of Portland cement to treat the soil and render it non-hazardous.
- Approximately 50,667 linear feet of subsurface metallic product piping (steel, cast iron, lead and copper) was exposed, tapped, evacuated of contents, removed, cleaned and recycled or disposed. An additional 232 linear feet of wood pipe was also exposed, tapped, evacuated of contents, removed, cleaned and disposed off-site. Piping that extended beyond the property boundary was capped and/or grouted at the apparent property line. Approximately 2,552 cubic yards of GCPS was excavated during piping removal activities and treated on the on-site forced-vented biopiles (FVBPs) and reused as backfill below the cover system.
- Approximately 33, 55-gallon drums were generated from the removal of the abandoned subsurface piping. The contents of the piping included LNAPL, residual pipe scale, and product sludge. The 33 drums (21 non-hazardous and 12 hazardous) were disposed at CWM Chemical Services, LLC, located in Model City, NY. In addition to the drums, approximately 4.9 tons of tank contents that were placed into roll-off containers and solidified with Portland cement due to liquid content were disposed at Waste Management's Chaffee Landfill, located in Chaffee, NY. Water extracted from excavations during piping removal was pumped into holding tanks, treated with bag filters and granular activated carbon (GAC) on-site,

pumped into a secondary on-site temporary holding tank, sampled, and discharged to the City of the Olean sanitary sewer with approval under an Industrial Pretreatment Program permit. Approximately 6 drums of wash water generated during holding tank cleaning were disposed at CWM Chemical Services, LLC, located in Model City, NY.

- An SVE system was installed to address GCPS remaining in-place in the deeper soil/fill from approximately 2 to 15 feet below ground surface (fbgs). The SVE system included the installation of 58 SVE wells, associated conveyance piping, and placement of three trailer-mounted SVE blowers (refer to Figure 7). Emissions from the SVE system are controlled using biofilters contained within an approximate 20-foot by 8-foot steel roll-off box outfitted with perforated pipe. The biofilters contain an approximate 1-foot thick gravel layer at the base of the box overlain by approximately 3 feet of wood chip and compost filter medium, which allows the naturally occurring microbes to bioremediate the air stream and control the nuisance odors from the SVE systems.
- LNAPL recovery was completed using hydrocarbon absorbent socks at groundwater monitoring wells W22 and W24. LNAPL thickness at these locations varied between approximately 0.01 and 0.3 feet in 2014-2015. During LNAPL monitoring events, the socks were wrung of product and reinstalled. Recovered product was transferred to properly labeled and sealed 55-gallon drums for future off-site disposal. Socks with obvious LNAPL staining/saturation were removed and replaced with new socks.
- A final cover system consisting of a demarcation layer, minimum 12 inches of clean imported soil, and vegetation was installed at the Site in 2015.
- An Environmental Easement was executed in December 2015 between Olean Gateway and the NYSDEC and recorded with the deed in Cattaraugus County to restrict land use to commercial/industrial purposes; restrict the use of groundwater as a source of potable or process water without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH) or County DOH; and prevent future exposure to any contamination remaining at the Site.

2.3 Site Redevelopment Activities

The Site was sold by Olean Gateway, LLC to Solean LLC on March 17, 2016. The COC was transferred on June 21, 2016 to the following new leaseholders: 1406RB PV LLC and 1470B PV LLC. The Site was redeveloped as a photovoltaic solar system consisting of nominally 1,000 solar arrays to in-feed the nearby National Grid commercial electrical system

(grid) in accordance with an August 31, 2016 Work Plan for Redevelopment Activities (Ref. 10) approved by the NYSDEC. Redevelopment construction began in October 2016 and was substantially complete in July 2017. During solar facility construction, there was some rutting of the soil cover system and damage to the vegetation. Solar facility construction activities included installation of a new access road, concrete pads, above ground equipment, power poles, fence gates and support poles, and conduits. Three power poles, four equipment support poles, 10 gate posts, fence posts, and approximately 80 linear feet of conduit (for Verizon/National Grid communications) penetrated through the cover system; all other construction activities occurred on the ground surface or above the demarcation layer.

Cover system repairs were needed in areas where the redevelopment activities caused rutting to the cover and damage to the vegetation as documented in the July 2017 Work Plan for Soil Cover Restoration Activities (Ref. 11). The damaged cover system was repaired during the summer and fall 2017. Benchmark was on-site to observe and document that all imported material was placed and graded to meet pre-positioned grade stakes set to assure at least 12 inches of cover over the original subgrade elevations measured prior to redevelopment activities (Ref. 2).

3.0 SITE MANAGEMENT PLAN

An SMP was approved by the Department on October 23, 2015. The SMP includes an IC/EC Plan, a Monitoring and Sampling Plan, an Operation & Maintenance (O&M) Plan, an Excavation Work Plan (EWP), and a copy of the Environmental Easements. A brief description of the components of the SMP is presented below.

3.1 IC/EC Plan

As detailed in the Environmental Easement, several IC/ECs need to be maintained as a requirement of the BCA.

3.1.1 Institutional Controls

- Groundwater-Use Restriction: The use of groundwater for potable and non-potable purposes is prohibited.
- Land-Use Restriction: The controlled property may be used for commercial and/or industrial use.
- Implementation of the SMP: The OM&M Plan and EWP must be followed.

3.1.2 Engineering Controls

- Vapor Mitigation: There are no buildings on-site and, as such, no sub-slab depressurization system exists.
- SVE System: The SVE system was operated and monitored nearly continuously between July 2014 and October 2019 and continues to operate.
- LNAPL Recovery/Monitoring: LNAPL recovery and monitoring is performed monthly.
- Groundwater Monitoring: Groundwater monitoring was completed annually in June 2018.
- Cover System: The cover system is intact and functioning as intended (see Figure 5).

3.1.3 Site Inspection & IC/EC Compliance

On March 11, 2020, Benchmark's Certifying Professional Engineer performed a Site visit and assessment. During the visit, the Site covered by this PRR was found to be compliant

with the IC/EC requirements. Appendix A includes the completed and P.E.-certified IC/EC Form for the Site. Appendix B includes the site photo log.

3.2 Monitoring and Sampling Plan

The Monitoring and Sampling Plan specifies the methods used for sampling of:

- LNAPL monitoring and collection
- Sampling and analysis of groundwater
- Remedial SVE system monitoring
- Site-wide inspection
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment

3.2.1 LNAPL Monitoring/Recovery System

LNAPL has historically been detected in Site monitoring wells W22 and W24. Table 1 presents a summary of the monthly LNAPL measurements for the period July 17, 2014 through September 28, 2020. During this reporting period, the LNAPL thickness in the well ranged from not detectable to 0.11 feet in well W22; no LNAPL was detected between October 2019 and May 2020. LNAPL was not detected in well W24 during the reporting period except for in June 2020 when 0.04 feet of LNAPL was noted.

LNAPL is recovered using hydrocarbon absorbent socks installed in the well at the LNAPL/water interface. During monthly inspections, socks that have obvious LNAPL staining/saturation are removed and replaced with new socks. There were no sock change-outs for either of the wells during the reporting period; therefore, Table 1 indicates no product recovered for either well.

3.2.2 Groundwater Sampling and Analysis

The SMP states that groundwater monitoring is to be performed semi-annually for the first two years (2016 and 2017) and annually thereafter. Since the last reporting period, groundwater monitoring was completed in June 2020 using the procedures in the approved SMP. Well WCMW9 was dry during all sampling attempts in June 2020; therefore, a sample was not obtained for analysis. Wells W22 W24 were also not sampled in June 2020 since there

was measurable LNAPL at the time of sampling. For wells to be sampled, a groundwater sample was obtained from each well and analyzed for target compound list (TCL) volatile organic compounds (VOCs) and tentatively identified compounds (TICs) using USEPA Method 8260; semi-VOCs (SVOCs) and TICs via USEPA Method 8270; and arsenic, chromium and lead using USEPA Method 6010. Table 2 summarizes groundwater elevations from 2012 through 2020. Tables 3 and 4 summarize the analytical results as well as historic groundwater quality data. Appendix C (electronic version) includes the laboratory analytical data packages and field notes from the groundwater sampling event.

3.2.2.1 Groundwater Elevations

Figure 6 is the groundwater isopotential map for the elevations measured during the June 2020 sampling event (refer to Table 2). Overall groundwater flow direction in the uppermost sand and gravel aquifer is toward the southeast consistent with the prior groundwater contour maps. This indicates that wells MW5 and W18 are upgradient and wells W29, MWSW and MW4 are downgradient. A perched water condition exists at well WCMW9; therefore, the elevations measured in June 2020 (1413.95) referenced per NAVD 88 was not used to prepare the isopotential map. Well W29 is downgradient of SVE System 3-SVE-1, and wells MWSW, MW4 and WCMW9 are downgradient of SVE Systems 3-SVE-2 and 3-SVE-3 (refer to Figure 7).

3.2.2.2 Analytical Data

Analytical results for the June 2020 sampling event are incorporated into Table 3 (VOCs and SVOCs) and Table 4 (metals) and discussed below.

VOCs

Groundwater quality either improved or remained the same as the July 2019 results except the concentration of 1,2,4-trimethylbenzene in MW-4 increased from ND to 54 ug/L. Benzene remained above its GWQS at MW-4. Wells MWSW, MW-5, W-18, and W-29 had no GWQS exceedances. VOC-TICs decreased at all well locations between the July 2019 and June 2020 sampling events.

SVOCs

SVOCs were not detected at concentrations above GWQS/GVs. SVOC-TIC concentrations were generally lower than those detected in July 2019 but consistent with historical results.

Metals

The metals analyses included arsenic, chromium, and lead. Wells MWSW, MW-4, MW-5, W-18, and W-29 had no GWQS exceedances. Wells W24 and W22 were not sampled due to the presence of LNAPL. During the June 2020 sampling event, WCMW-9 was dry. If well WCMW-9 produces enough water for sampling during future events, both filtered and unfiltered groundwater will be analyzed for arsenic, chromium, and lead

3.2.3 SVE System and Monitoring

The three SVE systems at Olean Redevelopment Parcel 3 have been operating nearly continuously since March 2015. The SVE systems are comprised of two main components:

1. The collection system is a constructed of a series of vertical extraction wells and extraction well manifold piping; and,
2. The trailer-mounted mechanical SVE systems, which consist of the blowers, motors and ancillary equipment that generate the vacuum and move the extracted vapor to the biofilter treatment vessel. There are three SVE blowers, denoted 3-SVE-1, 3-SVE-2, and 3-SVE-3, connected to a series of wells (refer to Figure 7). There are 58 wells connected to the three blowers as follows: wells SVE3-1 to 3-19 are connected to 3-SVE-1 blower; wells SVE3-20 to SVE3-38 are connected to 3-SVE-3 blower; and wells SVE3-39 to SVE3-58 are connected to 3-SVE-2 blower. The extracted air is conveyed through 6" PVC piping installed below grade from the wells to the blower. The approximate piping network is shown on Figure 7. The extracted air is treated in a biofilter prior to discharge to the atmosphere. The biofilter treatment medium consists of a mixture of compost and mulch (approx. 50% each by weight). The natural bacteria in the biofilter use the organics in the waste stream as a source of energy. The biofilter medium needs to be maintained in a slightly wet state and needs to be periodically mixed (fluffed-up). Biofilter media requires mixing when nuisance odors become an issue or when a thick cake layer forms on top preventing proper venting. The top 4-6" of the biofilter media is mixed/raked periodically to keep the media broken up and loose. The tables in Appendix D include dates when the biofilter material was raked.

SVE systems 3-SVE-1, 3-SVE-2 and 3-SVE-3 have all been successful in removing volatile organic compounds from the subsurface soil/fill. As shown on Tables D-1[1] to D-3, the estimated mass of organic petroleum hydrocarbons removed for each system through September 2020 is over 139,000 lb, including: 17,949 lb (3-SVE-1); 90,405 lb (3-SVE-2); and 30,790 lb (3-SVE-3). Appendix D also includes a graphic chart for each system showing VOC mass removal over time. The rate of removal for 3-SVE-1 was at its maximum of 115 lb/day in March 2015 and has been less than 1.0 lb/day since October 2017 (except for a 1.2 lb/day rate of removal in January 2018). The rate of removal for 3-SVE-2 has consistently been below 100 lb/day since January 2017, dropped below 10 lb/day in March 2018, and has fluctuated between 1.1 and 0.1 lb/day during the reporting period. The rate of removal for 3-SVE-3 dropped below 50 lb/day in 2016, below 10 lb/day beginning in February 2017, and has fluctuated between 0.1 and 0.6 lb/day during the reporting period.

Over the 3.5 years of operation, the SVE systems have been effective in reducing VOC concentrations within the vadose zone based on influent PID readings. SVE System 3-SVE-1 had an initial influent PID concentration of 700 ppm and has dropped 3.0 ppm, which equates to a 99.6% reduction. SVE Systems 3-SVE-2 and 3-SVE-3 have had similar reductions: 97.8% reduction at 3-SVE-2 (initial concentration of 765 ppm and current concentration of 16.6 ppm) and 99.3% reduction at 3-SVE-3 (initial concentration of 635 ppm and current concentration of 4.2 ppm).

3.2.4 Site-Wide Inspection – Cover System Monitoring

The existing cover system is comprised of a minimum of 12 inches of clean soil (vegetated to prevent erosion) and 12 inches of gravel/stone for the access roads. A demarcation layer, consisting of orange plastic mesh material, provides a visual reference to the top of the remaining contamination zone, which is the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP.

In accordance with the SMP, the cover system must be maintained and replaced in the event it is breached as described in the EWP (SMP, Appendix B). The cover will be inspected

[1] Table D-1 has been updated since the 2019 PRR due to a formula error. The formula for column 'Volume of Air Processed Since Previous Reading (CF)' was transcribed incorrectly starting on August 10, 2015 causing subsequent calculations (Rate of VOC Removal, VOCs Removed Since Last Monitoring Period, and Total VOC Removed to Date) to be incorrect. The formula has been corrected and the revised results for VOC removal are included on Table D-1.

on an annual basis and following severe storm events. If frequent areas of distress are noted, they will be repaired based on the following conditions:

- Vegetative Soil Cover Monitoring: The key maintenance concerns and the respective corrective actions include:
  - *Areas where erosion problems (i.e., rills or gullies) are observed will be repaired by re-grading the localized area, adding the required fill material and/or topsoil, and reseeding/replanting.*
  - *If burrowing animals are observed breaching the soil cover, as evidenced by exposed fill material, they will be eradicated by a licensed exterminator.*

- Gravel/Stone Cover Monitoring: The key maintenance concerns and the respective corrective actions include:
  - *Ruts or erosion along the access roads will be repaired by re-grading the localized area and adding additional material.*

At the time of the Site inspection, the cover systems were intact and functioning as intended. Appendix B provides photographic documentation of Site conditions at the time of the Site inspection.

3.2.5 Discussion of Monitoring Results

The results of LNAPL monitoring show that there is a decrease in the amount of LNAPL present in wells W22 and W24 since the completion of the remediation (December 2015). Less than 0.11 feet of LNAPL was detected during the reporting period in well W22; no LNAPL was detected in October through May 2020. No LNAPL was detected in well W24 except for June 2020 where 0.04 feet of LNAPL was noted.

The groundwater quality has improved or stayed the same at all upgradient and downgradient wells. Minor GWQS exceedances remain at downgradient well MW4 (1,2,4-trimethylbenzene and benzene).

The SVE systems have been very effective in removing organic vapors from the vadose zone. All three SVE systems show a diminished and asymptotic organic removal rate. Over the reporting period, the rates of organic vapor removal are less than 0.6 lb/day (3-SVE-1 System), less than 1.1 lb/day (3-SVE-2 System), and less than 0.6 lb/day (3-SVE-3 System).

3.3 Operation & Maintenance Plan

The operation and maintenance (O&M) addresses operation and maintenance for the SVE systems.

3.3.1 SVE System

3.3.1.1 Routine System Operation and Maintenance

The SVE system is designed to require little maintenance over the expected duration of use at the ORP3 site. The blower bearing housing is oil-filled and is checked once per month, if the level is below the overflow, SAE 40 weight oil is added through the top fill port on the housing. Grease fittings for the blower shaft are topped-off periodically (i.e., every 2 months).

3.3.1.2 System Monitoring Devices and Alarms

Monitored system operating conditions, which trigger a local (red panel light) and remote (common autodialer channel) alarm condition include low air vacuum, high air pressure, moisture separator tank high level, condensate tank high level, and heater/exhaust fan failure. Except for heater/exhaust fan failure, these alarm conditions automatically shut down the SVE system. A trailer entry (security) relay also triggers a local and remote alarm but does not cause system shutdown. Blower and condensate pump failure (e.g., due to thermal overload, power loss, or manual shut down) also triggers the autodialer. If the SVE system alarm is activated, the autodialer will contact Benchmark. Based on the alarm fault, Benchmark will respond and/or contact the appropriate repair vendor (e.g. electrician, mechanical repair service).

There were no alarms during the reporting period for 3-SVE-1, 3-SVE-2, or 3-SVE-3.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- At the time of the Site inspection, the Site complied with the SMP. Specifically, the Site is fully compliant with the Institutional Controls including land-use restrictions, groundwater-use restrictions, and the soil/fill management plan component; and fully compliant with the Engineering Controls (operation of the SVE system, and monthly LNAPL monitoring).
- Long-term groundwater monitoring indicates that there has been significant overall improvement to groundwater quality across the Site with limited exceedances of GWQS/GVs.
- Neither W22 nor W24 were sampled in June 2020 due to the presence of LNAPL.
- The rate of removal with all three SVE systems has decreased to asymptotic levels and appears to have reached a regulatory end-point.

Recommendations

- The next annual groundwater sampling event is planned for June 2021. This event will include sampling of wells W22 and W24 if LNAPL is not detected per the SMP. If downgradient well WCMW-9 produces enough water for sampling, the sample will be analyzed for VOCs, SVOCs, and dissolved arsenic, chromium, and lead.
- Since contaminant concentrations at all three SVE systems have become asymptotic to a low level over an extended period, Benchmark proposes to discontinue operation of all three systems. Benchmark will provide a verification soil sampling work plan for Department approval. The work plan will outline a sampling plan to gather the data necessary to demonstrate the systems have achieved the remedial criteria outlined in Section 3.3.5.2 of the SMP.

5.0 DECLARATION/LIMITATION

Benchmark Environmental Engineering & Science, PLLC personnel conducted the annual site inspection for Brownfield Cleanup Program Site No. C905033, Olean, New York, according to generally accepted practices. This report complied with the scope of work provided to Solean LLC by Benchmark Environmental Engineering & Science, PLLC.

This report has been prepared for the exclusive use of Solean LLC. The contents of this report are limited to information available at the time of the site inspection. The findings herein may be relied upon only at the discretion of Solean LLC. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of Benchmark Environmental Engineering & Science, PLLC.

6.0 REFERENCES

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TABLES

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 1
LNAPL MONITORING AND COLLECTION LOG

OLEAN REDEVELOPMENT SITE 3 (BCP SITE NO. C905033)
OLEAN, NEW YORK

Date	Inspector's Initials	W22						W24					
		Product Present? (Y / N)	Product Depth (fbTOR)	Water Level (fbTOR)	Product Level (feet)	Product Recovered (gallons)	Change Absorbent Sock? (Y / N)	Product Present? (Y / N)	Product Depth (fbTOR)	Water Level (fbTOR)	Product Level (feet)	Product Recovered (gallons)	Change Absorbent Sock? (Y / N)
7/17/14	SF	Y	19.73	19.75	0.02	0	N	Y	23.3	23.68	0.38	0	N
10/29/14	JJR	Y	22.84	22.92	0.08	0	Removed	Y	25.31	25.75	0.44	0	Removed
11/5/14	JJR	Y	22.66	22.85	0.19	0	N	Y	24.99	25.06	0.07	0	N
11/23/14	JJR	Y	20.65	20.71	0.06	0	N	Y	24.84	25.11	0.27	0	N
12/15/14	JJR	Y	21.88	21.97	0.09	0	N	Y	25.11	25.34	0.23	0	N
1/15/15	JJR	Y	19.92	20.04	0.12	0	N	Y	23.19	23.39	0.2	0	N
2/27/15	BMG	Y	22.62	22.76	0.14	0	Y	Y	24.82	24.89	0.07	0	Y
4/6/15	BMG	Y	20.02	20.03	0.01	0	Y	Y	22.31	22.35	0.04	0	Y
7/2/15	BMG	N	NA	20.35	0	0	Y	Y	22.75	22.76	0.01	0	Y
9/2/15	PWW	Y	22.79	22.8	0.01	0	N	Y	24.98	25.05	0.07	0	N
9/29/15	PWW	Y	23.3	23.31	0.01	0	N	Y	25.35	25.41	0.06	0	N
10/14/15	PWW	Y	22.98	23.00	0.02	0	N	Y	24.91	25.00	0.09	0	N
10/28/15	ML	Y	23.00	23.02	0.02	0	N	Y	24.91	25.00	0.09	0	N
11/11/15	ML	Y	22.45	22.56	0.11	0	N	N	NA	24.41	0	0	N
11/24/15	ML	Y	22.06	22.16	0.10	0	N	Y	24.14	24.4	0.26	0	N
12/9/15	ML	N	NA	22.05	0.00	0	N	Y	23.84	23.86	0.02	0	N
12/22/15	ML	N	NA	21.87	0	0	N	Y	23.75	23.78	0.03	0	N
1/5/16	ML	N	NA	22.91	0	0	N	Y	22.39	22.41	0.02	0	N
2/2/16	ML	N	NA	20.86	0	0	N	Y	23.18	23.21	0.03	0	N
3/1/16	ML	Y	20.35	20.36	0.01	0	N	Y	22.33	22.37	0.04	0	N
4/12/16	BMG	Y	23.31	23.31	0	0	Y	Y	22.97	23.02	0.05	0	Y
5/4/16	ML	Y	20.55	20.76	0.21	0	N	Y	22.68	23.31	0.63	0	N
6/2/16	ML	Y	21.55	21.56	0.01	0	N	Y	23.86	23.87	0.01	0	N
7/6/16	BMG	Y	25.23	25.31	0.08	<0.1	Y	Y	25.18	25.23	0.05	<0.1	Y
8/1/16	BMG	Y	26.22	26.28	0.06	<0.1	Y	Y	26.08	26.13	0.05	<0.1	Y
9/9/16	BMG	Y	26.85	27.22	0.37	<0.1	Y	Y	26.14	26.15	0.01	<0.1	Y
10/27/16	BMG	Y	23.71	23.95	0.24	<0.1	Y	Y	23.71	23.72	0.01	<0.1	Y
11/22/16	BMG	Y	24.07	24.62	0.55	0.1	Y	N	NA	24.1	0	0	N
12/21/16	BMG	N	NA	23.82	0	0	N	N	NA	23.48	0	0	N
1/5/17	BMG	N	NA	22.72	0	0	N	N	NA	22.28	0	0	N
2/14/17	BMG	N	NA	21.11	0	0	N	N	NA	20.76	0	0	N
3/28/17	BMG	N	NA	22.21	0	0	N	N	NA	22.18	0	0	N
4/11/17	BMG	N	NA	21.61	0	0	N	N	NA	21.22	0	0	N
5/30/17	BMG	N	NA	22.26	0	0	N	N	NA	22.28	0	0	N
6/28/17	BMG	N	NA	23.33	0	0	N	N	NA	23.40	0	0	N
7/24/17	BMG	Y	24.2	24.21	0.01	0.05	Y	N	NA	24.12	0	0	N
8/9/17	CFD	N	NA	23.60	0	0	N	N	NA	24.76	0	0	N
9/26/17	CFD	N	NA	25.95	0	0	N	N	NA	25.46	0	0	N
10/26/17	CFD	Y	26.31	26.40	0.09	0.15	Y	N	NA	25.72	0	0	N
11/28/17	CFD	N	NA	26.53	0	0	N	N	NA	25.23	0	0	N
12/26/17	CFD	N	NA	25.23	0	0	N	N	NA	24.27	0	0	N
1/25/18	CFD	Y	24.7	24.74	0.04	0.1	Y	N	NA	23.89	0	0	N
2/15/18	CFD	Y	20.91	20.93	0.02	0.5	Y	Y	22.39	22.4	0.01	0.2	Y
3/12/18	CFD	N	NA	19.45	0	0	N	N	NA	20.72	0	0	N
4/27/18	CFD	Y	22.41	22.45	0	0.2	Y	N	NA	21.06	0	0	N
5/24/18	CFD	Y	21.57	21.62	0	0.2	Y	N	NA	21.34	0	0	N
6/28/18	CFD	N	NA	19.92	0	0	N	Y	22.18	22.20	0	<0.1	Y
7/17/18	CFD	N	NA	21.40	0	0	N	N	NA	24.48	0	0	N
8/11/18	CFD	N	NA	21.35	0	0	N	N	NA	24.24	0	0	N
9/24/18	CFD	Y	21.78	21.82	0.04	0.2	Y	N	NA	23.50	0	0	N
10/15/18	CFD	N	NA	21.14	0	0	N	N	NA	22.78	0	0	N
11/29/18	CFD	Y	21.46	21.50	0.04	0.1	Y	N	NA	23.14	0	0	N
12/20/18	CFD	N	NA	23.67	0	0	N	N	NA	22.84	0	0	N
1/21/19	CFD	Y	21.22	21.28	0.06	0.2	Y	N	NA	21.07	0	0	N
2/13/19	CFD	N	NA	20.88	0	0	N	N	NA	20.59	0	0	N
3/21/19	CFD	N	NA	21.15	0	0	N	Y	20.75	20.81	0.06	0.25	Y
4/24/19	CFD	N	NA	20.25	0	0	N	Y	22.49	22.53	0.04	0.30	Y
5/24/19	CFD	Y	20.60	20.64	0.04	0.2	Y	Y	21.26	21.27	0.01	0	Y
6/21/19	CFD	Y	20.48	20.50	0.02	0.1	Y	Y	21.15	21.18	0.03	0.10	Y
7/30/19	CFD	N	NA	21.67	0	0	N	N	NA	22.55	0	0	N
8/23/19	CFD	N	NA	21.84	0	0	N	N	NA	22.56	0	0	N
9/30/19	CWE	N	NA	22.65	0	0	N	N	NA	24.71	0	0	N

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TABLE 1
LNAPL MONITORING AND COLLECTION LOG

OLEAN REDEVELOPMENT SITE 3 (BCP SITE NO. C905033)
OLEAN, NEW YORK

Date	Inspector's Initials	W22						W24					
		Product Present? (Y / N)	Product Depth (fbTOR)	Water Level (fbTOR)	Product Level (feet)	Product Recovered (gallons)	Change Absorbent Sock? (Y / N)	Product Present? (Y / N)	Product Depth (fbTOR)	Water Level (fbTOR)	Product Level (feet)	Product Recovered (gallons)	Change Absorbent Sock? (Y / N)
10/31/19	CWE	N	NA	23.12	0	0	N	N	NA	24.81	0	0	N
11/25/19	CWE	N	NA	22.55	0.00	0	N	N	NA	24.02	0.00	0	N
12/30/19	CWE	N	NA	21.40	0.00	0	N	N	NA	22.85	0.00	0	N
1/30/20	CWE	N	NA	20.40	0.00	0	N	N	NA	21.85	0.00	0	N
2/27/20	CWE	N	NA	19.40	0.00	0	N	N	NA	20.60	0.00	0	N
3/30/20	CWE	N	NA	19.30	0.00	0	N	N	NA	20.80	0.00	0	N
4/27/20	CWE	N	NA	19.15	0.00	0	N	N	NA	20.90	0.00	0	N
5/28/20	CWE	N	NA	19.99	0.00	0	N	N	NA	22.15	0.00	0	N
6/29/20	CWE	Y	21.16	21.12	0.04	0	N	Y	23.05	23.01	0.04	0	N
7/31/20	CWE	N	NA	22.90	0.00	0	N	N	NA	24.01	0.00	0	N
8/31/20	CWE	Y	23.15	23.17	0.02	0	N	N	NA	25.06	0.00	0	N
9/28/20	CWE	Y	23.90	24.01	0.11	0	N	N	NA	25.65	0.00	0	N
Total Quantity of LNAPL Recovered Since Startup						2.1 gallons						0.9 gallons	
Total Quantity of LNAPL Recovered (10/9/19-10/9/20)						0.0 gallons						0.0 gallons	

Notes:
Y = YES
N = NO
NA = NOT APPLICABLE

Data collected pre-remediation; all other data collected post-remediation.
PRR reporting period.

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TABLE 2

GROUNDWATER MONITORING WELL WATER LEVELS
PERIODIC REVIEW REPORT
OLEAN REDEVELOPMENT SITE 3
OLEAN, NEW YORK

Well	Purpose of Well	Top of Casing (TOC) Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)	Depth to Water (ft)	Liquid Elevation (ft)
			8/25/2012		7/17 & 18/2014		12/15 & 17 & 18/2014		4/14/2015		9/2/2015 & 9/3/2015		8/9/2016		12/14/2016		5/16 to 5/18/17		12/20 to 12/22/17		6/13/2018		12/19 to 12/20/18		7/9 to 7/10/19		6/16 to 6/18/20	
MW-4	GWQM	1431.76	23.89	1407.87	21.00	1410.76	22.34	1409.42	19.23	1412.53	23.45	1408.31	24.80	1406.96	22.20	1409.56	20.18	1411.58	22.60	1409.16	21.64	1410.12	22.60	1409.16	20.72	1411.04	21.95	1409.81
MW-5	GWQM	1432.3	22.50	1409.80	--	--	--	--	18.30	1414.00	21.77	1410.53	23.48	1408.82	20.97	1411.33	17.78	1414.52	20.77	1411.53	19.05	1413.25	20.77	1411.53	18.21	1414.09	19.77	1412.53
MWSW	GWQM	1430.30	24.37	1407.76	21.44	1410.69	22.52	1409.61	20.20	1411.93	24.94	1407.19	Damaged	--	21.03	1409.27	18.96	1411.34	21.44	1408.86	22.46	1407.84	21.44	1408.86	19.54	1410.76	20.69	1409.61
WCMW-9	GWQM	1431.85	17.71	1414.14	14.35	1417.50	10.69	1421.16	11.94	1419.91	Dry	< 1412.74	Dry	< 1412.74	11.82	1420.03	12.25	1419.60	10.99	1420.86	16.40	1415.45	--	--	12.12	1419.73	17.90	1413.95
W18	GWQM	1434.49	25.21	1407.87	--	--	--	--	20.97	1412.11	25.72	1407.36	Dry	< 1407.87	24.41	1410.08	22.25	1412.24	24.86	1409.63	23.93	1410.56	24.86	1409.63	22.99	1411.50	24.30	1410.19
W22	LNAPL	1433.04	23.43	1408.31	19.75	1411.91	21.97	1409.75	--	--	23.80	1407.85	--	--	--	--	--	--	--	--	--	--	--	--	21.93	1411.11	20.58	1412.46
W24	LNAPL	1433.09	24.52	1408.57	23.68	1409.74	25.34	1407.95	--	--	25.05	1408.10	--	--	--	--	--	--	--	--	23.00	1410.09	--	--	22.15	1410.97	23.50	1409.59
W29	GWQM	1429.91	24.37	1407.57	21.41	1410.53	22.91	1409.03	20.20	1411.74	23.91	1408.03	25.08	1406.86	20.62	1409.29	18.40	1411.51	21.04	1408.87	20.05	1409.86	21.04	1408.87	19.10	1410.81	20.30	1409.61

Notes:
1) Depth to water from top of well riserr.
2) W18 well riser was increased by 1.41 feet in October 2015. Revised well top of riser elevation is 1434.49'. Historic top of riser elevation was 1433.08'.
3) W22 well riser was increased by 1.40 feet (based on TOC delta) in October 2015. Revised well top of riser elevation is 1433.04'. Historic top of riser was 1431.64'.
4) MWSW was damaged for the August 9, 2016 sampling event. MWSW well riser was decreased by 1.83 feet (based on DTB delta) in October 2016. Revised well top of riser elevation is 1430.3'. Historic top of riser elevation was 1432.13'.
5) W29 well riser was decreased by 2.03 feet (based on DTB delta) in October 2016. Revised well top of riser elevatio is 1429.91'. Historic top of riser elevation was 1431.94'

Acronyms:
NA = Not available
"--" = Not measured
Shaded cells are data collected pre-remediation. All other data occurred post-remediation.

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TABLE 3

2008-2020 GROUNDWATER ANALYTICAL SUMMARY - ORGANICS

OLEAN REDEVELOPMENT SITE 3
OLEAN, NEW YORK

Parameter[1]	GWQS/GV[2]	Sample Location																							
		MWSW										MW-4													
		07/18/14	12/18/14	04/14/15	09/02/15	12/15/16	05/18/17	12/21/17	06/11/18	07/09/19	06/23/20	08/28/08	11/06/09	08/11/10	11/11/10	02/15/11	05/17/11	08/16/11	11/15/11	02/22/12	07/18/14	12/18/14	04/14/15	09/02/15	08/10/16
Volatile Organic Compounds (ug/L)																									
1,2,4-Trimethylbenzene	**5**	**29.1**	**229**	**12.2**	**21**	**33.6**	**45.4**	**218**	**294**	ND	ND	**671**	**635**	**614**	**577**	**313**	**113**	**361**	**498**	**248**	**257**	**398**	**226**	**377**	**210**
1,2-Dichlorobenzene	**3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	**--**	NA	1.38	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA
1,3,5-Trimethylbenzene	**5**	ND	2.19	ND	ND	1.39	1.29	4.13	**17.2**	ND	ND	**182**	**180**	**133**	**132**	**41.1**	**23**	**80.5**	**95.5**	**53.8**	**44**	**94.2**	**29.6**	**43.1**	**35.1**
Acetone	**50**	**72**	ND	ND	ND	**77.9**	ND	ND	ND	ND	ND	ND	ND	ND	5.8	ND	13.8	ND	ND	9.8	44.1	ND	**52.4**	ND	ND
Benzene	**1**	**48.9**	**156**	**6.78**	**73.1**	**48.7**	**34.2**	**47.7**	**90.1**	ND	ND	**47.8**	**35.3**	**56.7**	**32.8**	**48.5**	**16.3**	**47.1**	**44.9**	**31.4**	**28**	**45.7**	**37.5**	**38.3**	**40.2**
Chlorobenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.95	0.7	1.1	ND	ND	0.56	ND	0.27	ND	ND	ND	ND	ND
Chloroform	**7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	**--**	38.7	NA	16.5	20.2	55.6	87.6	190	208	7.20	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	177	NA	171	247	101
Ethylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.97	0.73	0.85	0.71	ND	ND	0.56	0.64	0.43	ND	ND	ND	ND	ND
Isopropylbenzene	**5**	**8.47**	**14**	1.01	4.74	**6.29**	**5.24**	**18.5**	**23.1**	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10.8**	**18.3**	**12.1**	**17.3**	**13**
m&p-Xylene	**--**	ND	4.52	ND	ND	2.63	2.28	5.2	12.7	ND	ND	33.9	21.5	20.8	14.5	8.3	4.8	9.4	9.4	ND	6.06	17.7	2.61	3.49	ND
Methylcyclohexane	**--**	44.4	NA	5.77	ND	25.9	43.1	104	180	5.50	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	253	NA	137	189	82
Methyl ethyl ketone	**50**	ND	ND	ND	ND	**126**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	**5**	ND	ND	ND	ND	ND	ND	1.28	2.39	ND	ND	ND	ND	ND	ND	ND	ND	0.91	0.7	0.58	ND	ND	1.69	ND	ND
n-Propylbenzene	**5**	ND	**5.34**	ND	2.06	4.84	4.44	**14.5**	**24.1**	ND	ND	**10.3**	**7.6**	**10.1**	**7.8**	**6.9**	2.3	**6.5**	**6.1**	4.1	4.15	**6.28**	4.62	4.12	ND
p-Isopropyltoluene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	1.99	ND	ND
o-Xylene	**--**	2.71	3.46	ND	1.25	1.41	1.34	3.31	4.25	ND	ND	4.8	4.1	4.7	4.4	2.6	1.3	3.3	3.3	ND	2.44	4.17	2.52	3.01	ND
sec-Butylbenzene	**5**	1.57	1.59	ND	ND	1.32	1.24	3.25	**6.27**	ND	ND	**6**	4.7	**5.2**	**5.1**	3.7	1.3	3.6	3.2	2.1	2.77	3.39	3.39	4.29	ND
tert-Butylbenzene	**5**	1.37	1.86	ND	ND	ND	ND	1.52	2.2	ND	ND	ND	1.9	2.1	2	1.3	ND	1.3	1.2	0.91	1.18	1.56	1.22	1.6	ND
Toluene	**5**	1.62	3.78	ND	ND	1.53	1.01	2.7	**5.75**	ND	ND	**6.4**	5	**6.1**	4.4	2.8	3.3	**5.3**	5	4.3	3.59	**5.65**	2.3	2.68	ND
Total xylenes	**5**	2.71	**7.98**	ND	1.25	4.04	3.62	**8.51**	**17.0**	ND	ND	**38.7**	**25.5**	**25.6**	**18.8**	**10.9**	**6.1**	**12.7**	**26.9**	**23.4**	**8.5**	**21.8**	**5.13**	**6.50**	ND
Total VOCs	**--**	*252*	*431*	*42*	*124*	*391*	*231*	*623*	*887*	*13*	*ND*	*1,002*	*922*	*880*	*806*	*439*	*185*	*533*	*695*	*379*	*843*	*617*	*691*	*937*	*481*
Total TICs	**--**	*550*	*ND*	*62.1*	*111*	*251*	*238*	*381*	*696*	*ND*	*ND*	*911*	*1,861*	*920*	*2,044*	*1,670*	*270*	*986*	*967*	*419*	*1,661*	*ND*	*312*	*479*	*231*
Semi-Volatile Organic Compounds (ug/L)																									
Benzyladehyde	**--**	24.5	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	ND	ND
Benzo(a)anthracene	**0.002**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**--**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Chrysene	**0.002**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Dibenzofuran	**--**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Diethyl phthalate	**50**	ND	ND	ND	ND	34.1	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Fluorene	**50**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.48	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
3 & 4 Methylphenol	**1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	**14.2**	ND	ND
1-Methylnaphthalene	**--**	NA	4.5	NA	NA	NA	NA	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	5.57	ND	NA	ND
Phenanthrene	**50**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.96	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Phenol	**1**	ND	ND	ND	ND	**27.1**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Pyrene	**50**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND
Total SVOCs	**--**	*25*	*4.5*	*ND*	*ND*	*61*	*ND*	*ND*	*ND*	*ND*	*ND*	*1.4*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*ND*	*5.6*	*14*	*ND*	*ND*
Total TICs	**--**	*7.97*	*ND*	*468*	*458*	*53*	*41*	*384*	*66*	*308*	*29*	*1,343*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*241*	*ND*	*153*	*262*	*350*

Notes:

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3. Isopropyl alcohol detected in field blank; result not used in VOC TIC totals.
4. Well WCMW9 did not recharge; therefore, sample was not collected in June 2018 or in June 2020
5. Wells W24 and W22 not sampled in June 2020 due to the presence of LNAPL.

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BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 3

2008-2020 GROUNDWATER ANALYTICAL SUMMARY - ORGANICS

OLEAN REDEVELOPMENT SITE 3
OLEAN, NEW YORK

Parameter[1]	GWQS/GV[2]	Sample Location																			
		MW-4						MW-5													
		12/14/16	05/18/17	12/21/17	06/11/18	07/09/19	06/23/20	11/09/09	08/12/10	11/11/10	02/15/11	05/17/11	08/16/11	11/14/11	02/21/12	08/11/16	12/15/16	05/17/17	12/21/17	06/11/18	07/09/19	06/23/20
Volatile Organic Compounds (ug/L)																						
1,2,4-Trimethylbenzene	**5**	**174**	**26.7**	**99.3**	**94.6**	ND	**54**	**224**	**548**	**77.8**	**353**	**413**	**412**	**370**	**580**	ND	**116**	**14.5**	**83.3**	**24.6**	ND	ND
1,2-Dichlorobenzene	**3**	ND	ND	ND	ND	ND	ND	0.4	ND	ND	ND	0.79	0.63	ND	0.73	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	**--**	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND
1,3,5-Trimethylbenzene	**5**	**18.7**	ND	**6.74**	2.99	ND	ND	ND	2	ND	2.2	**56.1**	**13.3**	2.6	**9**	ND	ND	ND	ND	1.94	ND	ND
Acetone	**50**	ND	ND	ND	ND	42 J	ND	14.8	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	**1**	**20.7**	**7.31**	**15.6**	**9.99**	**6.9 J**	**6.5 J**	0.55	ND	ND	ND	0.58	0.95	**1.4**	0.39	ND	**2.18**	ND	**1.34**	ND	ND	ND
Chlorobenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	**7**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	**--**	91.9	18.4	72.2	60.1	51	37	NA	NA	NA	NA	NA	NA	NA	NA	ND	144	13.7	55.5	16.5	3.7 J	ND
Ethylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.26	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	**5**	**12.2**	3.78	**9.11**	**6.82**	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	2.06	3.48	ND	3.95	1.71	ND	ND
m&p-Xylene	**--**	2.25	ND	ND	ND	ND	ND	1.3	ND	ND	2.1	46.1	12.4	12.4	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	**--**	55.9	7.95	21.7	18.2	15	9.1 J	NA	NA	NA	NA	NA	NA	NA	NA	ND	121	11	15.4	ND	2.1 J	ND
Methyl ethyl ketone	**50**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**84.6**	ND	ND	ND	ND	ND
n-Butylbenzene	**5**	ND	ND	ND	ND	ND	ND	1.1	ND	ND	1.6	ND	0.68	0.92	0.64	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	**5**	3.92	1.05	2.19	1.93	ND	ND	**9**	**19.4**	2.2	**14.2**	3.9	**9.6**	**12.7**	**16**	1.68	2.12	ND	2.58	1.39	ND	ND
p-Isopropyltoluene	**5**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	1.02	ND	ND	ND	ND	ND
o-Xylene	**--**	2.57	ND	1.8	ND	ND	ND	1.9	1.9	0.54	1.6	7.1	4.6	4.6	ND	ND	1.39	ND	1.71	ND	ND	ND
sec-Butylbenzene	**5**	2.59	ND	2.29	2.47	ND	ND	3.5	**7.1**	1.9	**5.4**	2.2	3.7	4.1	5	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	**5**	1.08	ND	ND	ND	ND	ND	0.75	ND	0.58	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	**5**	1.37	ND	1.03	ND	ND	ND	ND	ND	ND	ND	0.42	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total xylenes	**5**	4.82	ND	1.8	ND	ND	ND	3.2	1.9	0.54	3.7	**53.2**	**17.1**	**7.70**	5	ND	1.39	ND	1.71	ND	ND	ND
Total VOCs	**--**	*392*	*65*	*234*	*197*	*115*	*107*	*261*	*580*	*91*	*384*	*583*	*476*	*416*	*617*	*4*	*477*	*39*	*165*	*46*	*6*	*ND*
Total TICs	**--**	*199*	*100*	*113*	*181*	*80*	*63*	*450*	*1,181*	*1,310*	*1,694*	*1,678*	*1,013*	*1,292*	*1,667*	*231*	*173*	*72*	*283*	*99*	*ND*	*ND*
Semi-Volatile Organic Compounds (ug/L)																						
Benzyladehyde	**--**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.002**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**--**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Chrysene	**0.002**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	**--**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	**50**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Fluorene	**50**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
3 & 4 Methylphenol	**1**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	**47.4**	**65.5**	ND	ND	ND	ND
1-Methylnaphthalene	**--**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	**50**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Phenol	**1**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	**10**	ND	ND	ND	ND
Pyrene	**50**	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND
Total SVOCs	**--**	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*ND*	*47*	*76*	*ND*	*ND*	*ND*	*ND*
Total TICs	**--**	*100*	*109*	*115*	*104*	*656*	*561*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*447*	*1,692*	*60*	*21*	*132*	*2,802*	*743*

Notes:

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BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 3

2008-2020 GROUNDWATER ANALYTICAL SUMMARY - ORGANICS

OLEAN REDEVELOPMENT SITE 3
OLEAN, NEW YORK

Parameter[1]	GWQS/GV[2]	Sample Location																						
		W-18												W-29										
		08/26/08	11/06/09	08/10/10	11/09/10	02/16/11	05/17/2011	12/14/16	05/17/17	12/21/17	06/11/18	07/10/19	06/22/20	08/30/12	07/18/14	12/18/14	04/13/15	09/02/15	08/10/16	12/15/16	05/17/17	12/21/17	06/11/18	07/09/19	06/23/20
Volatile Organic Compounds (ug/L)																								
1,2,4-Trimethylbenzene	**5**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**600**	**168**	**135**	**16.3**	**5.6**	**11.4**	1.1	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	**3**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	**--**	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	NA	NA	ND	NA	ND	NA	NA	NA	NA	NA	ND	ND
1,3,5-Trimethylbenzene	**5**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**84**	ND	**12.2**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	**50**	8.6	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	**1**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**4.8**	**5.16**	**1.72**	ND	**2.09**	**1.3**	ND	ND	ND	1.3	ND	ND
Chlorobenzene	**5**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	**7**	0.48	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	**--**	NA	NA	NA	NA	NA	NA	ND	**ND**	**ND**	ND	ND	ND	ND	39.7	NA	7.96	ND	12.5	ND	ND	ND	ND	ND	ND
Ethylbenzene	**5**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	**5**	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**14**	**5.49**	4.98	1.30	3.64	5.44	ND	ND	ND	ND	ND	ND
m&p-Xylene	**--**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	4.34	3.13	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	**--**	NA	NA	NA	NA	NA	NA	ND	**ND**	**ND**	ND	ND	ND	ND	49.5	NA	8.51	ND	21.5	ND	ND	ND	ND	ND	ND
Methyl ethyl ketone	**50**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	**5**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	1.13	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	**5**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	**5**	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	**--**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	4.38	2.6	ND	1.8	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	**5**	1.3	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	**10**	2.65	3.6	1.17	1.91	3.37	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	**5**	1.9	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	3.3	1.89	2.08	ND	1.11	1.64	ND	ND	ND	ND	ND	ND
Toluene	**5**	0.53	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	2.19	1.99	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total xylenes	**5**	ND	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	**8.72**	**5.73**	ND	1.8	ND	ND	ND	ND	ND	ND	ND
Total VOCs	**--**	*13*	*NA*	*NA*	*NA*	*NA*	*NA*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*718*	*292*	*174*	*35*	*18*	*57*	*1.1*	*ND*	*ND*	*1.3*	*ND*	*ND*
Total TICs	**--**	*ND*	*NA*	*NA*	*NA*	*NA*	*NA*	*6*	*8*	*ND*	*ND*	*ND*	*ND*	*1,625*	*624*	*ND*	*173*	*222*	*352*	*18*	*16*	*9*	*4*	*ND*	*ND*
Semi-Volatile Organic Compounds (ug/L)																								
Benzyladehyde	**--**	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.002**	**1.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**--**	0.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	**0.002**	**1.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	**--**	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	**50**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	**50**	1.9	ND	0.45	0.59	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3 & 4 Methylphenol	**1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	**--**	NA	NA	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	NA	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	**50**	4.4	ND	0.67	0.7	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	**1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	**50**	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total SVOCs	**--**	*14*	*ND*	*1.1*	*1.3*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*NA*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*
Total TICs	**--**	*ND*	*156*	*40.0*	*219*	*74.2*	*234*	*ND*	*ND*	*39*	*ND*	*303*	*26*	*NA*	*62*	*ND*	*734*	*363*	*339*	*54*	*3*	*19*	*ND*	*333*	*343*

Notes:

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5. Wells W24 and W22 not sampled in June 2020 due to the presence of LNAPL.

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BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 3

2008-2020 GROUNDWATER ANALYTICAL SUMMARY - ORGANICS

OLEAN REDEVELOPMENT SITE 3
OLEAN, NEW YORK

Parameter[1]	GWQS/GV[2]	Sample Location								
		WCMW-9 [3,4]							W24	W22
		07/18/14	12/18/14	04/14/15	12/14/16	05/17/17	12/21/17	07/10/19	06/12/18	07/10/19
Volatile Organic Compounds (ug/L)										
1,2,4-Trimethylbenzene	**5**	**12.2**	ND	ND	ND	ND	ND	ND	**10.5**	ND
1,2-Dichlorobenzene	**3**	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	**--**	NA	ND	NA	NA	NA	NA	ND	ND	ND
1,3,5-Trimethylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	**50**	**51.3**	ND	ND	ND	ND	ND	11	ND	**89 J**
Benzene	**1**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	**7**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	**--**	ND	NA	ND	ND	ND	ND	ND	34.7	ND
Ethylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
m&p-Xylene	**--**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	**--**	ND	NA	ND	ND	ND	ND	ND	11.1	93
Methyl ethyl ketone	**50**	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Butylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	**--**	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total xylenes	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOCs	**--**	*64*	*ND*	*ND*	*ND*	*ND*	*ND*	*11*	*56*	*182*
Total TICs	**--**	*34*	*ND*	*6*	*2*	*4*	*ND*	*ND*	*200*	*9,350*
Semi-Volatile Organic Compounds (ug/L)										
Benzyladehyde	**--**	ND	NA	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	**0.002**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	**--**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	**0.002**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	**--**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	**50**	ND	ND	ND	ND	ND	ND	0.37 J	ND	ND
Fluorene	**50**	ND	ND	ND	ND	ND	ND	ND	ND	ND
3 & 4 Methylphenol	**1**	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Methylnaphthalene	**--**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	**50**	ND	ND	ND	ND	ND	ND	1.6 JB	ND	ND
Phenol	**1**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	**50**	ND	ND	ND	ND	ND	ND	ND	ND	7.3 J
Total SVOCs	**--**	*ND*	*ND*	*ND*	*ND*	*ND*	*ND*	*0.37*	*ND*	*7.3*
Total TICs	**--**	*ND*	*ND*	*ND*	*7*	*18*	*79*	*216*	*42*	*3,064*

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.
3. Isopropyl alcohol detected in field blank; result not used in VOC TIC totals.
4. Well WCMW9 did not recharge; therefore, sample was not collected in June 2018 or in June 2020
5. Wells W24 and W22 not sampled in June 2020 due to the presence of LNAPL.

Definitions:

ND = Parameter not detected above laboratory detection limit.
NA = Not analyzed.
"--" = Sample not analyzed for parameter or no SCO available for the parameter.

BOLD = Concentration exceeds GWQS/GV.
= Dates highlighted in blue indicate samples collected pre-remediation; all other samples collected post-remediation.

TABLE 4

2008-2020 GROUNDWATER ANALYTICAL SUMMARY - METALS

OLEAN REDEVELOPMENT SITE 3
OLEAN, NEW YORK

Parameter[1]	GWQS/GV[2]	Sample Location																			
		MWSW						MW-4								MW-5							
		12/14/16	05/18/17	12/21/17	06/11/18	07/09/19	06/23/20	08/28/08	08/10/16	12/14/16	05/18/17	12/21/17	06/11/18	07/09/19	06/23/20	08/27/08	08/11/16	12/14/16	05/17/17	12/21/17	06/11/18	07/09/19	06/23/20
Metals (ug/L)																							
Arsenic	**25**	**36.9**	10.3	**35.3**	0.0147	ND	ND	17.3	14.4	10.7	ND	ND	ND	6.9 J	5.6 J	ND	12.4	ND	17.1	14.1	ND	8.7 J	5.8 J
Chromium	**50**	ND	5.2	ND	ND	ND	1.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5 J
Lead	**25**	19.9	6.6	19.2	ND	ND	ND	ND	6.2	ND	ND	ND	ND	ND	ND	ND	17.8	ND	ND	ND	ND	4.5 J	5.4 J

Notes:

1. Only compounds of concern (Arsenic, chromium, and lead) are presented in this table.
2. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.
3. Sample results not considered representative of actual groundwater concentrations since turbidity of sample was >1,000 NTU; no filtered sample was collected.
4. Well WCMW9 did not recharge; therefore, sample was not collected in June 2018 or in June 2020
5. Wells W24 and W22 not sampled in June 2020 due to the presence of LNAPL.

Definitions:

ND = Parameter not detected above laboratory detection limit.
NS = Not sampled since well went dry.

BOLD = Concentration exceeds GWQS/GV.
= Dates highlighted in blue indicate samples collected pre-remediation; all other samples collected post-remediation.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 4

2008-2020 GROUNDWATER ANALYTICAL SUMMARY - METALS

OLEAN REDEVELOPMENT SITE 3
OLEAN, NEW YORK

Parameter[1]	GWQS/GV[2]	Sample Location																	
		W-18						W-29							WCMW-9			W24	W22
		12/14/16	05/17/17	12/21/17	06/11/18	07/09/19	06/22/20	08/10/16	12/14/16	05/17/17	12/21/17	06/11/18	07/09/19	06/23/20	05/17/17	12/21/19	7/10/2019 [3]	06/12/18	07/09/19
Metals (ug/L)																			
Arsenic	**25**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**27.5**	ND	ND	ND	NS	ND	**910**	0.01	24
Chromium	**50**	ND	ND	ND	ND	2 J	2.2 J	ND	ND	ND	ND	0.0058	5.4	ND	NS	ND	22	ND	11
Lead	**25**	ND	ND	ND	ND	ND	7.7 J	5	**30**	9	ND	ND	ND	3.9 J	NS	ND	**210**	0.0108	**61**

Notes:

1. Only compounds of concern (Arsenic, chromium, and lead) are presented in this table.
2. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.
3. Sample results not considered representative of actual groundwater concentrations since turbidity of sample was >1,000 NTU; no filtered sample was collected.
4. Well WCMW9 did not recharge; therefore, sample was not collected in June 2018 or in June 2020
5. Wells W24 and W22 not sampled in June 2020 due to the presence of LNAPL.

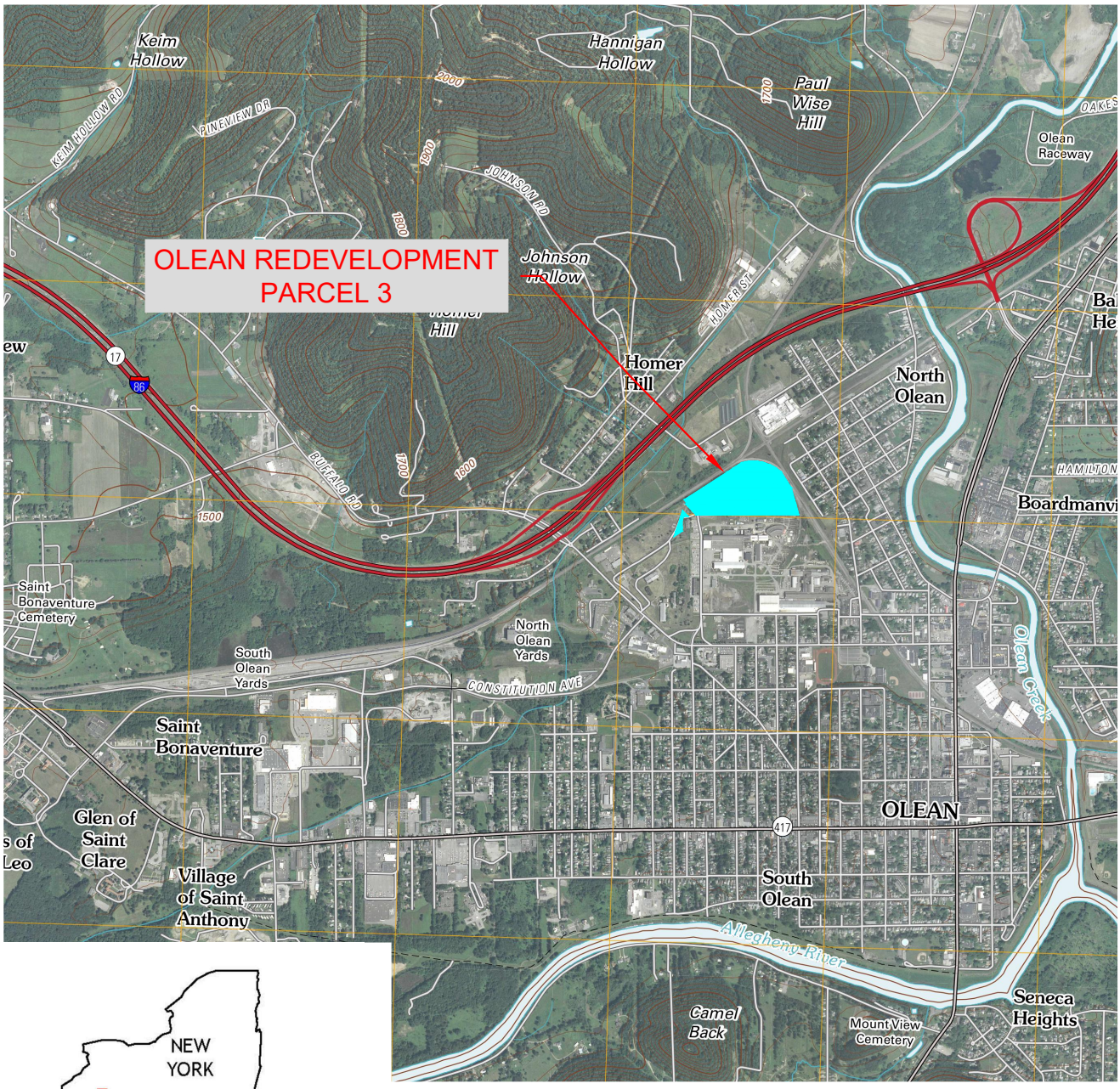
Definitions:

ND = Parameter not detected above laboratory detection limit.
NS = Not sampled since well went dry.

BOLD = Concentration exceeds GWQS/GV.
= Dates highlighted in blue indicate samples collected pre-remediation; all other samples collected post-remediation.

FIGURES

FIGURE 1



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0334-016-001

DATE: APRIL 2020

DRAFTED BY: CMC

SITE LOCATION AND VICINITY MAP

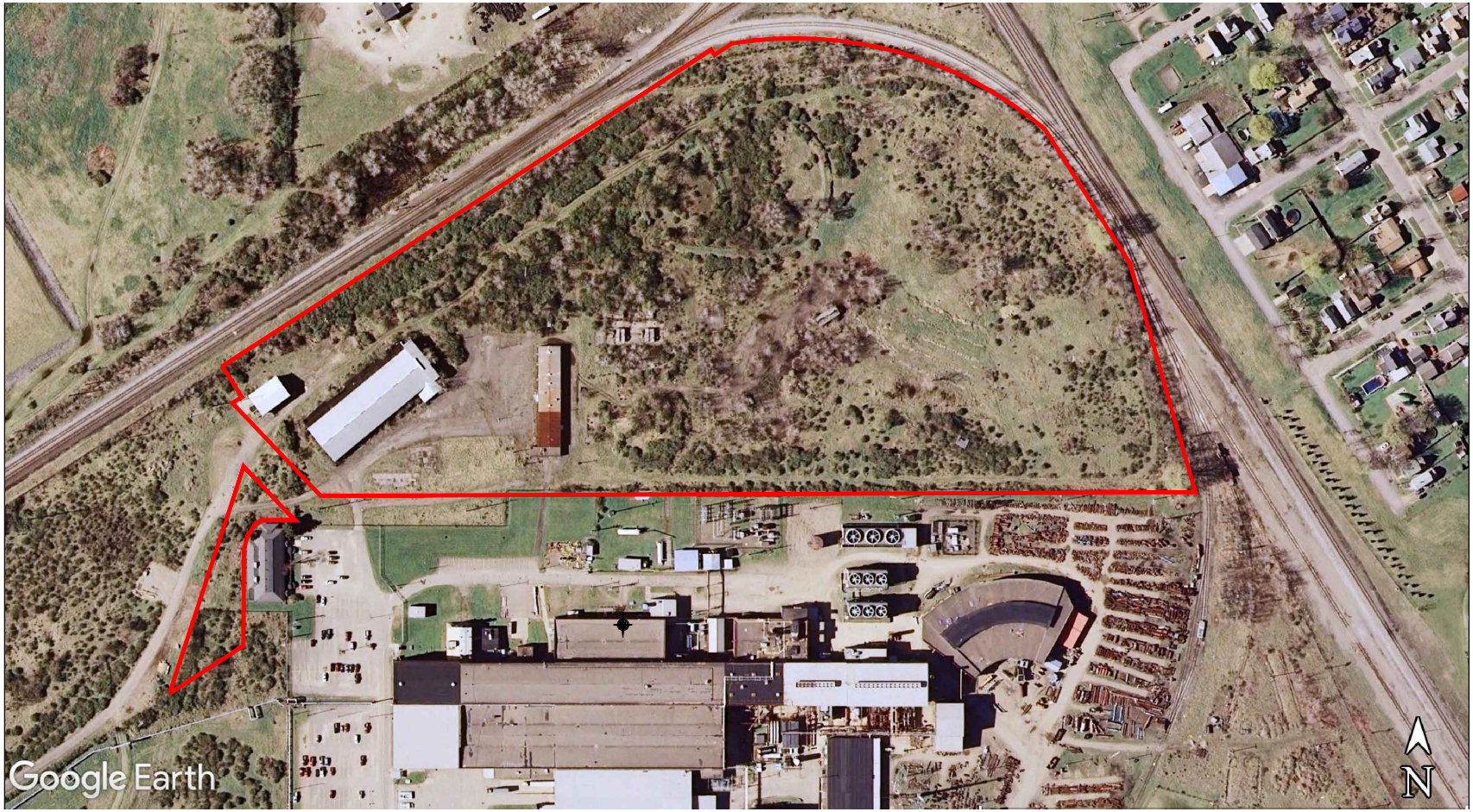
PERIODIC REVIEW REPORT

OLEAN REDEVELOPMENT SITE 3
NYSDEC BCP SITE NO. C905033
OLEAN, NEW YORK

PREPARED FOR

SOLEAN, LLC

F:\CAD\Benchmark\Solean\PRR\PRR 2019\Figure 1; Site Location and VicinityORP3.dwg, 3/18/2020 2:44:08 PM, DWG To PDF.pc3



APPROXIMATE SCALE 1" = 300'

Property Boundary (Approximate)

Base Image Google Earth April 2007

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0334-016-001

DATE: APRIL 2020

DRAFTED BY: CMC

SITE PLAN PRE-REMEDIATION

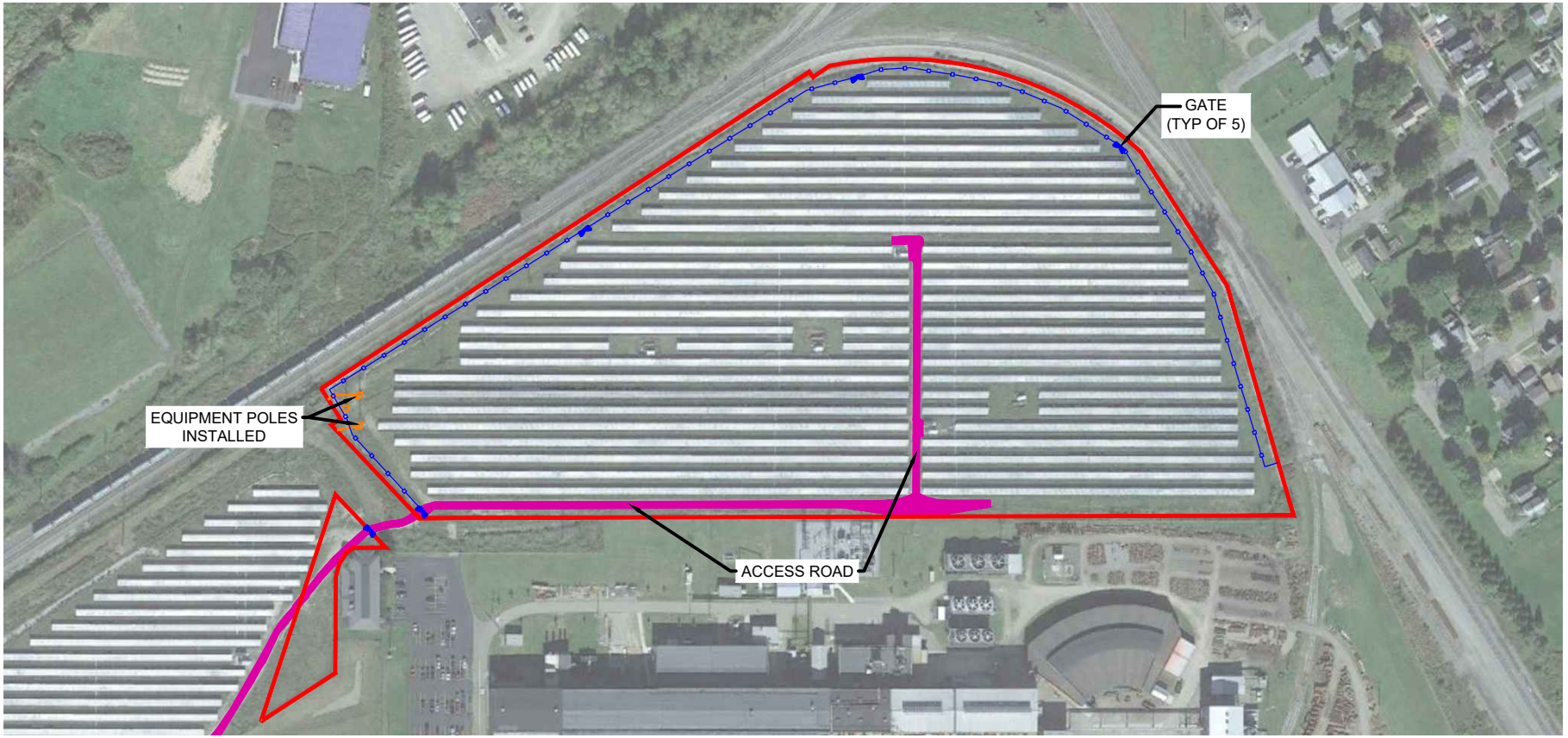
PERIODIC REVIEW REPORT

OLEAN REDEVELOPMENT PARCEL 3
NYSDEC BCP SITE NO. C905033
OLEAN, NEW YORK

PREPARED FOR

SOLEAN LLC

FIGURE 2



N

Approximate Scale 1" = 300'

LEGEND

Property Boundary (Approximate)

Conduit penetrations of cover system during redevelopment

Power Pole installed during redevelopment

New Fence installed during redevelopment

Base Image Google Earth August 2016

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0334-016-001

DATE: OCTOBER 2020

DRAFTED BY: CMC

SITE PLAN POST-REMEDIATION

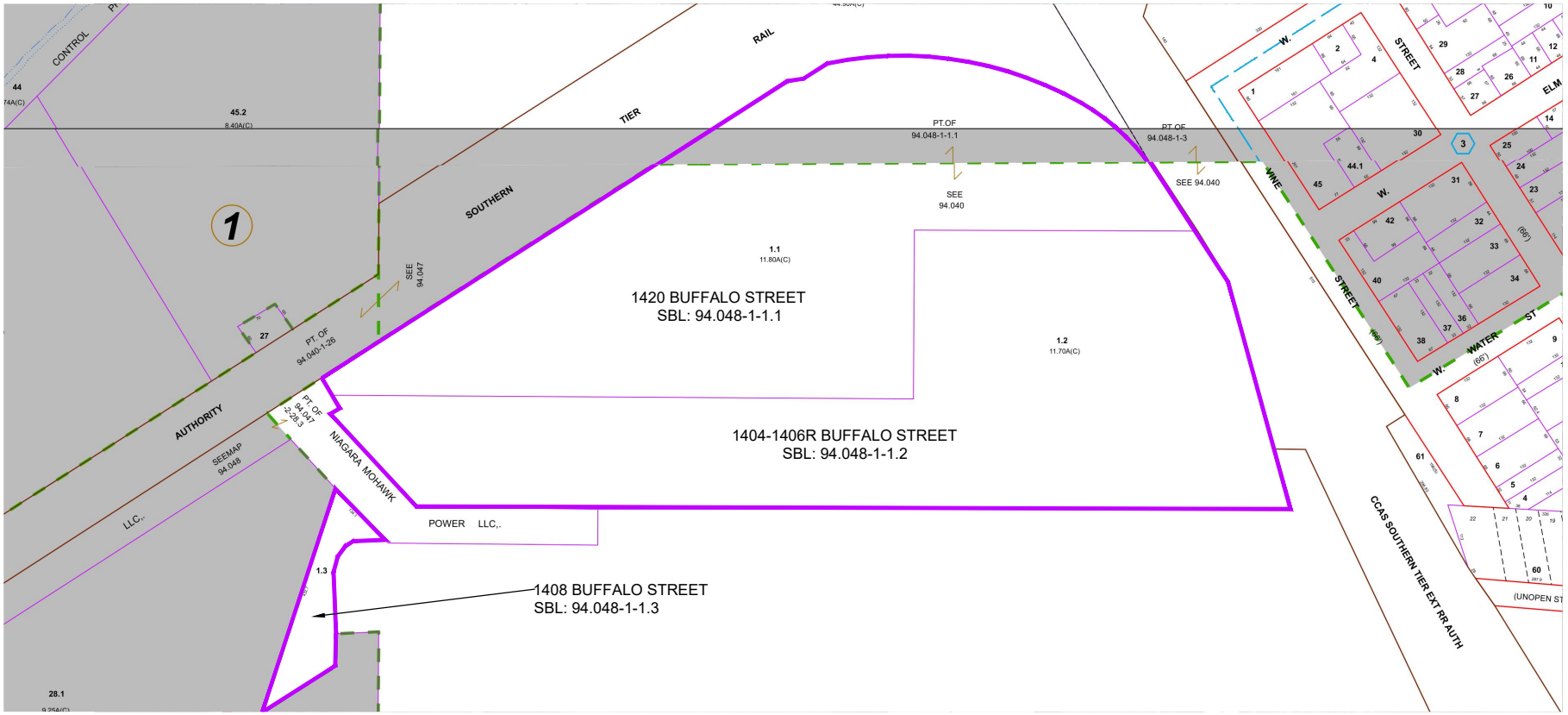
PERIODIC REVIEW REPORT

OLEAN REDEVELOPMENT PARCEL 3
NYSDEC BCP SITE NO. C905033
OLEAN, NEW YORK

PREPARED FOR

SOLEAN, LLC

FIGURE 3



N

LEGEND

Property Boundary (Approximate)

Approximate Scale 1" = 300'

Tax Map per City of Olean; sheets 94.040 & 94.048

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

PROJECT NO.: 0334-016-001

DATE: OCTOBER 2020

DRAFTED BY: CMC

SURVEY / TAX PARCEL MAP

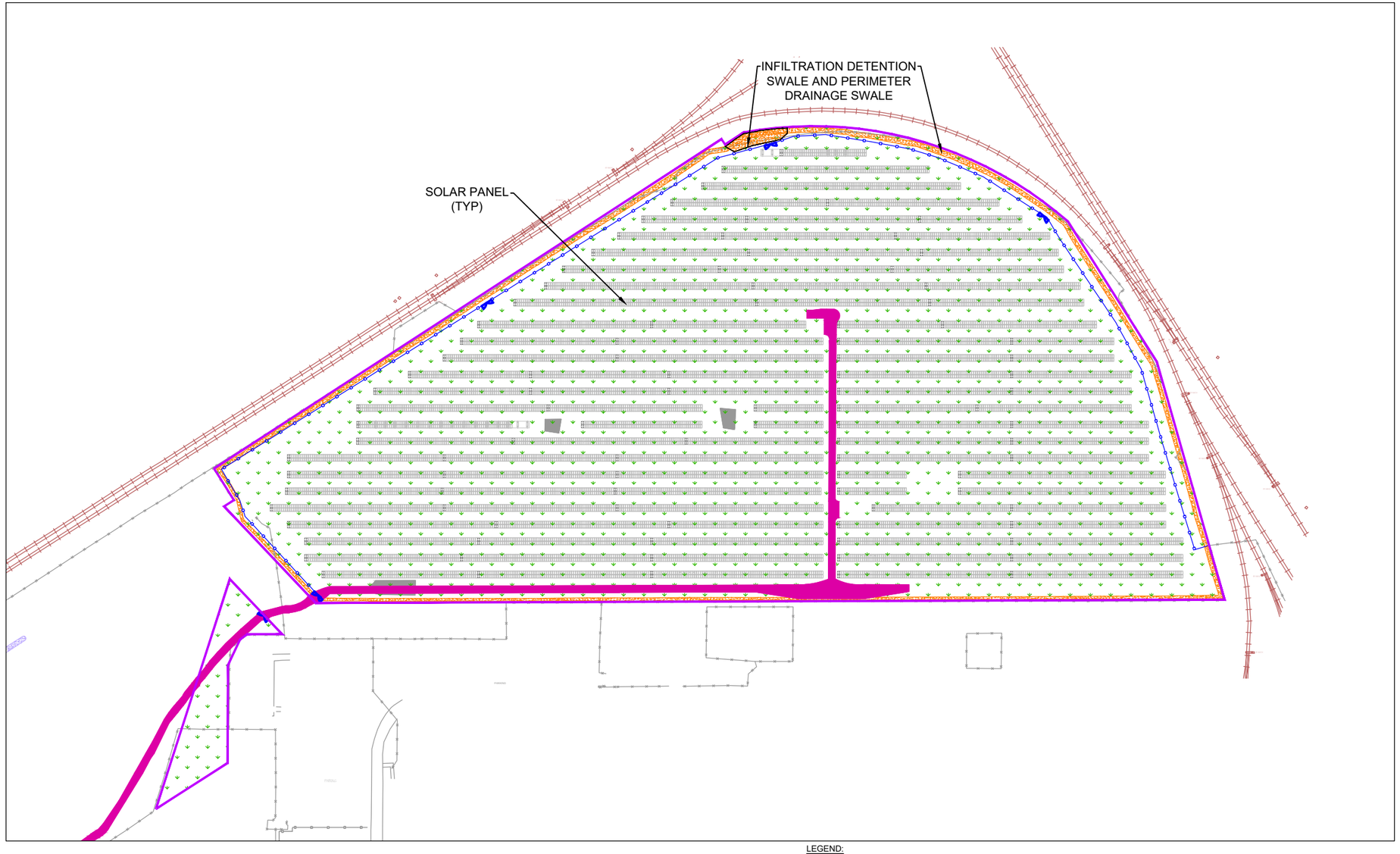
PERIODIC REVIEW REPORT

OLEAN REDEVELOPMENT PARCEL 3
NYSDEC BCP SITE NO. C905033
OLEAN, NEW YORK

PREPARED FOR

SOLEAN, LLC

FIGURE 4



200' 0' 200' 400'

SCALE: 1 INCH = 200 FEET
SCALE IN FEET
(approximate)

LEGEND:

- OLEAN REDEVELOPMENT BCP SITE 3
- APPROXIMATE LOCATION OF CONCRETE COVER SYSTEM
- APPROXIMATE LOCATION OF ACCESS ROAD (12' MIN. GRAVEL)
- FENCE
- VEGETATED SOIL COVER

DATE: APRIL 2020
DRAFTED BY: CMC

SITE COVER SYSTEM MAP

PERIODIC REVIEW REPORT

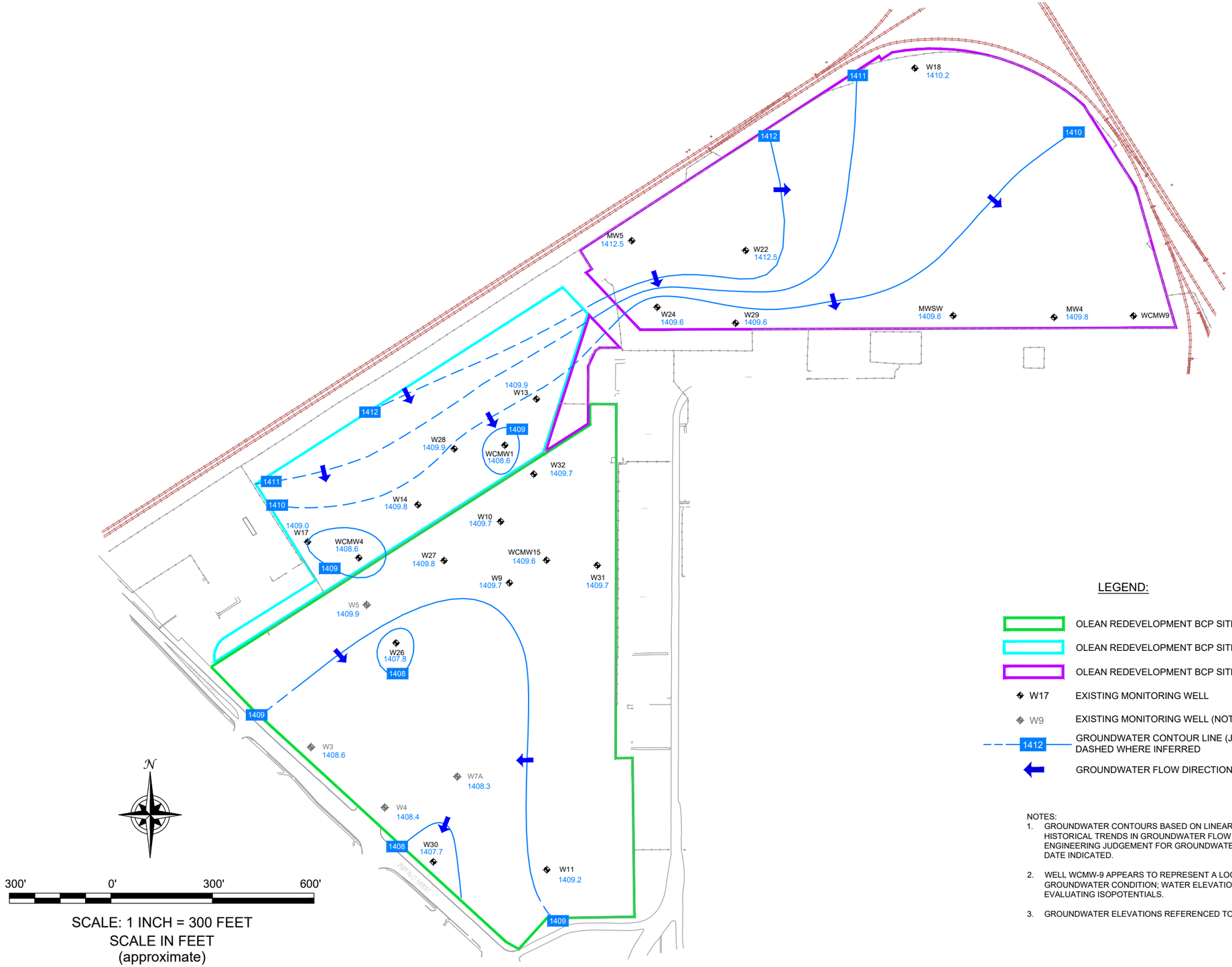
OLEAN REDEVELOPMENT SITE 3
BCP SITE NO. C905033
OLEAN, NEW YORK

PREPARED FOR
SOLEAN LLC

FIGURE 5

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

JOB NO.: 0343-016-001



LEGEND:

- OLEAN REDEVELOPMENT BCP SITE 1
- OLEAN REDEVELOPMENT BCP SITE 2
- OLEAN REDEVELOPMENT BCP SITE 3
- W17 — EXISTING MONITORING WELL
- W9 — EXISTING MONITORING WELL (NOT MEASURED)
- 1412 — GROUNDWATER CONTOUR LINE (JUNE 2020); DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION

NOTES:

1. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION, HISTORICAL TRENDS IN GROUNDWATER FLOW DIRECTION AND ENGINEERING JUDGEMENT FOR GROUNDWATER LEVELS MEASURED ON DATE INDICATED.
2. WELL WCMW-9 APPEARS TO REPRESENT A LOCALIZED PERCHED GROUNDWATER CONDITION; WATER ELEVATION NOT USED FOR EVALUATING ISOPOTENTIALS.
3. GROUNDWATER ELEVATIONS REFERENCED TO NAVD 88.

DATE: MARCH 2020
DRAFTED BY: CMC

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

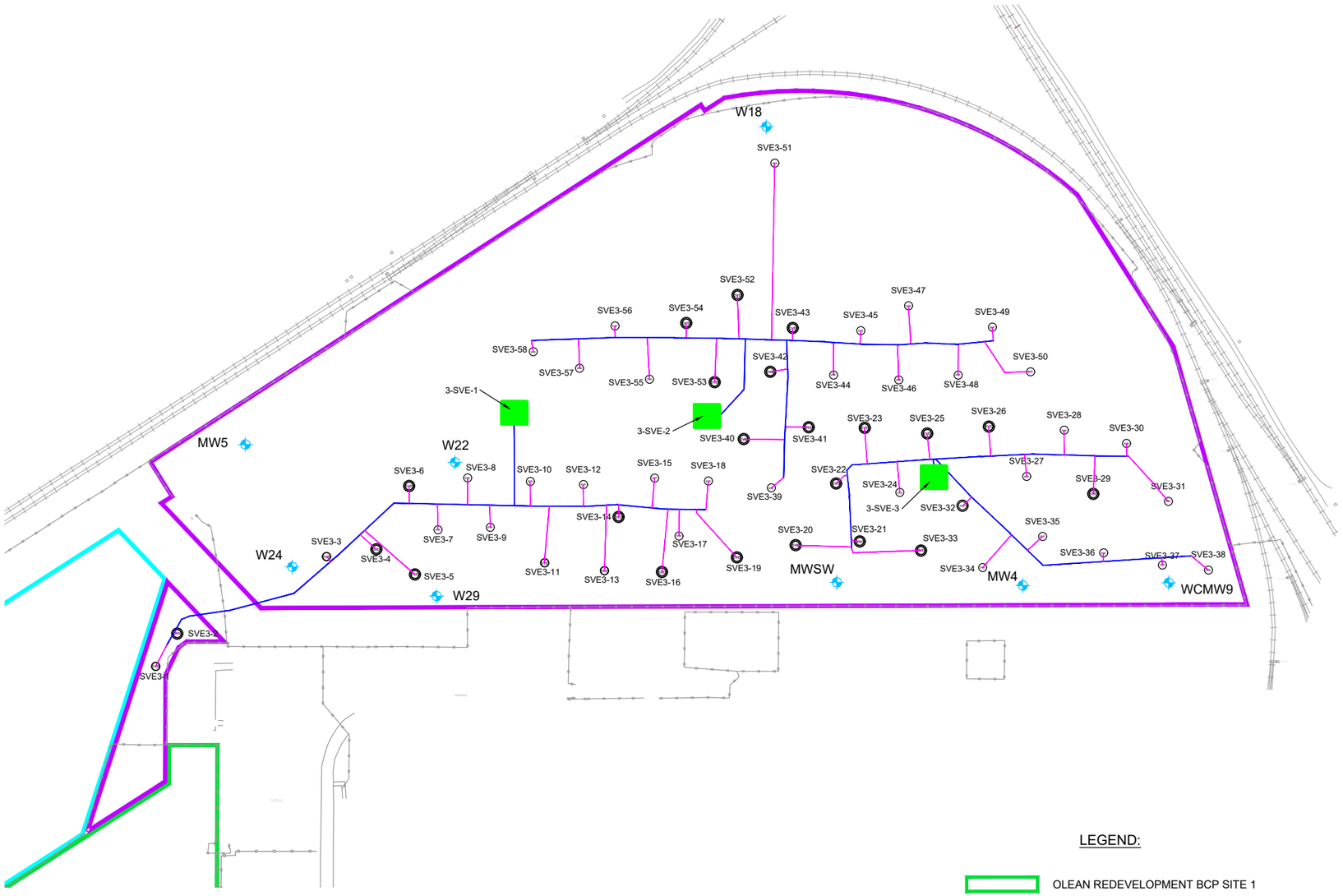
JOB NO.: 0370-016-001

GROUNDWATER ISOPOTENTIAL MAP (JUNE 2020)

PERIODIC REVIEW REPORT
OLEAN REDEVELOPMENT PARCEL 3
NYSDEC BCP SITE NO. C905032
OLEAN, NEW YORK
PREPARED FOR
SOLEAN WEST LLC

FIGURE 6

F:\CAD\Benchmark\Solean\PRR\PRR 2020\Figure 6; Groundwater Contour Map (June2020).dwg, 10/29/2020 10:54:23 AM, DWG To PDF.pc3



DATE: JULY 2019
DRAFTED BY: CMC

BENCHMARK
ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0599

JOB NO.: 0334-016-001

SOIL VAPOR EXTRACTION SYSTEM MAP

PERIODIC REVIEW REPORT
OLEAN REDEVELOPMENT SITE 3
NYSDEC SITE NO. C905033
OLEAN, NEW YORK
PREPARED FOR
SOLEAN LLC

FIGURE 7

F:\CAD\Benchmark\Solean\PRR\PRR 2020\Figure 7; Soil Vapor Extraction System Map.dwg, 10/22/2020 1:44:30 PM, DWG To PDF.pc3

APPENDIX A

INSTITUTIONAL & ENGINEERING CONTROLS CERTIFICATION FORM

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **C905033**

Site Name Olean Redevelopment Parcel 3

Site Address: 1404-1406R, 1420 Buffalo Street and 1408 Buffalo Street Zip Code: 14760
City/Town: Olean
County: Cattaraugus
Site Acreage: 24.103

Reporting Period: October 09, 2019 to October 09, 2020

	YES	NO
1. Is the information above correct?	☐	☑
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☑
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☑
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☑
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☑

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	☑	☐
7. Are all ICs in place and functioning as designed?	☑	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

Box 2A

	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	☑

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	☑	☐

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

SITE NO. C905033 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
94.048-1-1.1	Solean LLC	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

-All engineering controls (ECs) must be operated and maintained as specified in the Site Management Plan (SMP);
-All ECs must be inspected at a frequency and in a manner defined in the SMP.
-The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Cattaraugus County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
-Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
-Data and information pertinent to site management must be reported at the frequency and in a manner as defined in the SMP;
-All future activities that will disturb remaining contaminated material must be conducted in accordance with the SMP;
-Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;
-Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in the SMP; and
-Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.

94.048-1-1.2	Solean LLC	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

-All engineering controls (ECs) must be operated and maintained as specified in the Site Management Plan (SMP);
-All ECs must be inspected at a frequency and in a manner defined in the SMP.
-The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Cattaraugus County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
-Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;
-Data and information pertinent to site management must be reported at the frequency and in a manner as defined in the SMP;
-All future activities that will disturb remaining contaminated material must be conducted in accordance with the SMP;
-Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;
-Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in the SMP; and
-Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
94.048-1-1.1	Vapor Mitigation Cover System ~~Air Sparging~~/Soil Vapor Extraction

-a site cover that will allow for commercial use, that will consist either of structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable SCOs;
-removal of LNAPL from monitoring wells using the methods outlined in the SMP and RAWP;
-a soil vapor extraction (SVE) system to mitigate residual contamination in subsurface soil; and
-a vapor mitigation system for any future building(s) developed on-site.

94.048-1-1.2	Vapor Mitigation Cover System ~~Air Sparging~~/Soil Vapor Extraction

-a site cover that will allow for commercial use, that will consist either of structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable SCOs;
-removal of LNAPL from monitoring wells using the methods outlined in the SMP and RAWP;
-a soil vapor extraction (SVE) system to mitigate residual contamination in subsurface soil; and
-a vapor mitigation system for any future building(s) developed on-site.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☑	☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☑	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative — Date

IC CERTIFICATIONS
SITE NO. C905033

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Michael A. Lesakowski (print name) at 2558 Hamburg Turnpike, Suite 300 Buffalo, New York 14218 (print business address),

am certifying as Designated Representative of Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

11/5/2020
Date

EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Lori E. Riker (print name) at Benchmark Environmental Engineering & Science, PLLC 2558 Hamburg Turnpike, Buffalo, New York 14218 (print business address),

am certifying as a Professional Engineer for the Owner (Owner or Remedial Party)

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	Date
		11-5-2020

APPENDIX B

SITE INSPECTION PHOTOGRAPHIC LOG

SITE PHOTOGRAPHS

Photo 1:

Photo 2:

Photo 3:

Photo 4:

Photo 1: BCP Site 3, 1408 Buffalo Street parcel, March 2020 conditions (looking northeast).

Photo 2: BCP Site 3, 1404-06R Buffalo Street parcel, March 2020 conditions along the western portion of the property (looking northwest)

Photo 3: BCP Site 3, 1404-06R Buffalo Street parcel, March 2020 roadway along the southern boundary (looking east)

Photo 4: BCP Site 3, 1404-06R Buffalo Street parcel, March 2020 conditions with SVE-3 trailer in the background (looking east)

SITE PHOTOGRAPHS

Photo 5:

Photo 6:

Photo 7:

Photo 8:

Photo 5: BCP Site 3, boundary between 1404-06R/1420 parcels, March 2020 greenspace between solar panel row conditions (looking west).

Photo 6: BCP Site 3, boundary between 1404-06R/1420 Buffalo Street parcels, March 2020 roadway conditions (looking north)

Photo 7: BCP Site 3, 1420 parcel, March 2020 SVE-2 trailer and biofilter (looking west).

Photo 8: BCP Site 3, 1420 parcel, March 2020 greenspace conditions between solar panel rows (looking west).

SITE PHOTOGRAPHS

Photo 9:

Photo 10:

Photo 11:

Photo 12:

Photo 9: BCP Site 3, 1420 Buffalo Street parcel, March 2020 greenspace along northern boundary (looking southwest)

Photo 10: BCP Site 3, 1420 Buffalo Street parcel, March 2020 greenspace along northern boundary (looking east)

Photo 11: BCP Site 3, 1420 Buffalo Street parcel, March 2020 conditions, SVE-1 trailer with surrounding greenspace in the western portion of the site (looking west)

Photo 12: BCP Site 3, 1404-06R Buffalo Street parcel, March 2020 greenspace view from southeast corner of the property (looking northwest)

APPENDIX C

GROUNDWATER SAMPLING FIELD FORMS AND ANALYTICAL DATA

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: OLEAN REDEVELOPMENT - GWS Date: 6-22-20

Location: ORP 3 OLEAN, NY Project No.: Field Team: CFD

Well No. W-18			Diameter (inches): 4			Sample Date / Time: 6-22-20 / 1230			
Product Depth (fbTOR): -			Water Column (ft): 3.35			DTW when sampled: 27.32			
DTW (static) (fbTOR): 24.30			One Well Volume (gal): 2.18			Purpose: ☐ Development ☐ Sample ☒ Purge & Sample			
Total Depth (fbTOR): 27.65			Total Volume Purged (gal):			Purge Method: BAILER			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial	-	6.83	14.3	1465	78	3.84	180	
	1 25.48	0.5	6.90	14.0	1274	61	3.19	191	CLOUDY
1	2 26.87	1.0	6.94	13.4	1019	49	3.01	142	1
1230	3 27.32	1.5	7.07	12.9	932.7	45	2.98	135	CLEAR, NO ODOR
POST SAMPLE	4								
	5								
	6	DRY							
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

Well No. W-5			Diameter (inches): 2"			Sample Date / Time: 6-23-20 / 1000			
Product Depth (fbTOR): -			Water Column (ft): 7.23			DTW when sampled: 23.41			
DTW (static) (fbTOR): 19.71			One Well Volume (gal): 1.17			Purpose: ☐ Development ☐ Sample ☒ Purge & Sample			
Total Depth (fbTOR): 26.25			Total Volume Purged (gal): 4.0 gal			Purge Method: LOW FLOW - TYPHOON PUMP			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
0830	0 Initial	-	6.91	14.1	1586	37.3	2.11	-90	CLEAR/LIGHT
0840	1 19.68	0.5	6.94	13.8	1574	46.7	2.99	-114	PETRO
0850	2 21.15	1.0	6.99	13.7	1569	48.4	3.13	-102	LIGHT TURBID
0900	3 21.72	1.5	7.00	13.4	1551	46.2	3.68	-88	
0910	4 22.89	2.0	7.01	12.9	1530	41.3	3.69	-79	CLEAR
0920	5 23.18	2.5	7.01	13.0	1519	40.9	4.02	-71	
0930	6 23.40	3.0	7.03	12.8	1512	40.1	4.34	-70	
	7								
	8								
	9								
	10								
Sample Information:									
0940	S1 23.41	3.5	7.03	12.5	1511	38	4.74		LIGHT PETRO
1000	S2 23.40	4.0	7.02	12.4	1513	37.1	4.85	-69	

REMARKS: * W-18 - LOW WATER VOL, NOT RECHARGING, HAD TO SAMPLE W/ BAILER

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CFD

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: OLEAN REDEVELOPMENT - GWS Date: 6-23-20

Location: ORP 3 OLEAN, NY Project No.: Field Team: CFD

Well No. W-29 | Diameter (inches): 2" | Sample Date / Time: 6-23-20 / 1130

Product Depth (fbTOR): — | Water Column (ft): 9.35 | DTW when sampled:

DTW (static) (fbTOR): 20.30 | One Well Volume (gal): 1.5 gal | Purpose: ☐ Development ☐ Sample ☒ Purge & Sample

Total Depth (fbTOR): 29.65 | Total Volume Purged (gal): 7.5 gal | Purge Method: Low Flow Pump

Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1020	0 Initial	—	6.77	14.0	2069	86	3.18	-53	CLOUDY - CLOUDY
1030	1 20.34	1	6.79	13.9	2053	52.7	2.90	-61	PETRO ODOR
1040	2 20.37	2	6.75	13.9	2073	32.2	2.01	-61	"
1050	3	3	6.73	13.8	2072	19.5	1.62	-52	
1100	4	4	6.72	13.2	2070	6.78	1.54	-35	CLEAR
1115	5	5	6.71	13.1	2014	7.29	1.33	-21	"
	6								PETRO ODOR
	7								
	8								
	9								
	10								
Sample Information:									
1130	S1	6	6.71	13.0	1982	10.4	1.08	-19	CLEAR - CLEAR
1140	S2 20.38	7.5	6.69	13.0	1974	12.3	1.02	-17	ODOR - "fizzy"

Well No. MWSW | Diameter (inches): 2" | Sample Date / Time: 6-23-20

Product Depth (fbTOR): — | Water Column (ft): 7.6 | DTW when sampled:

DTW (static) (fbTOR): 20.69 | One Well Volume (gal): 1.2 | Purpose: ☐ Development ☐ Sample ☒ Purge & Sample

Total Depth (fbTOR): 24.00 | Total Volume Purged (gal): 3.025 gal | Purge Method:

Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1150	0 Initial	—	7.28	14.2	1626	79.0	3.68	28	CLEAR
1200	1 20.77	0.5	7.15	12.5	1636	37.7	2.98	18	"
1210	2 20.75	1.0	7.10	12.8	1695	19.1	2.68	25	LIGHT
1220	3 20.79	1.5	7.10	12.6	1715	15.3	2.92	28	ODOR
1235	4 20.77	2.0	7.09	12.6	1725	14.5	3.00	31	
	5 ↓								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1 20.75	2.5	7.04	12.2	1729	13.6	3.02	45	CRYSTAL CLEAR
1245	S2 20.74	3.25	7.07	12.0	1735	12.7	3.02	47	LIGHT ODOR

REMARKS:

*W-29 - MS/MSD + BLIND DUP

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CFD

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: OLEAN REDEVELOPMENT - GWS Date:

Location: Project No.: Field Team:

Well No. MW-4			Diameter (inches): 2"			Sample Date / Time: 6-23-20 / 1535			
Product Depth (fbTOR): -			Water Column (ft): 7.6'			DTW when sampled: 22.46			
DTW (static) (fbTOR): 21.95			One Well Volume (gal): 1.2 gal			Purpose: ☐ Development ☐ Sample ☒ Purge & Sample			
Total Depth (fbTOR): 29.55			Total Volume Purged (gal): 5.0 gal			Purge Method: LOW FLOW - TYPHOON			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1315	0 Initial	-	6.85	14.2	2210	67.2	2.11	-25	
1330	1 21.88	0.5	6.74	14.1	2207	42.3	2.06	-30	CLOUDY
1345	2 22.04	1.0	6.78	14.2	2194	38.7	1.92	-36	
1400	3 22.18	1.5	6.84	13.8	2162	35.6	1.47	-41	LIGHT
1415	4 22.31	2.0	6.89	13.7	2152	22.6	1.32	-43	
1430	5 22.45	3.0	6.74	12.9	2127	14.7	1.18	-45	PETRO
1445	6 22.46	3.5	6.73	12.4	2110	10.8	1.01	-47	
1500	7 22.46	4.0	6.73	11.9	2113	7.2	1.33	-49	
	8								
	9								
	10								
Sample Information:									
1510	S1 22.46	4.5	6.73	12.0	2115	6.5	1.59	-50	CRYSTAL CLEAR
1535	S2 22.46	5.0	6.72	11.6	2117	4.67	1.66	-51	LIGHT PETRO

Well No.			Diameter (inches):			Sample Date / Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			One Well Volume (gal):			Purpose: ☐ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR):			Total Volume Purged (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY:

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-171615-1
Client Project/Site: Benchmark - Olean Parcel 3 GWS
Revision: 1

For:
Benchmark Env. Eng. & Science, PLLC
2558 Hamburg Turnpike
Suite 300
Lackawanna, New York 14218

Attn: Ms. Lori E. Riker

Joseph V. Giacomazza

Authorized for release by:
7/13/2020 3:35:54 PM
Joe Giacomazza, Project Manager I
joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
Brian.Fischer@Eurofinset.com

Table of Contents

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
N	Presumptive evidence of material.
T	Result is a tentatively identified compound (TIC) and an estimated value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 480-171615-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-171615-1

Comments
No additional comments.

Revision
The report being provided is a revision of the original report sent on 6/30/2020. The report (revision 1) is being revised due to: added cp-51 compounds.

Receipt
The samples were received on 6/24/2020 11:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4° C.

Receipt Exceptions

added cp-51 compounds

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 480-538031 recovered above the upper control limit for Acetone. The samples associated with this CCV were not detected above the reporting limit (RL) and/or non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: W18 (480-171615-5).

Method 8260C: The laboratory control sample (LCS) for analytical batch 480-538031 recovered outside control limits for the following analyte: Acetone. This analyte was biased high in the LCS and were not detected above the reporting limit (RL) and/or not detected in the associated samples; therefore, the data have been reported. The associated sample is impacted: W18 (480-171615-5).

Method 8260C: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: W18 (480-171615-5). Elevated reporting limits (RLs) are provided.

Method 8260C: The following sample was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The sample was analyzed within the 7-day holding time specified for unpreserved samples: MW5 (480-171615-4). Sample pH is 7.

Method 8260C: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: MW4 (480-171615-1), MWSW (480-171615-2), W29 (480-171615-3), W29 (480-171615-3[MS]), W29 (480-171615-3[MSD]), MW5 (480-171615-4) and BLIND DUP (480-171615-6). Elevated reporting limits (RLs) are provided.

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-538052 recovered above the upper control limit for Carbon tetrachloride and Dibromochloromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW4 (480-171615-1), MWSW (480-171615-2), W29 (480-171615-3), MW5 (480-171615-4), BLIND DUP (480-171615-6) and TRIP BLANK (480-171615-7).

Method 8260C: The laboratory control sample (LCS) for analytical batch 480-538052 recovered outside control limits for the following analyte: Bromoform. This analyte was biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. The associated samples are impacted: MW4 (480-171615-1), MWSW (480-171615-2), W29 (480-171615-3), MW5 (480-171615-4), BLIND DUP (480-171615-6) and TRIP BLANK (480-171615-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 480-538133 and analytical batch 480-538562 were outside control limits. Sample matrix interference is suspected.

Job ID: 480-171615-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

Method 8270D: The continuing calibration verification (CCV) associated with batch 480-538562 recovered above the upper control limit for 4-Nitrophenol, Atrazine, Hexachlorobenzene and Hexachlorobutadiene . The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW4 (480-171615-1) and W29 (480-171615-3).

Method 8270D: The continuing calibration verification (CCV) associated with batch 480-538562 recovered outside acceptance criteria, low biased, for bis (2-chloroisopropyl) ether, Bis(2-chloroethoxy)methane and Bis(2-chloroethyl)ether. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8270D: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 480-538562 was outside criteria for the following analyte(s): Bis(2-chloroethoxy)methane. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8270D: The laboratory control standard (LCS) recovered above the upper control limit for 2,4,6-Tribromophenol (Surr). The associated samples are non detect for acid extractable target analytes. Therefore, re-extraction and re-analysis were not performed. The data has been reported and qualified.

MW4 (480-171615-1) and W29 (480-171615-3)

Method 8270D: The following samples were diluted due to the nature of the sample matrix: MW4 (480-171615-1), W29 (480-171615-3), W29 (480-171615-3[MS]) and W29 (480-171615-3[MSD]). Elevated reporting limits (RLs) are provided.

Method 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: MW4 (480-171615-1), W29 (480-171615-3) and W29 (480-171615-3[MS]). These results have been reported and qualified.

Method 8270D: The laboratory control sample (LCS) for preparation batch 480-538133 and analytical batch 480-538562 recovered outside control limits for the following analytes: 2,4-Dichlorophenol, 4-Bromophenyl phenyl ether, 4-Chlorophenyl phenyl ether, 4-Nitrophenol, Atrazine, Acetophenone, Carbazole, Dibenz(a,h)anthracene, Fluoranthene and Hexachlorobenzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8270D: The matrix spike / matrix spike duplicate / (MS/MSD) precision for preparation batch 480-538133 and analytical batch 480-538562 was outside control limits for Atrazine. Sample matrix interference and/or non-homogeneity is suspected.

Method 8270D: The following samples were diluted due to the nature of the sample matrix: MWSW (480-171615-2), MW5 (480-171615-4), W18 (480-171615-5) and BLIND DUP (480-171615-6). Elevated reporting limits (RLs) are provided.

Method 8270D: The continuing calibration verification (CCV) associated with batch 480-538679 recovered outside acceptance criteria, low biased, for Pentachlorophenol. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: MWSW (480-171615-2), MW5 (480-171615-4) and W18 (480-171615-5). These results have been reported and qualified.

Method 8270D: The laboratory control standard (LCS) recovered above the upper control limit for 2,4,6-Tribromophenol (Surr). The associated samples are non detect for acid extractable target analytes. Therefore, re-extraction and re-analysis were not performed. The data has been reported and qualified. MWSW (480-171615-2), MW5 (480-171615-4), W18 (480-171615-5) and BLIND DUP (480-171615-6)

Method 8270D: The laboratory control sample (LCS) for preparation batch 480-538133 and analytical batch 480-538679 recovered outside

Job ID: 480-171615-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

control limits for the following analytes: 2,4-Dichlorophenol, 4-Bromophenyl phenyl ether, 4-Chlorophenyl phenyl ether, 4-Nitrophenol, Atrazine, Acetophenone, Carbazole, Dibenz(a,h)anthracene, Fluoranthene and Hexachlorobenzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: MW4 — Lab Sample ID: 480-171615-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	6.5	J	10	4.1	ug/L	10		8260C	Total/NA
Cyclohexane	37		10	1.8	ug/L	10		8260C	Total/NA
Methylcyclohexane	9.1	J	10	1.6	ug/L	10		8260C	Total/NA
1,2,4-Trimethylbenzene	54		10	7.5	ug/L	10		8260C	Total/NA
Arsenic	0.0056	J	0.015	0.0056	mg/L	1		6010C	Total/NA

Client Sample ID: MWSW — Lab Sample ID: 480-171615-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0012	J	0.0040	0.0010	mg/L	1		6010C	Total/NA

Client Sample ID: W29 — Lab Sample ID: 480-171615-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0039	J	0.010	0.0030	mg/L	1		6010C	Total/NA

Client Sample ID: MW5 — Lab Sample ID: 480-171615-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0058	J	0.015	0.0056	mg/L	1		6010C	Total/NA
Chromium	0.0015	J	0.0040	0.0010	mg/L	1		6010C	Total/NA
Lead	0.0054	J	0.010	0.0030	mg/L	1		6010C	Total/NA

Client Sample ID: W18 — Lab Sample ID: 480-171615-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.0022	J	0.0040	0.0010	mg/L	1		6010C	Total/NA
Lead	0.0077	J	0.010	0.0030	mg/L	1		6010C	Total/NA

Client Sample ID: BLIND DUP — Lab Sample ID: 480-171615-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0057	J	0.015	0.0056	mg/L	1		6010C	Total/NA
Lead	0.0040	J	0.010	0.0030	mg/L	1		6010C	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 480-171615-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: MW4
Date Collected: 06/23/20 15:35
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	8.2	ug/L			06/25/20 23:39	10
1,1,2,2-Tetrachloroethane	ND		10	2.1	ug/L			06/25/20 23:39	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	3.1	ug/L			06/25/20 23:39	10
1,1,2-Trichloroethane	ND		10	2.3	ug/L			06/25/20 23:39	10
1,1-Dichloroethane	ND		10	3.8	ug/L			06/25/20 23:39	10
1,1-Dichloroethene	ND		10	2.9	ug/L			06/25/20 23:39	10
1,2,4-Trichlorobenzene	ND		10	4.1	ug/L			06/25/20 23:39	10
1,2-Dibromo-3-Chloropropane	ND		10	3.9	ug/L			06/25/20 23:39	10
1,2-Dibromoethane	ND		10	7.3	ug/L			06/25/20 23:39	10
1,2-Dichlorobenzene	ND		10	7.9	ug/L			06/25/20 23:39	10
1,2-Dichloroethane	ND		10	2.1	ug/L			06/25/20 23:39	10
1,2-Dichloropropane	ND		10	7.2	ug/L			06/25/20 23:39	10
1,3-Dichlorobenzene	ND		10	7.8	ug/L			06/25/20 23:39	10
1,4-Dichlorobenzene	ND		10	8.4	ug/L			06/25/20 23:39	10
2-Butanone (MEK)	ND		100	13	ug/L			06/25/20 23:39	10
2-Hexanone	ND		50	12	ug/L			06/25/20 23:39	10
4-Methyl-2-pentanone (MIBK)	ND		50	21	ug/L			06/25/20 23:39	10
Acetone	ND		100	30	ug/L			06/25/20 23:39	10
Benzene	**6.5**	**J**	10	4.1	ug/L			06/25/20 23:39	10
Bromodichloromethane	ND		10	3.9	ug/L			06/25/20 23:39	10
Bromoform	ND	*	10	2.6	ug/L			06/25/20 23:39	10
Bromomethane	ND		10	6.9	ug/L			06/25/20 23:39	10
Carbon disulfide	ND		10	1.9	ug/L			06/25/20 23:39	10
Carbon tetrachloride	ND		10	2.7	ug/L			06/25/20 23:39	10
Chlorobenzene	ND		10	7.5	ug/L			06/25/20 23:39	10
Chloroethane	ND		10	3.2	ug/L			06/25/20 23:39	10
Chloroform	ND		10	3.4	ug/L			06/25/20 23:39	10
Chloromethane	ND		10	3.5	ug/L			06/25/20 23:39	10
cis-1,2-Dichloroethene	ND		10	8.1	ug/L			06/25/20 23:39	10
cis-1,3-Dichloropropene	ND		10	3.6	ug/L			06/25/20 23:39	10
Cyclohexane	**37**		10	1.8	ug/L			06/25/20 23:39	10
Dibromochloromethane	ND		10	3.2	ug/L			06/25/20 23:39	10
Dichlorodifluoromethane	ND		10	6.8	ug/L			06/25/20 23:39	10
Ethylbenzene	ND		10	7.4	ug/L			06/25/20 23:39	10
Isopropylbenzene	ND		10	7.9	ug/L			06/25/20 23:39	10
Methyl acetate	ND		25	13	ug/L			06/25/20 23:39	10
Methyl tert-butyl ether	ND		10	1.6	ug/L			06/25/20 23:39	10
Methylcyclohexane	**9.1**	**J**	10	1.6	ug/L			06/25/20 23:39	10
Methylene Chloride	ND		10	4.4	ug/L			06/25/20 23:39	10
Styrene	ND		10	7.3	ug/L			06/25/20 23:39	10
Tetrachloroethene	ND		10	3.6	ug/L			06/25/20 23:39	10
Toluene	ND		10	5.1	ug/L			06/25/20 23:39	10
trans-1,2-Dichloroethene	ND		10	9.0	ug/L			06/25/20 23:39	10
trans-1,3-Dichloropropene	ND		10	3.7	ug/L			06/25/20 23:39	10
Trichloroethene	ND		10	4.6	ug/L			06/25/20 23:39	10
Trichlorofluoromethane	ND		10	8.8	ug/L			06/25/20 23:39	10
Vinyl chloride	ND		10	9.0	ug/L			06/25/20 23:39	10
Xylenes, Total	ND		20	6.6	ug/L			06/25/20 23:39	10
n-Butylbenzene	ND		10	6.4	ug/L			06/25/20 23:39	10

Client Sample ID: MW4
Date Collected: 06/23/20 15:35
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	54		10	7.5	ug/L			06/25/20 23:39	10
o-Xylene	ND		10	7.6	ug/L			06/25/20 23:39	10
sec-Butylbenzene	ND		10	7.5	ug/L			06/25/20 23:39	10
N-Propylbenzene	ND		10	6.9	ug/L			06/25/20 23:39	10
4-Isopropyltoluene	ND		10	3.1	ug/L			06/25/20 23:39	10
1,3,5-Trimethylbenzene	ND		10	7.7	ug/L			06/25/20 23:39	10
m,p-Xylene	ND		20	6.6	ug/L			06/25/20 23:39	10
tert-Butylbenzene	ND		10	8.1	ug/L			06/25/20 23:39	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*06/25/20 23:39*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*06/25/20 23:39*	*10*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*		*06/25/20 23:39*	*10*
Toluene-d8 (Surr)	*94*		*80 - 120*		*06/25/20 23:39*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 14:42	5
2,4,6-Trichlorophenol	ND		25	3.1	ug/L		06/26/20 08:23	06/30/20 14:42	5
2,4-Dichlorophenol	ND	*	25	2.6	ug/L		06/26/20 08:23	06/30/20 14:42	5
2,4-Dimethylphenol	ND		25	2.5	ug/L		06/26/20 08:23	06/30/20 14:42	5
2,4-Dinitrophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 14:42	5
2,4-Dinitrotoluene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 14:42	5
2,6-Dinitrotoluene	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
2-Chloronaphthalene	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 14:42	5
2-Chlorophenol	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 14:42	5
2-Methylnaphthalene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
2-Methylphenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
2-Nitroaniline	ND		50	2.1	ug/L		06/26/20 08:23	06/30/20 14:42	5
2-Nitrophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 14:42	5
3,3'-Dichlorobenzidine	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
3-Nitroaniline	ND		50	2.4	ug/L		06/26/20 08:23	06/30/20 14:42	5
4,6-Dinitro-2-methylphenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 14:42	5
4-Bromophenyl phenyl ether	ND	*	25	2.3	ug/L		06/26/20 08:23	06/30/20 14:42	5
4-Chloro-3-methylphenol	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 14:42	5
4-Chloroaniline	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
4-Chlorophenyl phenyl ether	ND	*	25	1.8	ug/L		06/26/20 08:23	06/30/20 14:42	5
4-Methylphenol	ND		50	1.8	ug/L		06/26/20 08:23	06/30/20 14:42	5
4-Nitroaniline	ND		50	1.3	ug/L		06/26/20 08:23	06/30/20 14:42	5
4-Nitrophenol	ND	*	50	7.6	ug/L		06/26/20 08:23	06/30/20 14:42	5
Acenaphthene	ND		25	2.1	ug/L		06/26/20 08:23	06/30/20 14:42	5
Acenaphthylene	ND		25	1.9	ug/L		06/26/20 08:23	06/30/20 14:42	5
Acetophenone	ND	*	25	2.7	ug/L		06/26/20 08:23	06/30/20 14:42	5
Anthracene	ND		25	1.4	ug/L		06/26/20 08:23	06/30/20 14:42	5
Atrazine	ND	*	25	2.3	ug/L		06/26/20 08:23	06/30/20 14:42	5
Benzaldehyde	ND		25	1.3	ug/L		06/26/20 08:23	06/30/20 14:42	5
Benzo(a)anthracene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 14:42	5
Benzo(a)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 14:42	5

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: MW4
Date Collected: 06/23/20 15:35
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(b)fluoranthene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 14:42	5
Benzo(g,h,i)perylene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 14:42	5
Benzo(k)fluoranthene	ND		25	3.7	ug/L		06/26/20 08:23	06/30/20 14:42	5
Biphenyl	ND		25	3.3	ug/L		06/26/20 08:23	06/30/20 14:42	5
bis (2-chloroisopropyl) ether	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 14:42	5
Bis(2-chloroethoxy)methane	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 14:42	5
Bis(2-chloroethyl)ether	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
Bis(2-ethylhexyl) phthalate	ND		25	11	ug/L		06/26/20 08:23	06/30/20 14:42	5
Butyl benzyl phthalate	ND		25	5.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
Caprolactam	ND		25	11	ug/L		06/26/20 08:23	06/30/20 14:42	5
Carbazole	ND	*	25	1.5	ug/L		06/26/20 08:23	06/30/20 14:42	5
Chrysene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 14:42	5
Dibenz(a,h)anthracene	ND	*	25	2.1	ug/L		06/26/20 08:23	06/30/20 14:42	5
Dibenzofuran	ND		50	2.6	ug/L		06/26/20 08:23	06/30/20 14:42	5
Diethyl phthalate	ND		25	1.1	ug/L		06/26/20 08:23	06/30/20 14:42	5
Dimethyl phthalate	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 14:42	5
Di-n-butyl phthalate	ND		25	1.6	ug/L		06/26/20 08:23	06/30/20 14:42	5
Di-n-octyl phthalate	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 14:42	5
Fluoranthene	ND	*	25	2.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
Fluorene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 14:42	5
Hexachlorobenzene	ND	*	25	2.6	ug/L		06/26/20 08:23	06/30/20 14:42	5
Hexachlorobutadiene	ND		25	3.4	ug/L		06/26/20 08:23	06/30/20 14:42	5
Hexachlorocyclopentadiene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
Hexachloroethane	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
Indeno(1,2,3-cd)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 14:42	5
Isophorone	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 14:42	5
Naphthalene	ND		25	3.8	ug/L		06/26/20 08:23	06/30/20 14:42	5
Nitrobenzene	ND		25	1.5	ug/L		06/26/20 08:23	06/30/20 14:42	5
N-Nitrosodi-n-propylamine	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 14:42	5
N-Nitrosodiphenylamine	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 14:42	5
Pentachlorophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 14:42	5
Phenanthrene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 14:42	5
Phenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 14:42	5
Pyrene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 14:42	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*63*	*T J*	*ug/L*		*2.76*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*140*	*T J*	*ug/L*		*2.95*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*22*	*T J*	*ug/L*		*4.94*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*18*	*T J*	*ug/L*		*5.60*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*14*	*T J*	*ug/L*		*6.03*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*13*	*T J*	*ug/L*		*6.14*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Benzene, 1,2,4-trimethyl-	*47*	*T J N*	*ug/L*		*6.25*	*95-63-6*	*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*15*	*T J*	*ug/L*		*6.52*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*25*	*T J*	*ug/L*		*6.83*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*13*	*T J*	*ug/L*		*6.92*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*19*	*T J*	*ug/L*		*6.98*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*15*	*T J*	*ug/L*		*7.04*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*16*	*T J*	*ug/L*		*7.26*		*06/26/20 08:23*	*06/30/20 14:42*	*5*
Unknown	*13*	*T J*	*ug/L*		*7.33*		*06/26/20 08:23*	*06/30/20 14:42*	*5*

Client Sample ID: MW4
Lab Sample ID: 480-171615-1
Date Collected: 06/23/20 15:35
Matrix: Water
Date Received: 06/24/20 11:30

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	17	T J	ug/L		7.40		06/26/20 08:23	06/30/20 14:42	5
Unknown	27	T J	ug/L		7.66		06/26/20 08:23	06/30/20 14:42	5
Unknown	18	T J	ug/L		7.86		06/26/20 08:23	06/30/20 14:42	5
Unknown	17	T J	ug/L		8.22		06/26/20 08:23	06/30/20 14:42	5
Unknown	34	T J	ug/L		9.49		06/26/20 08:23	06/30/20 14:42	5
Unknown	15	T J	ug/L		9.56		06/26/20 08:23	06/30/20 14:42	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	108		41 - 120	06/26/20 08:23	06/30/20 14:42	5
2-Fluorobiphenyl	107		48 - 120	06/26/20 08:23	06/30/20 14:42	5
2-Fluorophenol	62		35 - 120	06/26/20 08:23	06/30/20 14:42	5
Nitrobenzene-d5	83		46 - 120	06/26/20 08:23	06/30/20 14:42	5
Phenol-d5	44		22 - 120	06/26/20 08:23	06/30/20 14:42	5
p-Terphenyl-d14	51	X	60 - 148	06/26/20 08:23	06/30/20 14:42	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0056	J	0.015	0.0056	mg/L		06/26/20 09:40	06/26/20 21:14	1
Chromium	ND		0.0040	0.0010	mg/L		06/26/20 09:40	06/26/20 21:14	1
Lead	ND		0.010	0.0030	mg/L		06/26/20 09:40	06/26/20 21:14	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: MWSW
Date Collected: 06/23/20 13:45
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	8.2	ug/L			06/26/20 00:04	10
1,1,2,2-Tetrachloroethane	ND		10	2.1	ug/L			06/26/20 00:04	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	3.1	ug/L			06/26/20 00:04	10
1,1,2-Trichloroethane	ND		10	2.3	ug/L			06/26/20 00:04	10
1,1-Dichloroethane	ND		10	3.8	ug/L			06/26/20 00:04	10
1,1-Dichloroethene	ND		10	2.9	ug/L			06/26/20 00:04	10
1,2,4-Trichlorobenzene	ND		10	4.1	ug/L			06/26/20 00:04	10
1,2-Dibromo-3-Chloropropane	ND		10	3.9	ug/L			06/26/20 00:04	10
1,2-Dibromoethane	ND		10	7.3	ug/L			06/26/20 00:04	10
1,2-Dichlorobenzene	ND		10	7.9	ug/L			06/26/20 00:04	10
1,2-Dichloroethane	ND		10	2.1	ug/L			06/26/20 00:04	10
1,2-Dichloropropane	ND		10	7.2	ug/L			06/26/20 00:04	10
1,3-Dichlorobenzene	ND		10	7.8	ug/L			06/26/20 00:04	10
1,4-Dichlorobenzene	ND		10	8.4	ug/L			06/26/20 00:04	10
2-Butanone (MEK)	ND		100	13	ug/L			06/26/20 00:04	10
2-Hexanone	ND		50	12	ug/L			06/26/20 00:04	10
4-Methyl-2-pentanone (MIBK)	ND		50	21	ug/L			06/26/20 00:04	10
Acetone	ND		100	30	ug/L			06/26/20 00:04	10
Benzene	ND		10	4.1	ug/L			06/26/20 00:04	10
Bromodichloromethane	ND		10	3.9	ug/L			06/26/20 00:04	10
Bromoform	ND	*	10	2.6	ug/L			06/26/20 00:04	10
Bromomethane	ND		10	6.9	ug/L			06/26/20 00:04	10
Carbon disulfide	ND		10	1.9	ug/L			06/26/20 00:04	10
Carbon tetrachloride	ND		10	2.7	ug/L			06/26/20 00:04	10
Chlorobenzene	ND		10	7.5	ug/L			06/26/20 00:04	10
Chloroethane	ND		10	3.2	ug/L			06/26/20 00:04	10
Chloroform	ND		10	3.4	ug/L			06/26/20 00:04	10
Chloromethane	ND		10	3.5	ug/L			06/26/20 00:04	10
cis-1,2-Dichloroethene	ND		10	8.1	ug/L			06/26/20 00:04	10
cis-1,3-Dichloropropene	ND		10	3.6	ug/L			06/26/20 00:04	10
Cyclohexane	ND		10	1.8	ug/L			06/26/20 00:04	10
Dibromochloromethane	ND		10	3.2	ug/L			06/26/20 00:04	10
Dichlorodifluoromethane	ND		10	6.8	ug/L			06/26/20 00:04	10
Ethylbenzene	ND		10	7.4	ug/L			06/26/20 00:04	10
Isopropylbenzene	ND		10	7.9	ug/L			06/26/20 00:04	10
Methyl acetate	ND		25	13	ug/L			06/26/20 00:04	10
Methyl tert-butyl ether	ND		10	1.6	ug/L			06/26/20 00:04	10
Methylcyclohexane	ND		10	1.6	ug/L			06/26/20 00:04	10
Methylene Chloride	ND		10	4.4	ug/L			06/26/20 00:04	10
Styrene	ND		10	7.3	ug/L			06/26/20 00:04	10
Tetrachloroethene	ND		10	3.6	ug/L			06/26/20 00:04	10
Toluene	ND		10	5.1	ug/L			06/26/20 00:04	10
trans-1,2-Dichloroethene	ND		10	9.0	ug/L			06/26/20 00:04	10
trans-1,3-Dichloropropene	ND		10	3.7	ug/L			06/26/20 00:04	10
Trichloroethene	ND		10	4.6	ug/L			06/26/20 00:04	10
Trichlorofluoromethane	ND		10	8.8	ug/L			06/26/20 00:04	10
Vinyl chloride	ND		10	9.0	ug/L			06/26/20 00:04	10
Xylenes, Total	ND		20	6.6	ug/L			06/26/20 00:04	10
n-Butylbenzene	ND		10	6.4	ug/L			06/26/20 00:04	10

Client Sample ID: MWSW
Date Collected: 06/23/20 13:45
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		10	7.5	ug/L			06/26/20 00:04	10
o-Xylene	ND		10	7.6	ug/L			06/26/20 00:04	10
sec-Butylbenzene	ND		10	7.5	ug/L			06/26/20 00:04	10
N-Propylbenzene	ND		10	6.9	ug/L			06/26/20 00:04	10
4-Isopropyltoluene	ND		10	3.1	ug/L			06/26/20 00:04	10
1,3,5-Trimethylbenzene	ND		10	7.7	ug/L			06/26/20 00:04	10
m,p-Xylene	ND		20	6.6	ug/L			06/26/20 00:04	10
tert-Butylbenzene	ND		10	8.1	ug/L			06/26/20 00:04	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*06/26/20 00:04*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*06/26/20 00:04*	*10*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*		*06/26/20 00:04*	*10*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/26/20 00:04*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 20:32	5
2,4,6-Trichlorophenol	ND		25	3.1	ug/L		06/26/20 08:23	06/30/20 20:32	5
2,4-Dichlorophenol	ND	*	25	2.6	ug/L		06/26/20 08:23	06/30/20 20:32	5
2,4-Dimethylphenol	ND		25	2.5	ug/L		06/26/20 08:23	06/30/20 20:32	5
2,4-Dinitrophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 20:32	5
2,4-Dinitrotoluene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 20:32	5
2,6-Dinitrotoluene	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
2-Chloronaphthalene	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 20:32	5
2-Chlorophenol	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 20:32	5
2-Methylnaphthalene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
2-Methylphenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
2-Nitroaniline	ND		50	2.1	ug/L		06/26/20 08:23	06/30/20 20:32	5
2-Nitrophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 20:32	5
3,3'-Dichlorobenzidine	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
3-Nitroaniline	ND		50	2.4	ug/L		06/26/20 08:23	06/30/20 20:32	5
4,6-Dinitro-2-methylphenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 20:32	5
4-Bromophenyl phenyl ether	ND	*	25	2.3	ug/L		06/26/20 08:23	06/30/20 20:32	5
4-Chloro-3-methylphenol	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 20:32	5
4-Chloroaniline	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
4-Chlorophenyl phenyl ether	ND	*	25	1.8	ug/L		06/26/20 08:23	06/30/20 20:32	5
4-Methylphenol	ND		50	1.8	ug/L		06/26/20 08:23	06/30/20 20:32	5
4-Nitroaniline	ND		50	1.3	ug/L		06/26/20 08:23	06/30/20 20:32	5
4-Nitrophenol	ND	*	50	7.6	ug/L		06/26/20 08:23	06/30/20 20:32	5
Acenaphthene	ND		25	2.1	ug/L		06/26/20 08:23	06/30/20 20:32	5
Acenaphthylene	ND		25	1.9	ug/L		06/26/20 08:23	06/30/20 20:32	5
Acetophenone	ND	*	25	2.7	ug/L		06/26/20 08:23	06/30/20 20:32	5
Anthracene	ND		25	1.4	ug/L		06/26/20 08:23	06/30/20 20:32	5
Atrazine	ND	*	25	2.3	ug/L		06/26/20 08:23	06/30/20 20:32	5
Benzaldehyde	ND		25	1.3	ug/L		06/26/20 08:23	06/30/20 20:32	5
Benzo(a)anthracene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 20:32	5
Benzo(a)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 20:32	5

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: MWSW
Date Collected: 06/23/20 13:45
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-2
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(b)fluoranthene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 20:32	5
Benzo(g,h,i)perylene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 20:32	5
Benzo(k)fluoranthene	ND		25	3.7	ug/L		06/26/20 08:23	06/30/20 20:32	5
Biphenyl	ND		25	3.3	ug/L		06/26/20 08:23	06/30/20 20:32	5
bis (2-chloroisopropyl) ether	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 20:32	5
Bis(2-chloroethoxy)methane	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 20:32	5
Bis(2-chloroethyl)ether	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
Bis(2-ethylhexyl) phthalate	ND		25	11	ug/L		06/26/20 08:23	06/30/20 20:32	5
Butyl benzyl phthalate	ND		25	5.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
Caprolactam	ND		25	11	ug/L		06/26/20 08:23	06/30/20 20:32	5
Carbazole	ND	*	25	1.5	ug/L		06/26/20 08:23	06/30/20 20:32	5
Chrysene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 20:32	5
Dibenz(a,h)anthracene	ND	*	25	2.1	ug/L		06/26/20 08:23	06/30/20 20:32	5
Dibenzofuran	ND		50	2.6	ug/L		06/26/20 08:23	06/30/20 20:32	5
Diethyl phthalate	ND		25	1.1	ug/L		06/26/20 08:23	06/30/20 20:32	5
Dimethyl phthalate	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 20:32	5
Di-n-butyl phthalate	ND		25	1.6	ug/L		06/26/20 08:23	06/30/20 20:32	5
Di-n-octyl phthalate	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 20:32	5
Fluoranthene	ND	*	25	2.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
Fluorene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 20:32	5
Hexachlorobenzene	ND	*	25	2.6	ug/L		06/26/20 08:23	06/30/20 20:32	5
Hexachlorobutadiene	ND		25	3.4	ug/L		06/26/20 08:23	06/30/20 20:32	5
Hexachlorocyclopentadiene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
Hexachloroethane	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
Indeno(1,2,3-cd)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 20:32	5
Isophorone	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 20:32	5
Naphthalene	ND		25	3.8	ug/L		06/26/20 08:23	06/30/20 20:32	5
Nitrobenzene	ND		25	1.5	ug/L		06/26/20 08:23	06/30/20 20:32	5
N-Nitrosodi-n-propylamine	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 20:32	5
N-Nitrosodiphenylamine	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 20:32	5
Pentachlorophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 20:32	5
Phenanthrene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 20:32	5
Phenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 20:32	5
Pyrene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 20:32	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*29*	*T J*	*ug/L*		*4.69*		*06/26/20 08:23*	*06/30/20 20:32*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*118*		*41 - 120*	*06/26/20 08:23*	*06/30/20 20:32*	*5*
2-Fluorobiphenyl	*100*		*48 - 120*	*06/26/20 08:23*	*06/30/20 20:32*	*5*
2-Fluorophenol	*75*		*35 - 120*	*06/26/20 08:23*	*06/30/20 20:32*	*5*
Nitrobenzene-d5	*97*		*46 - 120*	*06/26/20 08:23*	*06/30/20 20:32*	*5*
Phenol-d5	*52*		*22 - 120*	*06/26/20 08:23*	*06/30/20 20:32*	*5*
p-Terphenyl-d14	*56*	*X*	*60 - 148*	*06/26/20 08:23*	*06/30/20 20:32*	*5*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/26/20 09:40	06/26/20 21:18	1
Chromium	**0.0012**	**J**	0.0040	0.0010	mg/L		06/26/20 09:40	06/26/20 21:18	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: MWSW
Date Collected: 06/23/20 13:45
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-2
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.010	0.0030	mg/L		06/26/20 09:40	06/26/20 21:18	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: W29
Date Collected: 06/23/20 11:30
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		20	16	ug/L			06/26/20 00:28	20
1,1,2,2-Tetrachloroethane	ND		20	4.2	ug/L			06/26/20 00:28	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		20	6.2	ug/L			06/26/20 00:28	20
1,1,2-Trichloroethane	ND		20	4.6	ug/L			06/26/20 00:28	20
1,1-Dichloroethane	ND		20	7.6	ug/L			06/26/20 00:28	20
1,1-Dichloroethene	ND		20	5.8	ug/L			06/26/20 00:28	20
1,2,4-Trichlorobenzene	ND		20	8.2	ug/L			06/26/20 00:28	20
1,2-Dibromo-3-Chloropropane	ND		20	7.8	ug/L			06/26/20 00:28	20
1,2-Dibromoethane	ND		20	15	ug/L			06/26/20 00:28	20
1,2-Dichlorobenzene	ND		20	16	ug/L			06/26/20 00:28	20
1,2-Dichloroethane	ND		20	4.2	ug/L			06/26/20 00:28	20
1,2-Dichloropropane	ND		20	14	ug/L			06/26/20 00:28	20
1,3-Dichlorobenzene	ND		20	16	ug/L			06/26/20 00:28	20
1,4-Dichlorobenzene	ND		20	17	ug/L			06/26/20 00:28	20
2-Butanone (MEK)	ND		200	26	ug/L			06/26/20 00:28	20
2-Hexanone	ND		100	25	ug/L			06/26/20 00:28	20
4-Methyl-2-pentanone (MIBK)	ND		100	42	ug/L			06/26/20 00:28	20
Acetone	ND		200	60	ug/L			06/26/20 00:28	20
Benzene	ND		20	8.2	ug/L			06/26/20 00:28	20
Bromodichloromethane	ND		20	7.8	ug/L			06/26/20 00:28	20
Bromoform	ND	* F1	20	5.2	ug/L			06/26/20 00:28	20
Bromomethane	ND		20	14	ug/L			06/26/20 00:28	20
Carbon disulfide	ND		20	3.8	ug/L			06/26/20 00:28	20
Carbon tetrachloride	ND	F1	20	5.4	ug/L			06/26/20 00:28	20
Chlorobenzene	ND		20	15	ug/L			06/26/20 00:28	20
Chloroethane	ND		20	6.4	ug/L			06/26/20 00:28	20
Chloroform	ND		20	6.8	ug/L			06/26/20 00:28	20
Chloromethane	ND		20	7.0	ug/L			06/26/20 00:28	20
cis-1,2-Dichloroethene	ND		20	16	ug/L			06/26/20 00:28	20
cis-1,3-Dichloropropene	ND		20	7.2	ug/L			06/26/20 00:28	20
Cyclohexane	ND		20	3.6	ug/L			06/26/20 00:28	20
Dibromochloromethane	ND	F1	20	6.4	ug/L			06/26/20 00:28	20
Dichlorodifluoromethane	ND		20	14	ug/L			06/26/20 00:28	20
Ethylbenzene	ND		20	15	ug/L			06/26/20 00:28	20
Isopropylbenzene	ND		20	16	ug/L			06/26/20 00:28	20
Methyl acetate	ND		50	26	ug/L			06/26/20 00:28	20
Methyl tert-butyl ether	ND		20	3.2	ug/L			06/26/20 00:28	20
Methylcyclohexane	ND		20	3.2	ug/L			06/26/20 00:28	20
Methylene Chloride	ND		20	8.8	ug/L			06/26/20 00:28	20
Styrene	ND		20	15	ug/L			06/26/20 00:28	20
Tetrachloroethene	ND		20	7.2	ug/L			06/26/20 00:28	20
Toluene	ND		20	10	ug/L			06/26/20 00:28	20
trans-1,2-Dichloroethene	ND		20	18	ug/L			06/26/20 00:28	20
trans-1,3-Dichloropropene	ND		20	7.4	ug/L			06/26/20 00:28	20
Trichloroethene	ND		20	9.2	ug/L			06/26/20 00:28	20
Trichlorofluoromethane	ND		20	18	ug/L			06/26/20 00:28	20
Vinyl chloride	ND		20	18	ug/L			06/26/20 00:28	20
Xylenes, Total	ND		40	13	ug/L			06/26/20 00:28	20
n-Butylbenzene	ND		20	13	ug/L			06/26/20 00:28	20

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: W29
Date Collected: 06/23/20 11:30
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		20	15	ug/L			06/26/20 00:28	20
o-Xylene	ND		20	15	ug/L			06/26/20 00:28	20
sec-Butylbenzene	ND		20	15	ug/L			06/26/20 00:28	20
N-Propylbenzene	ND		20	14	ug/L			06/26/20 00:28	20
4-Isopropyltoluene	ND		20	6.2	ug/L			06/26/20 00:28	20
1,3,5-Trimethylbenzene	ND		20	15	ug/L			06/26/20 00:28	20
m,p-Xylene	ND		40	13	ug/L			06/26/20 00:28	20
tert-Butylbenzene	ND		20	16	ug/L			06/26/20 00:28	20

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*06/26/20 00:28*	*20*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*06/26/20 00:28*	*20*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*		*06/26/20 00:28*	*20*
Toluene-d8 (Surr)	*92*		*80 - 120*		*06/26/20 00:28*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 09:31	5
2,4,6-Trichlorophenol	ND		25	3.1	ug/L		06/26/20 08:23	06/30/20 09:31	5
2,4-Dichlorophenol	ND	*	25	2.6	ug/L		06/26/20 08:23	06/30/20 09:31	5
2,4-Dimethylphenol	ND		25	2.5	ug/L		06/26/20 08:23	06/30/20 09:31	5
2,4-Dinitrophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 09:31	5
2,4-Dinitrotoluene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 09:31	5
2,6-Dinitrotoluene	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
2-Chloronaphthalene	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 09:31	5
2-Chlorophenol	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 09:31	5
2-Methylnaphthalene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
2-Methylphenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
2-Nitroaniline	ND		50	2.1	ug/L		06/26/20 08:23	06/30/20 09:31	5
2-Nitrophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 09:31	5
3,3'-Dichlorobenzidine	ND	F1	25	2.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
3-Nitroaniline	ND	F1	50	2.4	ug/L		06/26/20 08:23	06/30/20 09:31	5
4,6-Dinitro-2-methylphenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 09:31	5
4-Bromophenyl phenyl ether	ND	*	25	2.3	ug/L		06/26/20 08:23	06/30/20 09:31	5
4-Chloro-3-methylphenol	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 09:31	5
4-Chloroaniline	ND	F2 F1	25	3.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
4-Chlorophenyl phenyl ether	ND	F2 *	25	1.8	ug/L		06/26/20 08:23	06/30/20 09:31	5
4-Methylphenol	ND		50	1.8	ug/L		06/26/20 08:23	06/30/20 09:31	5
4-Nitroaniline	ND	F1	50	1.3	ug/L		06/26/20 08:23	06/30/20 09:31	5
4-Nitrophenol	ND	*	50	7.6	ug/L		06/26/20 08:23	06/30/20 09:31	5
Acenaphthene	ND		25	2.1	ug/L		06/26/20 08:23	06/30/20 09:31	5
Acenaphthylene	ND		25	1.9	ug/L		06/26/20 08:23	06/30/20 09:31	5
Acetophenone	ND	*	25	2.7	ug/L		06/26/20 08:23	06/30/20 09:31	5
Anthracene	ND		25	1.4	ug/L		06/26/20 08:23	06/30/20 09:31	5
Atrazine	ND	F2 F1 *	25	2.3	ug/L		06/26/20 08:23	06/30/20 09:31	5
Benzaldehyde	ND		25	1.3	ug/L		06/26/20 08:23	06/30/20 09:31	5
Benzo(a)anthracene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 09:31	5
Benzo(a)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 09:31	5

Client Sample ID: W29
Date Collected: 06/23/20 11:30
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(b)fluoranthene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 09:31	5
Benzo(g,h,i)perylene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 09:31	5
Benzo(k)fluoranthene	ND		25	3.7	ug/L		06/26/20 08:23	06/30/20 09:31	5
Biphenyl	ND		25	3.3	ug/L		06/26/20 08:23	06/30/20 09:31	5
bis (2-chloroisopropyl) ether	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 09:31	5
Bis(2-chloroethoxy)methane	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 09:31	5
Bis(2-chloroethyl)ether	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
Bis(2-ethylhexyl) phthalate	ND		25	11	ug/L		06/26/20 08:23	06/30/20 09:31	5
Butyl benzyl phthalate	ND	F2	25	5.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
Caprolactam	ND	F2	25	11	ug/L		06/26/20 08:23	06/30/20 09:31	5
Carbazole	ND	*	25	1.5	ug/L		06/26/20 08:23	06/30/20 09:31	5
Chrysene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 09:31	5
Dibenz(a,h)anthracene	ND	*	25	2.1	ug/L		06/26/20 08:23	06/30/20 09:31	5
Dibenzofuran	ND		50	2.6	ug/L		06/26/20 08:23	06/30/20 09:31	5
Diethyl phthalate	ND	F2	25	1.1	ug/L		06/26/20 08:23	06/30/20 09:31	5
Dimethyl phthalate	ND	F2	25	1.8	ug/L		06/26/20 08:23	06/30/20 09:31	5
Di-n-butyl phthalate	ND		25	1.6	ug/L		06/26/20 08:23	06/30/20 09:31	5
Di-n-octyl phthalate	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 09:31	5
Fluoranthene	ND	*	25	2.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
Fluorene	ND	F2	25	1.8	ug/L		06/26/20 08:23	06/30/20 09:31	5
Hexachlorobenzene	ND	F2 *	25	2.6	ug/L		06/26/20 08:23	06/30/20 09:31	5
Hexachlorobutadiene	ND		25	3.4	ug/L		06/26/20 08:23	06/30/20 09:31	5
Hexachlorocyclopentadiene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
Hexachloroethane	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
Indeno(1,2,3-cd)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 09:31	5
Isophorone	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 09:31	5
Naphthalene	ND		25	3.8	ug/L		06/26/20 08:23	06/30/20 09:31	5
Nitrobenzene	ND		25	1.5	ug/L		06/26/20 08:23	06/30/20 09:31	5
N-Nitrosodi-n-propylamine	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 09:31	5
N-Nitrosodiphenylamine	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 09:31	5
Pentachlorophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 09:31	5
Phenanthrene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 09:31	5
Phenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 09:31	5
Pyrene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 09:31	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*66*	*T J*	*ug/L*		*2.75*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*140*	*T J*	*ug/L*		*2.95*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*41*	*T J*	*ug/L*		*4.94*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*11*	*T J*	*ug/L*		*6.03*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*11*	*T J*	*ug/L*		*6.98*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*11*	*T J*	*ug/L*		*7.12*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*11*	*T J*	*ug/L*		*7.26*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*9.9*	*T J*	*ug/L*		*7.57*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*23*	*T J*	*ug/L*		*7.86*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*9.4*	*T J*	*ug/L*		*8.15*		*06/26/20 08:23*	*06/30/20 09:31*	*5*
Unknown	*9.2*	*T J*	*ug/L*		*8.63*		*06/26/20 08:23*	*06/30/20 09:31*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*97*		*41 - 120*	*06/26/20 08:23*	*06/30/20 09:31*	*5*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: W29
Date Collected: 06/23/20 11:30
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*109*		*48 - 120*	*06/26/20 08:23*	*06/30/20 09:31*	*5*
2-Fluorophenol	*63*		*35 - 120*	*06/26/20 08:23*	*06/30/20 09:31*	*5*
Nitrobenzene-d5	*80*		*46 - 120*	*06/26/20 08:23*	*06/30/20 09:31*	*5*
Phenol-d5	*39*		*22 - 120*	*06/26/20 08:23*	*06/30/20 09:31*	*5*
p-Terphenyl-d14	*59*	*X*	*60 - 148*	*06/26/20 08:23*	*06/30/20 09:31*	*5*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/26/20 09:40	06/26/20 21:33	1
Chromium	ND		0.0040	0.0010	mg/L		06/26/20 09:40	06/26/20 21:33	1
Lead	**0.0039**	**J**	0.010	0.0030	mg/L		06/26/20 09:40	06/26/20 21:33	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: MW5
Date Collected: 06/23/20 10:00
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		10	8.2	ug/L			06/26/20 00:53	10
1,1,2,2-Tetrachloroethane	ND		10	2.1	ug/L			06/26/20 00:53	10
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10	3.1	ug/L			06/26/20 00:53	10
1,1,2-Trichloroethane	ND		10	2.3	ug/L			06/26/20 00:53	10
1,1-Dichloroethane	ND		10	3.8	ug/L			06/26/20 00:53	10
1,1-Dichloroethene	ND		10	2.9	ug/L			06/26/20 00:53	10
1,2,4-Trichlorobenzene	ND		10	4.1	ug/L			06/26/20 00:53	10
1,2-Dibromo-3-Chloropropane	ND		10	3.9	ug/L			06/26/20 00:53	10
1,2-Dibromoethane	ND		10	7.3	ug/L			06/26/20 00:53	10
1,2-Dichlorobenzene	ND		10	7.9	ug/L			06/26/20 00:53	10
1,2-Dichloroethane	ND		10	2.1	ug/L			06/26/20 00:53	10
1,2-Dichloropropane	ND		10	7.2	ug/L			06/26/20 00:53	10
1,3-Dichlorobenzene	ND		10	7.8	ug/L			06/26/20 00:53	10
1,4-Dichlorobenzene	ND		10	8.4	ug/L			06/26/20 00:53	10
2-Butanone (MEK)	ND		100	13	ug/L			06/26/20 00:53	10
2-Hexanone	ND		50	12	ug/L			06/26/20 00:53	10
4-Methyl-2-pentanone (MIBK)	ND		50	21	ug/L			06/26/20 00:53	10
Acetone	ND		100	30	ug/L			06/26/20 00:53	10
Benzene	ND		10	4.1	ug/L			06/26/20 00:53	10
Bromodichloromethane	ND		10	3.9	ug/L			06/26/20 00:53	10
Bromoform	ND	*	10	2.6	ug/L			06/26/20 00:53	10
Bromomethane	ND		10	6.9	ug/L			06/26/20 00:53	10
Carbon disulfide	ND		10	1.9	ug/L			06/26/20 00:53	10
Carbon tetrachloride	ND		10	2.7	ug/L			06/26/20 00:53	10
Chlorobenzene	ND		10	7.5	ug/L			06/26/20 00:53	10
Chloroethane	ND		10	3.2	ug/L			06/26/20 00:53	10
Chloroform	ND		10	3.4	ug/L			06/26/20 00:53	10
Chloromethane	ND		10	3.5	ug/L			06/26/20 00:53	10
cis-1,2-Dichloroethene	ND		10	8.1	ug/L			06/26/20 00:53	10
cis-1,3-Dichloropropene	ND		10	3.6	ug/L			06/26/20 00:53	10
Cyclohexane	ND		10	1.8	ug/L			06/26/20 00:53	10
Dibromochloromethane	ND		10	3.2	ug/L			06/26/20 00:53	10
Dichlorodifluoromethane	ND		10	6.8	ug/L			06/26/20 00:53	10
Ethylbenzene	ND		10	7.4	ug/L			06/26/20 00:53	10
Isopropylbenzene	ND		10	7.9	ug/L			06/26/20 00:53	10
Methyl acetate	ND		25	13	ug/L			06/26/20 00:53	10
Methyl tert-butyl ether	ND		10	1.6	ug/L			06/26/20 00:53	10
Methylcyclohexane	ND		10	1.6	ug/L			06/26/20 00:53	10
Methylene Chloride	ND		10	4.4	ug/L			06/26/20 00:53	10
Styrene	ND		10	7.3	ug/L			06/26/20 00:53	10
Tetrachloroethene	ND		10	3.6	ug/L			06/26/20 00:53	10
Toluene	ND		10	5.1	ug/L			06/26/20 00:53	10
trans-1,2-Dichloroethene	ND		10	9.0	ug/L			06/26/20 00:53	10
trans-1,3-Dichloropropene	ND		10	3.7	ug/L			06/26/20 00:53	10
Trichloroethene	ND		10	4.6	ug/L			06/26/20 00:53	10
Trichlorofluoromethane	ND		10	8.8	ug/L			06/26/20 00:53	10
Vinyl chloride	ND		10	9.0	ug/L			06/26/20 00:53	10
Xylenes, Total	ND		20	6.6	ug/L			06/26/20 00:53	10
n-Butylbenzene	ND		10	6.4	ug/L			06/26/20 00:53	10

Client Sample ID: MW5
Date Collected: 06/23/20 10:00
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		10	7.5	ug/L			06/26/20 00:53	10
o-Xylene	ND		10	7.6	ug/L			06/26/20 00:53	10
sec-Butylbenzene	ND		10	7.5	ug/L			06/26/20 00:53	10
N-Propylbenzene	ND		10	6.9	ug/L			06/26/20 00:53	10
4-Isopropyltoluene	ND		10	3.1	ug/L			06/26/20 00:53	10
1,3,5-Trimethylbenzene	ND		10	7.7	ug/L			06/26/20 00:53	10
m,p-Xylene	ND		20	6.6	ug/L			06/26/20 00:53	10
tert-Butylbenzene	ND		10	8.1	ug/L			06/26/20 00:53	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*06/26/20 00:53*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*		*06/26/20 00:53*	*10*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*		*06/26/20 00:53*	*10*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/26/20 00:53*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:01	5
2,4,6-Trichlorophenol	ND		25	3.1	ug/L		06/26/20 08:23	06/30/20 21:01	5
2,4-Dichlorophenol	ND	*	25	2.6	ug/L		06/26/20 08:23	06/30/20 21:01	5
2,4-Dimethylphenol	ND		25	2.5	ug/L		06/26/20 08:23	06/30/20 21:01	5
2,4-Dinitrophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 21:01	5
2,4-Dinitrotoluene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 21:01	5
2,6-Dinitrotoluene	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
2-Chloronaphthalene	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 21:01	5
2-Chlorophenol	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 21:01	5
2-Methylnaphthalene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
2-Methylphenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
2-Nitroaniline	ND		50	2.1	ug/L		06/26/20 08:23	06/30/20 21:01	5
2-Nitrophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:01	5
3,3'-Dichlorobenzidine	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
3-Nitroaniline	ND		50	2.4	ug/L		06/26/20 08:23	06/30/20 21:01	5
4,6-Dinitro-2-methylphenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 21:01	5
4-Bromophenyl phenyl ether	ND	*	25	2.3	ug/L		06/26/20 08:23	06/30/20 21:01	5
4-Chloro-3-methylphenol	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 21:01	5
4-Chloroaniline	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
4-Chlorophenyl phenyl ether	ND	*	25	1.8	ug/L		06/26/20 08:23	06/30/20 21:01	5
4-Methylphenol	ND		50	1.8	ug/L		06/26/20 08:23	06/30/20 21:01	5
4-Nitroaniline	ND		50	1.3	ug/L		06/26/20 08:23	06/30/20 21:01	5
4-Nitrophenol	ND	*	50	7.6	ug/L		06/26/20 08:23	06/30/20 21:01	5
Acenaphthene	ND		25	2.1	ug/L		06/26/20 08:23	06/30/20 21:01	5
Acenaphthylene	ND		25	1.9	ug/L		06/26/20 08:23	06/30/20 21:01	5
Acetophenone	ND	*	25	2.7	ug/L		06/26/20 08:23	06/30/20 21:01	5
Anthracene	ND		25	1.4	ug/L		06/26/20 08:23	06/30/20 21:01	5
Atrazine	ND	*	25	2.3	ug/L		06/26/20 08:23	06/30/20 21:01	5
Benzaldehyde	ND		25	1.3	ug/L		06/26/20 08:23	06/30/20 21:01	5
Benzo(a)anthracene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:01	5
Benzo(a)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:01	5

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: MW5
Date Collected: 06/23/20 10:00
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(b)fluoranthene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 21:01	5
Benzo(g,h,i)perylene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:01	5
Benzo(k)fluoranthene	ND		25	3.7	ug/L		06/26/20 08:23	06/30/20 21:01	5
Biphenyl	ND		25	3.3	ug/L		06/26/20 08:23	06/30/20 21:01	5
bis (2-chloroisopropyl) ether	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 21:01	5
Bis(2-chloroethoxy)methane	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:01	5
Bis(2-chloroethyl)ether	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
Bis(2-ethylhexyl) phthalate	ND		25	11	ug/L		06/26/20 08:23	06/30/20 21:01	5
Butyl benzyl phthalate	ND		25	5.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
Caprolactam	ND		25	11	ug/L		06/26/20 08:23	06/30/20 21:01	5
Carbazole	ND	*	25	1.5	ug/L		06/26/20 08:23	06/30/20 21:01	5
Chrysene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 21:01	5
Dibenz(a,h)anthracene	ND	*	25	2.1	ug/L		06/26/20 08:23	06/30/20 21:01	5
Dibenzofuran	ND		50	2.6	ug/L		06/26/20 08:23	06/30/20 21:01	5
Diethyl phthalate	ND		25	1.1	ug/L		06/26/20 08:23	06/30/20 21:01	5
Dimethyl phthalate	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:01	5
Di-n-butyl phthalate	ND		25	1.6	ug/L		06/26/20 08:23	06/30/20 21:01	5
Di-n-octyl phthalate	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:01	5
Fluoranthene	ND	*	25	2.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
Fluorene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:01	5
Hexachlorobenzene	ND	*	25	2.6	ug/L		06/26/20 08:23	06/30/20 21:01	5
Hexachlorobutadiene	ND		25	3.4	ug/L		06/26/20 08:23	06/30/20 21:01	5
Hexachlorocyclopentadiene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
Hexachloroethane	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
Indeno(1,2,3-cd)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:01	5
Isophorone	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 21:01	5
Naphthalene	ND		25	3.8	ug/L		06/26/20 08:23	06/30/20 21:01	5
Nitrobenzene	ND		25	1.5	ug/L		06/26/20 08:23	06/30/20 21:01	5
N-Nitrosodi-n-propylamine	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 21:01	5
N-Nitrosodiphenylamine	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 21:01	5
Pentachlorophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 21:01	5
Phenanthrene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 21:01	5
Phenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:01	5
Pyrene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 21:01	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
trans-3,4-Dimethylcyclopentanone	*27*	*T J N*	*ug/L*		*5.37*	*19550-73-3*	*06/26/20 08:23*	*06/30/20 21:01*	*5*
3,4-Dimethylcyclopentanone	*22*	*T J N*	*ug/L*		*5.60*	*58372-16-0*	*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*22*	*T J*	*ug/L*		*6.19*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*26*	*T J*	*ug/L*		*6.55*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*23*	*T J*	*ug/L*		*6.90*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*23*	*T J*	*ug/L*		*7.10*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*31*	*T J*	*ug/L*		*7.20*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*31*	*T J*	*ug/L*		*7.37*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*25*	*T J*	*ug/L*		*7.42*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*50*	*T J*	*ug/L*		*7.48*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*26*	*T J*	*ug/L*		*7.56*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*32*	*T J*	*ug/L*		*7.81*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*60*	*T J*	*ug/L*		*7.95*		*06/26/20 08:23*	*06/30/20 21:01*	*5*
Unknown	*98*	*T J*	*ug/L*		*8.02*		*06/26/20 08:23*	*06/30/20 21:01*	*5*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: MW5
Date Collected: 06/23/20 10:00
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-4
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Benzoic acid, 2,4-dimethyl-	80	T J N	ug/L		8.05	611-01-8	06/26/20 08:23	06/30/20 21:01	5
Unknown	23	T J	ug/L		8.13		06/26/20 08:23	06/30/20 21:01	5
Unknown	30	T J	ug/L		8.27		06/26/20 08:23	06/30/20 21:01	5
Unknown	25	T J	ug/L		8.29		06/26/20 08:23	06/30/20 21:01	5
Unknown	40	T J	ug/L		8.40		06/26/20 08:23	06/30/20 21:01	5
Unknown	49	T J	ug/L		8.45		06/26/20 08:23	06/30/20 21:01	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	95		41 - 120	06/26/20 08:23	06/30/20 21:01	5
2-Fluorobiphenyl	81		48 - 120	06/26/20 08:23	06/30/20 21:01	5
2-Fluorophenol	58		35 - 120	06/26/20 08:23	06/30/20 21:01	5
Nitrobenzene-d5	80		46 - 120	06/26/20 08:23	06/30/20 21:01	5
Phenol-d5	53		22 - 120	06/26/20 08:23	06/30/20 21:01	5
p-Terphenyl-d14	47	X	60 - 148	06/26/20 08:23	06/30/20 21:01	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0058	J	0.015	0.0056	mg/L		06/26/20 09:40	06/26/20 21:52	1
Chromium	0.0015	J	0.0040	0.0010	mg/L		06/26/20 09:40	06/26/20 21:52	1
Lead	0.0054	J	0.010	0.0030	mg/L		06/26/20 09:40	06/26/20 21:52	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: W18
Date Collected: 06/22/20 12:30
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		4.0	3.3	ug/L			06/26/20 03:54	4
1,1,2,2-Tetrachloroethane	ND		4.0	0.84	ug/L			06/26/20 03:54	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		4.0	1.2	ug/L			06/26/20 03:54	4
1,1,2-Trichloroethane	ND		4.0	0.92	ug/L			06/26/20 03:54	4
1,1-Dichloroethane	ND		4.0	1.5	ug/L			06/26/20 03:54	4
1,1-Dichloroethene	ND		4.0	1.2	ug/L			06/26/20 03:54	4
1,2,4-Trichlorobenzene	ND		4.0	1.6	ug/L			06/26/20 03:54	4
1,2-Dibromo-3-Chloropropane	ND		4.0	1.6	ug/L			06/26/20 03:54	4
1,2-Dibromoethane	ND		4.0	2.9	ug/L			06/26/20 03:54	4
1,2-Dichlorobenzene	ND		4.0	3.2	ug/L			06/26/20 03:54	4
1,2-Dichloroethane	ND		4.0	0.84	ug/L			06/26/20 03:54	4
1,2-Dichloropropane	ND		4.0	2.9	ug/L			06/26/20 03:54	4
1,3-Dichlorobenzene	ND		4.0	3.1	ug/L			06/26/20 03:54	4
1,4-Dichlorobenzene	ND		4.0	3.4	ug/L			06/26/20 03:54	4
2-Butanone (MEK)	ND		40	5.3	ug/L			06/26/20 03:54	4
2-Hexanone	ND		20	5.0	ug/L			06/26/20 03:54	4
4-Methyl-2-pentanone (MIBK)	ND		20	8.4	ug/L			06/26/20 03:54	4
Acetone	ND	*	40	12	ug/L			06/26/20 03:54	4
Benzene	ND		4.0	1.6	ug/L			06/26/20 03:54	4
Bromodichloromethane	ND		4.0	1.6	ug/L			06/26/20 03:54	4
Bromoform	ND		4.0	1.0	ug/L			06/26/20 03:54	4
Bromomethane	ND		4.0	2.8	ug/L			06/26/20 03:54	4
Carbon disulfide	ND		4.0	0.76	ug/L			06/26/20 03:54	4
Carbon tetrachloride	ND		4.0	1.1	ug/L			06/26/20 03:54	4
Chlorobenzene	ND		4.0	3.0	ug/L			06/26/20 03:54	4
Chloroethane	ND		4.0	1.3	ug/L			06/26/20 03:54	4
Chloroform	ND		4.0	1.4	ug/L			06/26/20 03:54	4
Chloromethane	ND		4.0	1.4	ug/L			06/26/20 03:54	4
cis-1,2-Dichloroethene	ND		4.0	3.2	ug/L			06/26/20 03:54	4
cis-1,3-Dichloropropene	ND		4.0	1.4	ug/L			06/26/20 03:54	4
Cyclohexane	ND		4.0	0.72	ug/L			06/26/20 03:54	4
Dibromochloromethane	ND		4.0	1.3	ug/L			06/26/20 03:54	4
Dichlorodifluoromethane	ND		4.0	2.7	ug/L			06/26/20 03:54	4
Ethylbenzene	ND		4.0	3.0	ug/L			06/26/20 03:54	4
Isopropylbenzene	ND		4.0	3.2	ug/L			06/26/20 03:54	4
Methyl acetate	ND		10	5.2	ug/L			06/26/20 03:54	4
Methyl tert-butyl ether	ND		4.0	0.64	ug/L			06/26/20 03:54	4
Methylcyclohexane	ND		4.0	0.64	ug/L			06/26/20 03:54	4
Methylene Chloride	ND		4.0	1.8	ug/L			06/26/20 03:54	4
Styrene	ND		4.0	2.9	ug/L			06/26/20 03:54	4
Tetrachloroethene	ND		4.0	1.4	ug/L			06/26/20 03:54	4
Toluene	ND		4.0	2.0	ug/L			06/26/20 03:54	4
trans-1,2-Dichloroethene	ND		4.0	3.6	ug/L			06/26/20 03:54	4
trans-1,3-Dichloropropene	ND		4.0	1.5	ug/L			06/26/20 03:54	4
Trichloroethene	ND		4.0	1.8	ug/L			06/26/20 03:54	4
Trichlorofluoromethane	ND		4.0	3.5	ug/L			06/26/20 03:54	4
Vinyl chloride	ND		4.0	3.6	ug/L			06/26/20 03:54	4
Xylenes, Total	ND		8.0	2.6	ug/L			06/26/20 03:54	4
n-Butylbenzene	ND		4.0	2.6	ug/L			06/26/20 03:54	4

Client Sample ID: W18
Date Collected: 06/22/20 12:30
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		4.0	3.0	ug/L			06/26/20 03:54	4
o-Xylene	ND		4.0	3.0	ug/L			06/26/20 03:54	4
sec-Butylbenzene	ND		4.0	3.0	ug/L			06/26/20 03:54	4
N-Propylbenzene	ND		4.0	2.8	ug/L			06/26/20 03:54	4
4-Isopropyltoluene	ND		4.0	1.2	ug/L			06/26/20 03:54	4
1,3,5-Trimethylbenzene	ND		4.0	3.1	ug/L			06/26/20 03:54	4
m,p-Xylene	ND		8.0	2.6	ug/L			06/26/20 03:54	4
tert-Butylbenzene	ND		4.0	3.2	ug/L			06/26/20 03:54	4

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*06/26/20 03:54*	*4*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*06/26/20 03:54*	*4*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*06/26/20 03:54*	*4*
Toluene-d8 (Surr)	*95*		*80 - 120*		*06/26/20 03:54*	*4*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		50	4.8	ug/L		06/26/20 08:23	06/30/20 21:30	10
2,4,6-Trichlorophenol	ND		50	6.1	ug/L		06/26/20 08:23	06/30/20 21:30	10
2,4-Dichlorophenol	ND	*	50	5.1	ug/L		06/26/20 08:23	06/30/20 21:30	10
2,4-Dimethylphenol	ND		50	5.0	ug/L		06/26/20 08:23	06/30/20 21:30	10
2,4-Dinitrophenol	ND		100	22	ug/L		06/26/20 08:23	06/30/20 21:30	10
2,4-Dinitrotoluene	ND		50	4.5	ug/L		06/26/20 08:23	06/30/20 21:30	10
2,6-Dinitrotoluene	ND		50	4.0	ug/L		06/26/20 08:23	06/30/20 21:30	10
2-Chloronaphthalene	ND		50	4.6	ug/L		06/26/20 08:23	06/30/20 21:30	10
2-Chlorophenol	ND		50	5.3	ug/L		06/26/20 08:23	06/30/20 21:30	10
2-Methylnaphthalene	ND		50	6.0	ug/L		06/26/20 08:23	06/30/20 21:30	10
2-Methylphenol	ND		50	4.0	ug/L		06/26/20 08:23	06/30/20 21:30	10
2-Nitroaniline	ND		100	4.2	ug/L		06/26/20 08:23	06/30/20 21:30	10
2-Nitrophenol	ND		50	4.8	ug/L		06/26/20 08:23	06/30/20 21:30	10
3,3'-Dichlorobenzidine	ND		50	4.0	ug/L		06/26/20 08:23	06/30/20 21:30	10
3-Nitroaniline	ND		100	4.8	ug/L		06/26/20 08:23	06/30/20 21:30	10
4,6-Dinitro-2-methylphenol	ND		100	22	ug/L		06/26/20 08:23	06/30/20 21:30	10
4-Bromophenyl phenyl ether	ND	*	50	4.5	ug/L		06/26/20 08:23	06/30/20 21:30	10
4-Chloro-3-methylphenol	ND		50	4.5	ug/L		06/26/20 08:23	06/30/20 21:30	10
4-Chloroaniline	ND		50	5.9	ug/L		06/26/20 08:23	06/30/20 21:30	10
4-Chlorophenyl phenyl ether	ND	*	50	3.5	ug/L		06/26/20 08:23	06/30/20 21:30	10
4-Methylphenol	ND		100	3.6	ug/L		06/26/20 08:23	06/30/20 21:30	10
4-Nitroaniline	ND		100	2.5	ug/L		06/26/20 08:23	06/30/20 21:30	10
4-Nitrophenol	ND	*	100	15	ug/L		06/26/20 08:23	06/30/20 21:30	10
Acenaphthene	ND		50	4.1	ug/L		06/26/20 08:23	06/30/20 21:30	10
Acenaphthylene	ND		50	3.8	ug/L		06/26/20 08:23	06/30/20 21:30	10
Acetophenone	ND	*	50	5.4	ug/L		06/26/20 08:23	06/30/20 21:30	10
Anthracene	ND		50	2.8	ug/L		06/26/20 08:23	06/30/20 21:30	10
Atrazine	ND	*	50	4.6	ug/L		06/26/20 08:23	06/30/20 21:30	10
Benzaldehyde	ND		50	2.7	ug/L		06/26/20 08:23	06/30/20 21:30	10
Benzo(a)anthracene	ND		50	3.6	ug/L		06/26/20 08:23	06/30/20 21:30	10
Benzo(a)pyrene	ND		50	4.7	ug/L		06/26/20 08:23	06/30/20 21:30	10

Client Sample ID: W18
Date Collected: 06/22/20 12:30
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-5
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(b)fluoranthene	ND		50	3.4	ug/L		06/26/20 08:23	06/30/20 21:30	10
Benzo(g,h,i)perylene	ND		50	3.5	ug/L		06/26/20 08:23	06/30/20 21:30	10
Benzo(k)fluoranthene	ND		50	7.3	ug/L		06/26/20 08:23	06/30/20 21:30	10
Biphenyl	ND		50	6.5	ug/L		06/26/20 08:23	06/30/20 21:30	10
bis (2-chloroisopropyl) ether	ND		50	5.2	ug/L		06/26/20 08:23	06/30/20 21:30	10
Bis(2-chloroethoxy)methane	ND		50	3.5	ug/L		06/26/20 08:23	06/30/20 21:30	10
Bis(2-chloroethyl)ether	ND		50	4.0	ug/L		06/26/20 08:23	06/30/20 21:30	10
Bis(2-ethylhexyl) phthalate	ND		50	22	ug/L		06/26/20 08:23	06/30/20 21:30	10
Butyl benzyl phthalate	ND		50	10	ug/L		06/26/20 08:23	06/30/20 21:30	10
Caprolactam	ND		50	22	ug/L		06/26/20 08:23	06/30/20 21:30	10
Carbazole	ND	*	50	3.0	ug/L		06/26/20 08:23	06/30/20 21:30	10
Chrysene	ND		50	3.3	ug/L		06/26/20 08:23	06/30/20 21:30	10
Dibenz(a,h)anthracene	ND	*	50	4.2	ug/L		06/26/20 08:23	06/30/20 21:30	10
Dibenzofuran	ND		100	5.1	ug/L		06/26/20 08:23	06/30/20 21:30	10
Diethyl phthalate	ND		50	2.2	ug/L		06/26/20 08:23	06/30/20 21:30	10
Dimethyl phthalate	ND		50	3.6	ug/L		06/26/20 08:23	06/30/20 21:30	10
Di-n-butyl phthalate	ND		50	3.1	ug/L		06/26/20 08:23	06/30/20 21:30	10
Di-n-octyl phthalate	ND		50	4.7	ug/L		06/26/20 08:23	06/30/20 21:30	10
Fluoranthene	ND	*	50	4.0	ug/L		06/26/20 08:23	06/30/20 21:30	10
Fluorene	ND		50	3.6	ug/L		06/26/20 08:23	06/30/20 21:30	10
Hexachlorobenzene	ND	*	50	5.1	ug/L		06/26/20 08:23	06/30/20 21:30	10
Hexachlorobutadiene	ND		50	6.8	ug/L		06/26/20 08:23	06/30/20 21:30	10
Hexachlorocyclopentadiene	ND		50	5.9	ug/L		06/26/20 08:23	06/30/20 21:30	10
Hexachloroethane	ND		50	5.9	ug/L		06/26/20 08:23	06/30/20 21:30	10
Indeno(1,2,3-cd)pyrene	ND		50	4.7	ug/L		06/26/20 08:23	06/30/20 21:30	10
Isophorone	ND		50	4.3	ug/L		06/26/20 08:23	06/30/20 21:30	10
Naphthalene	ND		50	7.6	ug/L		06/26/20 08:23	06/30/20 21:30	10
Nitrobenzene	ND		50	2.9	ug/L		06/26/20 08:23	06/30/20 21:30	10
N-Nitrosodi-n-propylamine	ND		50	5.4	ug/L		06/26/20 08:23	06/30/20 21:30	10
N-Nitrosodiphenylamine	ND		50	5.1	ug/L		06/26/20 08:23	06/30/20 21:30	10
Pentachlorophenol	ND		100	22	ug/L		06/26/20 08:23	06/30/20 21:30	10
Phenanthrene	ND		50	4.4	ug/L		06/26/20 08:23	06/30/20 21:30	10
Phenol	ND		50	3.9	ug/L		06/26/20 08:23	06/30/20 21:30	10
Pyrene	ND		50	3.4	ug/L		06/26/20 08:23	06/30/20 21:30	10

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*26*	*T J*	*ug/L*		*4.69*		*06/26/20 08:23*	*06/30/20 21:30*	*10*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*98*		*41 - 120*	*06/26/20 08:23*	*06/30/20 21:30*	*10*
2-Fluorobiphenyl	*104*		*48 - 120*	*06/26/20 08:23*	*06/30/20 21:30*	*10*
2-Fluorophenol	*69*		*35 - 120*	*06/26/20 08:23*	*06/30/20 21:30*	*10*
Nitrobenzene-d5	*93*		*46 - 120*	*06/26/20 08:23*	*06/30/20 21:30*	*10*
Phenol-d5	*49*		*22 - 120*	*06/26/20 08:23*	*06/30/20 21:30*	*10*
p-Terphenyl-d14	*59*	*X*	*60 - 148*	*06/26/20 08:23*	*06/30/20 21:30*	*10*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		06/26/20 09:40	06/26/20 21:56	1
Chromium	**0.0022**	**J**	0.0040	0.0010	mg/L		06/26/20 09:40	06/26/20 21:56	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: W18
Date Collected: 06/22/20 12:30
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-5
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0077	J	0.010	0.0030	mg/L		06/26/20 09:40	06/26/20 21:56	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: BLIND DUP
Date Collected: 06/23/20 11:50
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		20	16	ug/L			06/26/20 01:17	20
1,1,2,2-Tetrachloroethane	ND		20	4.2	ug/L			06/26/20 01:17	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		20	6.2	ug/L			06/26/20 01:17	20
1,1,2-Trichloroethane	ND		20	4.6	ug/L			06/26/20 01:17	20
1,1-Dichloroethane	ND		20	7.6	ug/L			06/26/20 01:17	20
1,1-Dichloroethene	ND		20	5.8	ug/L			06/26/20 01:17	20
1,2,4-Trichlorobenzene	ND		20	8.2	ug/L			06/26/20 01:17	20
1,2-Dibromo-3-Chloropropane	ND		20	7.8	ug/L			06/26/20 01:17	20
1,2-Dibromoethane	ND		20	15	ug/L			06/26/20 01:17	20
1,2-Dichlorobenzene	ND		20	16	ug/L			06/26/20 01:17	20
1,2-Dichloroethane	ND		20	4.2	ug/L			06/26/20 01:17	20
1,2-Dichloropropane	ND		20	14	ug/L			06/26/20 01:17	20
1,3-Dichlorobenzene	ND		20	16	ug/L			06/26/20 01:17	20
1,4-Dichlorobenzene	ND		20	17	ug/L			06/26/20 01:17	20
2-Butanone (MEK)	ND		200	26	ug/L			06/26/20 01:17	20
2-Hexanone	ND		100	25	ug/L			06/26/20 01:17	20
4-Methyl-2-pentanone (MIBK)	ND		100	42	ug/L			06/26/20 01:17	20
Acetone	ND		200	60	ug/L			06/26/20 01:17	20
Benzene	ND		20	8.2	ug/L			06/26/20 01:17	20
Bromodichloromethane	ND		20	7.8	ug/L			06/26/20 01:17	20
Bromoform	ND	*	20	5.2	ug/L			06/26/20 01:17	20
Bromomethane	ND		20	14	ug/L			06/26/20 01:17	20
Carbon disulfide	ND		20	3.8	ug/L			06/26/20 01:17	20
Carbon tetrachloride	ND		20	5.4	ug/L			06/26/20 01:17	20
Chlorobenzene	ND		20	15	ug/L			06/26/20 01:17	20
Chloroethane	ND		20	6.4	ug/L			06/26/20 01:17	20
Chloroform	ND		20	6.8	ug/L			06/26/20 01:17	20
Chloromethane	ND		20	7.0	ug/L			06/26/20 01:17	20
cis-1,2-Dichloroethene	ND		20	16	ug/L			06/26/20 01:17	20
cis-1,3-Dichloropropene	ND		20	7.2	ug/L			06/26/20 01:17	20
Cyclohexane	ND		20	3.6	ug/L			06/26/20 01:17	20
Dibromochloromethane	ND		20	6.4	ug/L			06/26/20 01:17	20
Dichlorodifluoromethane	ND		20	14	ug/L			06/26/20 01:17	20
Ethylbenzene	ND		20	15	ug/L			06/26/20 01:17	20
Isopropylbenzene	ND		20	16	ug/L			06/26/20 01:17	20
Methyl acetate	ND		50	26	ug/L			06/26/20 01:17	20
Methyl tert-butyl ether	ND		20	3.2	ug/L			06/26/20 01:17	20
Methylcyclohexane	ND		20	3.2	ug/L			06/26/20 01:17	20
Methylene Chloride	ND		20	8.8	ug/L			06/26/20 01:17	20
Styrene	ND		20	15	ug/L			06/26/20 01:17	20
Tetrachloroethene	ND		20	7.2	ug/L			06/26/20 01:17	20
Toluene	ND		20	10	ug/L			06/26/20 01:17	20
trans-1,2-Dichloroethene	ND		20	18	ug/L			06/26/20 01:17	20
trans-1,3-Dichloropropene	ND		20	7.4	ug/L			06/26/20 01:17	20
Trichloroethene	ND		20	9.2	ug/L			06/26/20 01:17	20
Trichlorofluoromethane	ND		20	18	ug/L			06/26/20 01:17	20
Vinyl chloride	ND		20	18	ug/L			06/26/20 01:17	20
Xylenes, Total	ND		40	13	ug/L			06/26/20 01:17	20
n-Butylbenzene	ND		20	13	ug/L			06/26/20 01:17	20

Client Sample ID: BLIND DUP
Date Collected: 06/23/20 11:50
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-6
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		20	15	ug/L			06/26/20 01:17	20
o-Xylene	ND		20	15	ug/L			06/26/20 01:17	20
sec-Butylbenzene	ND		20	15	ug/L			06/26/20 01:17	20
N-Propylbenzene	ND		20	14	ug/L			06/26/20 01:17	20
4-Isopropyltoluene	ND		20	6.2	ug/L			06/26/20 01:17	20
1,3,5-Trimethylbenzene	ND		20	15	ug/L			06/26/20 01:17	20
m,p-Xylene	ND		40	13	ug/L			06/26/20 01:17	20
tert-Butylbenzene	ND		20	16	ug/L			06/26/20 01:17	20

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*06/26/20 01:17*	*20*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*06/26/20 01:17*	*20*
4-Bromofluorobenzene (Surr)	*93*		*73 - 120*		*06/26/20 01:17*	*20*
Toluene-d8 (Surr)	*93*		*80 - 120*		*06/26/20 01:17*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:59	5
2,4,6-Trichlorophenol	ND		25	3.1	ug/L		06/26/20 08:23	06/30/20 21:59	5
2,4-Dichlorophenol	ND	*	25	2.6	ug/L		06/26/20 08:23	06/30/20 21:59	5
2,4-Dimethylphenol	ND		25	2.5	ug/L		06/26/20 08:23	06/30/20 21:59	5
2,4-Dinitrophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 21:59	5
2,4-Dinitrotoluene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 21:59	5
2,6-Dinitrotoluene	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
2-Chloronaphthalene	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 21:59	5
2-Chlorophenol	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 21:59	5
2-Methylnaphthalene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
2-Methylphenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
2-Nitroaniline	ND		50	2.1	ug/L		06/26/20 08:23	06/30/20 21:59	5
2-Nitrophenol	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:59	5
3,3'-Dichlorobenzidine	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
3-Nitroaniline	ND		50	2.4	ug/L		06/26/20 08:23	06/30/20 21:59	5
4,6-Dinitro-2-methylphenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 21:59	5
4-Bromophenyl phenyl ether	ND	*	25	2.3	ug/L		06/26/20 08:23	06/30/20 21:59	5
4-Chloro-3-methylphenol	ND		25	2.3	ug/L		06/26/20 08:23	06/30/20 21:59	5
4-Chloroaniline	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
4-Chlorophenyl phenyl ether	ND	*	25	1.8	ug/L		06/26/20 08:23	06/30/20 21:59	5
4-Methylphenol	ND		50	1.8	ug/L		06/26/20 08:23	06/30/20 21:59	5
4-Nitroaniline	ND		50	1.3	ug/L		06/26/20 08:23	06/30/20 21:59	5
4-Nitrophenol	ND	*	50	7.6	ug/L		06/26/20 08:23	06/30/20 21:59	5
Acenaphthene	ND		25	2.1	ug/L		06/26/20 08:23	06/30/20 21:59	5
Acenaphthylene	ND		25	1.9	ug/L		06/26/20 08:23	06/30/20 21:59	5
Acetophenone	ND	*	25	2.7	ug/L		06/26/20 08:23	06/30/20 21:59	5
Anthracene	ND		25	1.4	ug/L		06/26/20 08:23	06/30/20 21:59	5
Atrazine	ND	*	25	2.3	ug/L		06/26/20 08:23	06/30/20 21:59	5
Benzaldehyde	ND		25	1.3	ug/L		06/26/20 08:23	06/30/20 21:59	5
Benzo(a)anthracene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:59	5
Benzo(a)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:59	5

Client Sample ID: BLIND DUP
Date Collected: 06/23/20 11:50
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo(b)fluoranthene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 21:59	5
Benzo(g,h,i)perylene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:59	5
Benzo(k)fluoranthene	ND		25	3.7	ug/L		06/26/20 08:23	06/30/20 21:59	5
Biphenyl	ND		25	3.3	ug/L		06/26/20 08:23	06/30/20 21:59	5
bis (2-chloroisopropyl) ether	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 21:59	5
Bis(2-chloroethoxy)methane	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:59	5
Bis(2-chloroethyl)ether	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
Bis(2-ethylhexyl) phthalate	ND		25	11	ug/L		06/26/20 08:23	06/30/20 21:59	5
Butyl benzyl phthalate	ND		25	5.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
Caprolactam	ND		25	11	ug/L		06/26/20 08:23	06/30/20 21:59	5
Carbazole	ND	*	25	1.5	ug/L		06/26/20 08:23	06/30/20 21:59	5
Chrysene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 21:59	5
Dibenz(a,h)anthracene	ND	*	25	2.1	ug/L		06/26/20 08:23	06/30/20 21:59	5
Dibenzofuran	ND		50	2.6	ug/L		06/26/20 08:23	06/30/20 21:59	5
Diethyl phthalate	ND		25	1.1	ug/L		06/26/20 08:23	06/30/20 21:59	5
Dimethyl phthalate	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:59	5
Di-n-butyl phthalate	ND		25	1.6	ug/L		06/26/20 08:23	06/30/20 21:59	5
Di-n-octyl phthalate	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:59	5
Fluoranthene	ND	*	25	2.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
Fluorene	ND		25	1.8	ug/L		06/26/20 08:23	06/30/20 21:59	5
Hexachlorobenzene	ND	*	25	2.6	ug/L		06/26/20 08:23	06/30/20 21:59	5
Hexachlorobutadiene	ND		25	3.4	ug/L		06/26/20 08:23	06/30/20 21:59	5
Hexachlorocyclopentadiene	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
Hexachloroethane	ND		25	3.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
Indeno(1,2,3-cd)pyrene	ND		25	2.4	ug/L		06/26/20 08:23	06/30/20 21:59	5
Isophorone	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 21:59	5
Naphthalene	ND		25	3.8	ug/L		06/26/20 08:23	06/30/20 21:59	5
Nitrobenzene	ND		25	1.5	ug/L		06/26/20 08:23	06/30/20 21:59	5
N-Nitrosodi-n-propylamine	ND		25	2.7	ug/L		06/26/20 08:23	06/30/20 21:59	5
N-Nitrosodiphenylamine	ND		25	2.6	ug/L		06/26/20 08:23	06/30/20 21:59	5
Pentachlorophenol	ND		50	11	ug/L		06/26/20 08:23	06/30/20 21:59	5
Phenanthrene	ND		25	2.2	ug/L		06/26/20 08:23	06/30/20 21:59	5
Phenol	ND		25	2.0	ug/L		06/26/20 08:23	06/30/20 21:59	5
Pyrene	ND		25	1.7	ug/L		06/26/20 08:23	06/30/20 21:59	5

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*24*	*T J*	*ug/L*		*4.69*		*06/26/20 08:23*	*06/30/20 21:59*	*5*
Unknown	*12*	*T J*	*ug/L*		*5.83*		*06/26/20 08:23*	*06/30/20 21:59*	*5*
Column Bleed	*8.9*	*T J*	*ug/L*		*6.78*		*06/26/20 08:23*	*06/30/20 21:59*	*5*
Unknown	*9.8*	*T J*	*ug/L*		*6.89*		*06/26/20 08:23*	*06/30/20 21:59*	*5*
Unknown	*9.9*	*T J*	*ug/L*		*7.18*		*06/26/20 08:23*	*06/30/20 21:59*	*5*
Unknown	*8.4*	*T J*	*ug/L*		*7.57*		*06/26/20 08:23*	*06/30/20 21:59*	*5*
Unknown	*10*	*T J*	*ug/L*		*7.66*		*06/26/20 08:23*	*06/30/20 21:59*	*5*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*115*		*41 - 120*	*06/26/20 08:23*	*06/30/20 21:59*	*5*
2-Fluorobiphenyl	*106*		*48 - 120*	*06/26/20 08:23*	*06/30/20 21:59*	*5*
2-Fluorophenol	*79*		*35 - 120*	*06/26/20 08:23*	*06/30/20 21:59*	*5*
Nitrobenzene-d5	*102*		*46 - 120*	*06/26/20 08:23*	*06/30/20 21:59*	*5*
Phenol-d5	*56*		*22 - 120*	*06/26/20 08:23*	*06/30/20 21:59*	*5*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: BLIND DUP
Date Collected: 06/23/20 11:50
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-6
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
p-Terphenyl-d14	*67*		*60 - 148*	*06/26/20 08:23*	*06/30/20 21:59*	*5*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0057**	**J**	0.015	0.0056	mg/L		06/26/20 09:40	06/26/20 21:59	1
Chromium	ND		0.0040	0.0010	mg/L		06/26/20 09:40	06/26/20 21:59	1
Lead	**0.0040**	**J**	0.010	0.0030	mg/L		06/26/20 09:40	06/26/20 21:59	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: TRIP BLANK
Date Collected: 06/23/20 00:00
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/26/20 01:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/26/20 01:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			06/26/20 01:41	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/26/20 01:41	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/26/20 01:41	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			06/26/20 01:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/26/20 01:41	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			06/26/20 01:41	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/26/20 01:41	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			06/26/20 01:41	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/26/20 01:41	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/26/20 01:41	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/26/20 01:41	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/26/20 01:41	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/26/20 01:41	1
2-Hexanone	ND		5.0	1.2	ug/L			06/26/20 01:41	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/26/20 01:41	1
Acetone	ND		10	3.0	ug/L			06/26/20 01:41	1
Benzene	ND		1.0	0.41	ug/L			06/26/20 01:41	1
Bromodichloromethane	ND		1.0	0.39	ug/L			06/26/20 01:41	1
Bromoform	ND	*	1.0	0.26	ug/L			06/26/20 01:41	1
Bromomethane	ND		1.0	0.69	ug/L			06/26/20 01:41	1
Carbon disulfide	ND		1.0	0.19	ug/L			06/26/20 01:41	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/26/20 01:41	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/26/20 01:41	1
Chloroethane	ND		1.0	0.32	ug/L			06/26/20 01:41	1
Chloroform	ND		1.0	0.34	ug/L			06/26/20 01:41	1
Chloromethane	ND		1.0	0.35	ug/L			06/26/20 01:41	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/26/20 01:41	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/26/20 01:41	1
Cyclohexane	ND		1.0	0.18	ug/L			06/26/20 01:41	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/26/20 01:41	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			06/26/20 01:41	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/26/20 01:41	1
Isopropylbenzene	ND		1.0	0.79	ug/L			06/26/20 01:41	1
Methyl acetate	ND		2.5	1.3	ug/L			06/26/20 01:41	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/26/20 01:41	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/26/20 01:41	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/26/20 01:41	1
Styrene	ND		1.0	0.73	ug/L			06/26/20 01:41	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/26/20 01:41	1
Toluene	ND		1.0	0.51	ug/L			06/26/20 01:41	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			06/26/20 01:41	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/26/20 01:41	1
Trichloroethene	ND		1.0	0.46	ug/L			06/26/20 01:41	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			06/26/20 01:41	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/26/20 01:41	1
Xylenes, Total	ND		2.0	0.66	ug/L			06/26/20 01:41	1
n-Butylbenzene	ND		1.0	0.64	ug/L			06/26/20 01:41	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Client Sample ID: TRIP BLANK
Date Collected: 06/23/20 00:00
Date Received: 06/24/20 11:30

Lab Sample ID: 480-171615-7
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			06/26/20 01:41	1
o-Xylene	ND		1.0	0.76	ug/L			06/26/20 01:41	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			06/26/20 01:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			06/26/20 01:41	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			06/26/20 01:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			06/26/20 01:41	1
m,p-Xylene	ND		2.0	0.66	ug/L			06/26/20 01:41	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			06/26/20 01:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*06/26/20 01:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*06/26/20 01:41*	*1*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*		*06/26/20 01:41*	*1*
Toluene-d8 (Surr)	*93*		*80 - 120*		*06/26/20 01:41*	*1*

Surrogate Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		DCA	BFB	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(80-120)
480-171615-1	MW4	96	92	94
480-171615-2	MWSW	100	95	95
480-171615-3	W29	99	90	92
480-171615-3 MS	W29	95	95	96
480-171615-3 MSD	W29	95	94	95
480-171615-4	MW5	97	92	95
480-171615-5	W18	99	101	95
480-171615-6	BLIND DUP	96	93	93
480-171615-7	TRIP BLANK	98	90	93
LCS 480-538031/6	Lab Control Sample	95	101	98
LCS 480-538052/5	Lab Control Sample	93	95	95
MB 480-538031/8	Method Blank	98	90	90
MB 480-538052/7	Method Blank	97	89	92

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHd14
Lab Sample ID	Client Sample ID	(41-120)	(48-120)	(35-120)	(46-120)	(22-120)	(60-148)
480-171615-1	MW4	108	107	62	83	44	51 X
480-171615-2	MWSW	118	100	75	97	52	56 X
480-171615-3	W29	97	109	63	80	39	59 X
480-171615-3 MS	W29	111	101	65	83	46	58 X
480-171615-3 MSD	W29	116	95	66	83	45	60
480-171615-4	MW5	95	81	58	80	53	47 X
480-171615-5	W18	98	104	69	93	49	59 X
480-171615-6	BLIND DUP	115	106	79	102	56	67
LCS 480-538133/2-A	Lab Control Sample	135 X	118	79	105	60	128
MB 480-538133/1-A	Method Blank	105	115	76	104	53	130

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHd14 = p-Terphenyl-d14

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-538031/8
Matrix: Water
Analysis Batch: 538031

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/25/20 23:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/25/20 23:46	1
1,1,2-Trichloro-1,2,2-tri9uoroethane	ND		1.0	0.31	ug/L			06/25/20 23:46	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/25/20 23:46	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/25/20 23:46	1
1,1-Dichloroethene	ND		1.0	0.2f	ug/L			06/25/20 23:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/25/20 23:46	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.3f	ug/L			06/25/20 23:46	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/25/20 23:46	1
1,2-Dichlorobenzene	ND		1.0	0.7f	ug/L			06/25/20 23:46	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/25/20 23:46	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/25/20 23:46	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/25/20 23:46	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/25/20 23:46	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/25/20 23:46	1
2-Hexanone	ND		5.0	1.2	ug/L			06/25/20 23:46	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/25/20 23:46	1
Acetone	ND		10	3.0	ug/L			06/25/20 23:46	1
Benzene	ND		1.0	0.41	ug/L			06/25/20 23:46	1
Bromodichloromethane	ND		1.0	0.3f	ug/L			06/25/20 23:46	1
Bromo9orm	ND		1.0	0.26	ug/L			06/25/20 23:46	1
Bromomethane	ND		1.0	0.6f	ug/L			06/25/20 23:46	1
Carbon di*ul9de	ND		1.0	0.1f	ug/L			06/25/20 23:46	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/25/20 23:46	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/25/20 23:46	1
Chloroethane	ND		1.0	0.32	ug/L			06/25/20 23:46	1
Chloro9orm	ND		1.0	0.34	ug/L			06/25/20 23:46	1
Chloromethane	ND		1.0	0.35	ug/L			06/25/20 23:46	1
ci*-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/25/20 23:46	1
ci*-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/25/20 23:46	1
Cyclohexane	ND		1.0	0.18	ug/L			06/25/20 23:46	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/25/20 23:46	1
Dichlorodi9uoromethane	ND		1.0	0.68	ug/L			06/25/20 23:46	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/25/20 23:46	1
I*opropylbenzene	ND		1.0	0.7f	ug/L			06/25/20 23:46	1
Methyl acetate	ND		2.5	1.3	ug/L			06/25/20 23:46	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/25/20 23:46	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/25/20 23:46	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/25/20 23:46	1
Styrene	ND		1.0	0.73	ug/L			06/25/20 23:46	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/25/20 23:46	1
Toluene	ND		1.0	0.51	ug/L			06/25/20 23:46	1
tran*-1,2-Dichloroethene	ND		1.0	0.f 0	ug/L			06/25/20 23:46	1
tran*-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/25/20 23:46	1
Trichloroethene	ND		1.0	0.46	ug/L			06/25/20 23:46	1
Trichloro9uoromethane	ND		1.0	0.88	ug/L			06/25/20 23:46	1
s inyl chloride	ND		1.0	0.f 0	ug/L			06/25/20 23:46	1
Vylene*, Total	ND		2.0	0.66	ug/L			06/25/20 23:46	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-538031/8
Matrix: Water
Analysis Batch: 538031

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.64	ug/L			06/25/20 23:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			06/25/20 23:46	1
o-Vylene	ND		1.0	0.76	ug/L			06/25/20 23:46	1
*ec-Butylbenzene	ND		1.0	0.75	ug/L			06/25/20 23:46	1
N-Propylbenzene	ND		1.0	0.6f	ug/L			06/25/20 23:46	1
4-I*opropyltoluene	ND		1.0	0.31	ug/L			06/25/20 23:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			06/25/20 23:46	1
m,p-Vylene	ND		2.0	0.66	ug/L			06/25/20 23:46	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			06/25/20 23:46	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	*None*		*ug/L*					*06/25/20 23:46*	*1*

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*06/25/20 23:46*	*1*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*		*06/25/20 23:46*	*1*
Toluene-d8 (Surr)	*90*		*80 - 120*		*06/25/20 23:46*	*1*

Lab Sample ID: LCS 480-538031/6
Matrix: Water
Analysis Batch: 538031

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	26.2		ug/L		105	73 - 126
1,1,2,2-Tetrachloroethane	25.0	23.0		ug/L		f 2	76 - 120
1,1,2-Trichloro-1,2,2-tri9uoroetha ne	25.0	26.6		ug/L		107	61 - 148
1,1,2-Trichloroethane	25.0	23.5		ug/L		f 4	76 - 122
1,1-Dichloroethane	25.0	25.3		ug/L		101	77 - 120
1,1-Dichloroethene	25.0	25.4		ug/L		102	66 - 127
1,2,4-Trichlorobenzene	25.0	22.7		ug/L		f 1	7f - 122
1,2-Dibromo-3-Chloropropane	25.0	20.2		ug/L		81	56 - 134
1,2-Dibromoethane	25.0	23.1		ug/L		f 3	77 - 120
1,2-Dichlorobenzene	25.0	22.3		ug/L		8f	80 - 124
1,2-Dichloroethane	25.0	23.8		ug/L		f 5	75 - 120
1,2-Dichloropropane	25.0	28.2		ug/L		113	76 - 120
1,3-Dichlorobenzene	25.0	22.5		ug/L		f 0	77 - 120
1,4-Dichlorobenzene	25.0	21.f		ug/L		88	80 - 120
2-Butanone (MEK)	125	126		ug/L		101	57 - 140
2-Hexanone	125	104		ug/L		83	65 - 127
4-Methyl-2-pentanone (MIBK)	125	105		ug/L		84	71 - 125
Acetone	125	1f 5	X	ug/L		156	56 - 142
Benzene	25.0	27.1		ug/L		10f	71 - 124
Bromodichloromethane	25.0	27.0		ug/L		108	80 - 122
Bromo9rm	25.0	24.0		ug/L		f 6	61 - 132
Bromomethane	25.0	24.4		ug/L		f 8	55 - 144
Carbon di*ul9de	25.0	25.8		ug/L		103	5f - 134
Carbon tetrachloride	25.0	26.0		ug/L		104	72 - 134

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-538031/6
Matrix: Water
Analysis Batch: 538031

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	25.0	22.6		ug/L		f 0	80 - 120
Chloroethane	25.0	25.4		ug/L		102	6f - 136
Chloro9orm	25.0	25.1		ug/L		101	73 - 127
Chloromethane	25.0	24.0		ug/L		f 6	68 - 124
ci*-1,2-Dichloroethene	25.0	26.5		ug/L		106	74 - 124
ci*-1,3-Dichloropropene	25.0	28.7		ug/L		115	74 - 124
Cyclohexane	25.0	25.3		ug/L		101	5f - 135
Dibromochloromethane	25.0	24.f		ug/L		100	75 - 125
Dichlorodi9uoromethane	25.0	22.5		ug/L		f 0	5f - 135
Ethylbenzene	25.0	21.f		ug/L		88	77 - 123
I*opropylbenzene	25.0	22.8		ug/L		f 1	77 - 122
Methyl acetate	50.0	58.1		ug/L		116	74 - 133
Methyl tert-butyl ether	25.0	28.0		ug/L		112	77 - 120
Methylcyclohexane	25.0	26.2		ug/L		105	68 - 134
Methylene Chloride	25.0	28.1		ug/L		112	75 - 124
Styrene	25.0	22.5		ug/L		f 0	80 - 120
Tetrachloroethene	25.0	23.f		ug/L		f 5	74 - 122
Toluene	25.0	23.4		ug/L		f 4	80 - 122
tran*-1,2-Dichloroethene	25.0	25.8		ug/L		103	73 - 127
tran*-1,3-Dichloropropene	25.0	24.0		ug/L		f 6	80 - 120
Trichloroethene	25.0	26.8		ug/L		107	74 - 123
Trichloro9uoromethane	25.0	26.6		ug/L		106	62 - 150
s inyl chloride	25.0	24.3		ug/L		f 7	65 - 133
n-Butylbenzene	25.0	21.8		ug/L		87	71 - 128
1,2,4-Trimethylbenzene	25.0	22.6		ug/L		f 0	76 - 121
o-Vylene	25.0	22.5		ug/L		f 0	76 - 122
*ec-Butylbenzene	25.0	23.0		ug/L		f 2	74 - 127
N-Propylbenzene	25.0	22.1		ug/L		88	75 - 127
4-I*opropyltoluene	25.0	22.8		ug/L		f 1	73 - 120
1,3,5-Trimethylbenzene	25.0	22.8		ug/L		f 1	77 - 121
m,p-Vylene	25.0	22.1		ug/L		88	76 - 122
tert-Butylbenzene	25.0	24.0		ug/L		f 6	75 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*
Toluene-d8 (Surr)	*98*		*80 - 120*

Lab Sample ID: MB 480-538052/7
Matrix: Water
Analysis Batch: 538052

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			06/25/20 23:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			06/25/20 23:15	1
1,1,2-Trichloro-1,2,2-tri9uoroethane	ND		1.0	0.31	ug/L			06/25/20 23:15	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/25/20 23:15	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			06/25/20 23:15	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-538052/7
Matrix: Water
Analysis Batch: 538052

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	0.2f	ug/L			06/25/20 23:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			06/25/20 23:15	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.3f	ug/L			06/25/20 23:15	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			06/25/20 23:15	1
1,2-Dichlorobenzene	ND		1.0	0.7f	ug/L			06/25/20 23:15	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			06/25/20 23:15	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			06/25/20 23:15	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			06/25/20 23:15	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			06/25/20 23:15	1
2-Butanone (MEK)	ND		10	1.3	ug/L			06/25/20 23:15	1
2-Hexanone	ND		5.0	1.2	ug/L			06/25/20 23:15	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			06/25/20 23:15	1
Acetone	ND		10	3.0	ug/L			06/25/20 23:15	1
Benzene	ND		1.0	0.41	ug/L			06/25/20 23:15	1
Bromodichloromethane	ND		1.0	0.3f	ug/L			06/25/20 23:15	1
Bromo9orm	ND		1.0	0.26	ug/L			06/25/20 23:15	1
Bromomethane	ND		1.0	0.6f	ug/L			06/25/20 23:15	1
Carbon di*ul9de	ND		1.0	0.1f	ug/L			06/25/20 23:15	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			06/25/20 23:15	1
Chlorobenzene	ND		1.0	0.75	ug/L			06/25/20 23:15	1
Chloroethane	ND		1.0	0.32	ug/L			06/25/20 23:15	1
Chloro9orm	ND		1.0	0.34	ug/L			06/25/20 23:15	1
Chloromethane	ND		1.0	0.35	ug/L			06/25/20 23:15	1
ci*-1,2-Dichloroethene	ND		1.0	0.81	ug/L			06/25/20 23:15	1
ci*-1,3-Dichloropropene	ND		1.0	0.36	ug/L			06/25/20 23:15	1
Cyclohexane	ND		1.0	0.18	ug/L			06/25/20 23:15	1
Dibromochloromethane	ND		1.0	0.32	ug/L			06/25/20 23:15	1
Dichlorodi9uoromethane	ND		1.0	0.68	ug/L			06/25/20 23:15	1
Ethylbenzene	ND		1.0	0.74	ug/L			06/25/20 23:15	1
I*opropylbenzene	ND		1.0	0.7f	ug/L			06/25/20 23:15	1
Methyl acetate	ND		2.5	1.3	ug/L			06/25/20 23:15	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			06/25/20 23:15	1
Methylcyclohexane	ND		1.0	0.16	ug/L			06/25/20 23:15	1
Methylene Chloride	ND		1.0	0.44	ug/L			06/25/20 23:15	1
Styrene	ND		1.0	0.73	ug/L			06/25/20 23:15	1
Tetrachloroethene	ND		1.0	0.36	ug/L			06/25/20 23:15	1
Toluene	ND		1.0	0.51	ug/L			06/25/20 23:15	1
tran*-1,2-Dichloroethene	ND		1.0	0.f 0	ug/L			06/25/20 23:15	1
tran*-1,3-Dichloropropene	ND		1.0	0.37	ug/L			06/25/20 23:15	1
Trichloroethene	ND		1.0	0.46	ug/L			06/25/20 23:15	1
Trichloro9uoromethane	ND		1.0	0.88	ug/L			06/25/20 23:15	1
s inyl chloride	ND		1.0	0.f 0	ug/L			06/25/20 23:15	1
Vylene*, Total	ND		2.0	0.66	ug/L			06/25/20 23:15	1
n-Butylbenzene	ND		1.0	0.64	ug/L			06/25/20 23:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			06/25/20 23:15	1
o-Vylene	ND		1.0	0.76	ug/L			06/25/20 23:15	1
*ec-Butylbenzene	ND		1.0	0.75	ug/L			06/25/20 23:15	1
N-Propylbenzene	ND		1.0	0.6f	ug/L			06/25/20 23:15	1
4-I*opropyltoluene	ND		1.0	0.31	ug/L			06/25/20 23:15	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-538052/7
Matrix: Water
Analysis Batch: 538052

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			06/25/20 23:15	1
m,p-Vylene	ND		2.0	0.66	ug/L			06/25/20 23:15	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			06/25/20 23:15	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Tentatively Identified Compound	*None*		*ug/L*					*06/25/20 23:15*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*		*06/25/20 23:15*	*1*
4-Bromofluorobenzene (Surr)	*89*		*73 - 120*		*06/25/20 23:15*	*1*
Toluene-d8 (Surr)	*92*		*80 - 120*		*06/25/20 23:15*	*1*

Lab Sample ID: LCS 480-538052/5
Matrix: Water
Analysis Batch: 538052

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.7		ug/L		103	73 - 126
1,1,2,2-Tetrachloroethane	25.0	23.3		ug/L		f 3	76 - 120
1,1,2-Trichloro-1,2,2-tri9uoroetha ne	25.0	21.5		ug/L		86	61 - 148
1,1,2-Trichloroethane	25.0	24.0		ug/L		f 6	76 - 122
1,1-Dichloroethane	25.0	22.5		ug/L		f 0	77 - 120
1,1-Dichloroethene	25.0	23.4		ug/L		f 4	66 - 127
1,2,4-Trichlorobenzene	25.0	22.1		ug/L		88	7f - 122
1,2-Dibromo-3-Chloropropane	25.0	31.f		ug/L		128	56 - 134
1,2-Dibromoethane	25.0	25.6		ug/L		102	77 - 120
1,2-Dichlorobenzene	25.0	23.8		ug/L		f 5	80 - 124
1,2-Dichloroethane	25.0	22.7		ug/L		f 1	75 - 120
1,2-Dichloropropane	25.0	20.0		ug/L		80	76 - 120
1,3-Dichlorobenzene	25.0	23.f		ug/L		f 6	77 - 120
1,4-Dichlorobenzene	25.0	24.0		ug/L		f 6	80 - 120
2-Butanone (MEK)	125	10f		ug/L		87	57 - 140
2-Hexanone	125	117		ug/L		f 4	65 - 127
4-Methyl-2-pentanone (MIBK)	125	112		ug/L		f 0	71 - 125
Acetone	125	10f		ug/L		87	56 - 142
Benzene	25.0	23.8		ug/L		f 5	71 - 124
Bromodichloromethane	25.0	22.1		ug/L		88	80 - 122
Bromo9orm	25.0	33.5	X	ug/L		134	61 - 132
Bromomethane	25.0	20.1		ug/L		81	55 - 144
Carbon di*ul9de	25.0	22.0		ug/L		88	5f - 134
Carbon tetrachloride	25.0	31.8		ug/L		127	72 - 134
Chlorobenzene	25.0	24.5		ug/L		f 8	80 - 120
Chloroethane	25.0	22.f		ug/L		f 2	6f - 136
Chloro9orm	25.0	22.2		ug/L		8f	73 - 127
Chloromethane	25.0	18.4		ug/L		73	68 - 124
ci*-1,2-Dichloroethene	25.0	23.4		ug/L		f 4	74 - 124
ci*-1,3-Dichloropropene	25.0	20.f		ug/L		84	74 - 124

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-538052/5
Matrix: Water
Analysis Batch: 538052

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	22.8		ug/L		f 1	5f - 135
Dibromochloromethane	25.0	30.7		ug/L		123	75 - 125
Dichlorodi9uoromethane	25.0	16.4		ug/L		65	5f - 135
Ethylbenzene	25.0	24.3		ug/L		f 7	77 - 123
I*opropylbenzene	25.0	24.6		ug/L		f 8	77 - 122
Methyl acetate	50.0	41.8		ug/L		84	74 - 133
Methyl tert-butyl ether	25.0	21.6		ug/L		86	77 - 120
Methylcyclohexane	25.0	18.5		ug/L		74	68 - 134
Methylene Chloride	25.0	22.7		ug/L		f 1	75 - 124
Styrene	25.0	25.2		ug/L		101	80 - 120
Tetrachloroethene	25.0	23.f		ug/L		f 6	74 - 122
Toluene	25.0	23.4		ug/L		f 4	80 - 122
tran*-1,2-Dichloroethene	25.0	23.4		ug/L		f 4	73 - 127
tran*-1,3-Dichloropropene	25.0	26.f		ug/L		107	80 - 120
Trichloroethene	25.0	1f .2		ug/L		77	74 - 123
Trichloro9uoromethane	25.0	23.0		ug/L		f 2	62 - 150
s inyl chloride	25.0	21.1		ug/L		85	65 - 133
n-Butylbenzene	25.0	24.3		ug/L		f 7	71 - 128
1,2,4-Trimethylbenzene	25.0	24.6		ug/L		f 8	76 - 121
o-Vylene	25.0	23.f		ug/L		f 6	76 - 122
*ec-Butylbenzene	25.0	25.0		ug/L		100	74 - 127
N-Propylbenzene	25.0	24.3		ug/L		f 7	75 - 127
4-I*opropyltoluene	25.0	25.1		ug/L		100	73 - 120
1,3,5-Trimethylbenzene	25.0	24.4		ug/L		f 8	77 - 121
m,p-Vylene	25.0	24.5		ug/L		f 8	76 - 122
tert-Butylbenzene	25.0	23.3		ug/L		f 3	75 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*77 - 120*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: 480-171615-3 MS
Matrix: Water
Analysis Batch: 538052

Client Sample ID: W29
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND		500	5f 0		ug/L		118	73 - 126
1,1,2,2-Tetrachloroethane	ND		500	4f f		ug/L		100	76 - 120
1,1,2-Trichloro-1,2,2-tri9uoroetha ne	ND		500	502		ug/L		100	61 - 148
1,1,2-Trichloroethane	ND		500	511		ug/L		102	76 - 122
1,1-Dichloroethane	ND		500	510		ug/L		102	77 - 120
1,1-Dichloroethene	ND		500	564		ug/L		113	66 - 127
1,2,4-Trichlorobenzene	ND		500	460		ug/L		f 2	7f - 122
1,2-Dibromo-3-Chloropropane	ND		500	632		ug/L		126	56 - 134
1,2-Dibromoethane	ND		500	545		ug/L		10f	77 - 120
1,2-Dichlorobenzene	ND		500	4f 4		ug/L		f f	80 - 124
1,2-Dichloroethane	ND		500	4f 6		ug/L		f f	75 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-171615-3 MS
Matrix: Water
Analysis Batch: 538052

Client Sample ID: W29
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	ND		500	546		ug/L		10f	76 - 120
1,3-Dichlorobenzene	ND		500	506		ug/L		101	77 - 120
1,4-Dichlorobenzene	ND		500	504		ug/L		101	78 - 124
2-Butanone (MEK)	ND		2500	2330		ug/L		f 3	57 - 140
2-Hexanone	ND		2500	2450		ug/L		f 8	65 - 127
4-Methyl-2-pentanone (MIBK)	ND		2500	2410		ug/L		f 7	71 - 125
Acetone	ND		2500	22f 0		ug/L		f 2	56 - 142
Benzene	ND		500	535		ug/L		107	71 - 124
Bromodichloromethane	ND		500	575		ug/L		115	80 - 122
Bromo9orm	ND	X' 1	500	6f 4	' 1	ug/L		13f	61 - 132
Bromomethane	ND		500	534		ug/L		107	55 - 144
Carbon di*ul9de	ND		500	514		ug/L		103	5f - 134
Carbon tetrachloride	ND	' 1	500	712	' 1	ug/L		142	72 - 134
Chlorobenzene	ND		500	51f		ug/L		104	80 - 120
Chloroethane	ND		500	55f		ug/L		112	6f - 136
Chloro9orm	ND		500	4f 4		ug/L		f f	73 - 127
Chloromethane	ND		500	48f		ug/L		f 8	68 - 124
ci*-1,2-Dichloroethene	ND		500	518		ug/L		104	74 - 124
ci*-1,3-Dichloropropene	ND		500	523		ug/L		105	74 - 124
Cyclohexane	ND		500	535		ug/L		107	5f - 135
Dibromochloromethane	ND	' 1	500	644	' 1	ug/L		12f	75 - 125
Dichlorodi9uoromethane	ND		500	444		ug/L		8f	5f - 135
Ethylbenzene	ND		500	523		ug/L		105	77 - 123
I*opropylbenzene	ND		500	536		ug/L		107	77 - 122
Methyl acetate	ND		1000	f 82		ug/L		f 8	74 - 133
Methyl tert-butyl ether	ND		500	462		ug/L		f 2	77 - 120
Methylcyclohexane	ND		500	507		ug/L		101	68 - 134
Methylene Chloride	ND		500	512		ug/L		102	75 - 124
Styrene	ND		500	538		ug/L		108	80 - 120
Tetrachloroethene	ND		500	550		ug/L		110	74 - 122
Toluene	ND		500	508		ug/L		102	80 - 122
tran*-1,2-Dichloroethene	ND		500	534		ug/L		107	73 - 127
tran*-1,3-Dichloropropene	ND		500	550		ug/L		110	80 - 120
Trichloroethene	ND		500	541		ug/L		108	74 - 123
Trichloro9uoromethane	ND		500	600		ug/L		120	62 - 150
s inyl chloride	ND		500	518		ug/L		104	65 - 133
n-Butylbenzene	ND		500	512		ug/L		102	71 - 128
1,2,4-Trimethylbenzene	ND		500	528		ug/L		106	76 - 121
o-Vylene	ND		500	516		ug/L		103	76 - 122
*ec-Butylbenzene	ND		500	537		ug/L		107	74 - 127
N-Propylbenzene	ND		500	516		ug/L		103	75 - 127
4-I*opropyltoluene	ND		500	530		ug/L		106	73 - 120
1,3,5-Trimethylbenzene	ND		500	518		ug/L		104	77 - 121
m,p-Vylene	ND		500	535		ug/L		107	76 - 122
tert-Butylbenzene	ND		500	500		ug/L		100	75 - 123

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-171615-3 MS
Matrix: Water
Analysis Batch: 538052

Client Sample ID: W29
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*
Toluene-d8 (Surr)	*96*		*80 - 120*

Lab Sample ID: 480-171615-3 MSD
Matrix: Water
Analysis Batch: 538052

Client Sample ID: W29
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		500	542		ug/L		108	73 - 126	8	15
1,1,2,2-Tetrachloroethane	ND		500	501		ug/L		100	76 - 120	0	15
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		500	546		ug/L		110	61 - 148	8	20
1,1,2-Trichloroethane	ND		500	485		ug/L		97	76 - 122	5	15
1,1-Dichloroethane	ND		500	548		ug/L		110	77 - 120	7	20
1,1-Dichloroethene	ND		500	608		ug/L		122	66 - 127	8	16
1,2,4-Trichlorobenzene	ND		500	453		ug/L		91	71 - 122	2	20
1,2-Dibromo-3-Chloropropane	ND		500	633		ug/L		127	56 - 134	0	15
1,2-Dibromoethane	ND		500	537		ug/L		107	77 - 120	1	15
1,2-Dichlorobenzene	ND		500	482		ug/L		96	80 - 124	2	20
1,2-Dichloroethane	ND		500	477		ug/L		95	75 - 120	4	20
1,2-Dichloropropane	ND		500	499		ug/L		100	76 - 120	1	20
1,3-Dichlorobenzene	ND		500	493		ug/L		99	77 - 120	3	20
1,4-Dichlorobenzene	ND		500	497		ug/L		99	78 - 124	1	20
2-Butanone (MEK)	ND		2500	2660		ug/L		107	57 - 140	13	20
2-Hexanone	ND		2500	2450		ug/L		98	65 - 127	0	15
4-Methyl-2-pentanone (MIBK)	ND		2500	2350		ug/L		94	71 - 125	3	35
Acetone	ND		2500	2580		ug/L		103	56 - 142	12	15
Benzene	ND		500	500		ug/L		100	71 - 124	7	13
Bromodichloromethane	ND		500	552		ug/L		110	80 - 122	4	15
Bromoform	ND	X' 1	500	693	' 1	ug/L		139	61 - 132	0	15
Bromomethane	ND		500	511		ug/L		102	55 - 144	4	15
Carbon disulfide	ND		500	556		ug/L		111	59 - 134	8	15
Carbon tetrachloride	ND	' 1	500	681	' 1	ug/L		136	72 - 134	4	15
Chlorobenzene	ND		500	501		ug/L		100	80 - 120	4	25
Chloroethane	ND		500	543		ug/L		109	69 - 136	3	15
Chloroform	ND		500	543		ug/L		109	73 - 127	10	20
Chloromethane	ND		500	456		ug/L		91	68 - 124	7	15
cis-1,2-Dichloroethene	ND		500	579		ug/L		116	74 - 124	11	15
cis-1,3-Dichloropropene	ND		500	519		ug/L		104	74 - 124	1	15
Cyclohexane	ND		500	499		ug/L		100	59 - 135	7	20
Dibromochloromethane	ND	' 1	500	632	' 1	ug/L		126	75 - 125	2	15
Dichlorodifluoromethane	ND		500	433		ug/L		87	59 - 135	3	20
Ethylbenzene	ND		500	500		ug/L		100	77 - 123	4	15
Isopropylbenzene	ND		500	513		ug/L		103	77 - 122	4	20
Methyl acetate	ND		1000	1050		ug/L		105	74 - 133	6	20
Methyl tert-butyl ether	ND		500	540		ug/L		108	77 - 120	15	37
Methylcyclohexane	ND		500	477		ug/L		95	68 - 134	6	20
Methylene Chloride	ND		500	568		ug/L		114	75 - 124	10	15
Styrene	ND		500	510		ug/L		102	80 - 120	5	20

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-171615-3 MSD
Matrix: Water
Analysis Batch: 538052

Client Sample ID: W29
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	ND		500	504		ug/L		101	74 - 122	f	20
Toluene	ND		500	487		ug/L		f 7	80 - 122	4	15
tran*-1,2-Dichloroethene	ND		500	5f 5		ug/L		11f	73 - 127	11	20
tran*-1,3-Dichloropropene	ND		500	526		ug/L		105	80 - 120	4	15
Trichloroethene	ND		500	504		ug/L		101	74 - 123	7	16
Trichloro9uoromethane	ND		500	565		ug/L		113	62 - 150	6	20
s inyl chloride	ND		500	482		ug/L		f 6	65 - 133	7	15
n-Butylbenzene	ND		500	487		ug/L		f 7	71 - 128	5	15
1,2,4-Trimethylbenzene	ND		500	514		ug/L		103	76 - 121	3	20
o-Vylene	ND		500	4f 5		ug/L		f f	76 - 122	4	16
*ec-Butylbenzene	ND		500	515		ug/L		103	74 - 127	4	15
N-Propylbenzene	ND		500	4f 6		ug/L		f f	75 - 127	4	15
4-I*opropyltoluene	ND		500	514		ug/L		103	73 - 120	3	20
1,3,5-Trimethylbenzene	ND		500	501		ug/L		100	77 - 121	3	20
m,p-Vylene	ND		500	50f		ug/L		102	76 - 122	5	16
tert-Butylbenzene	ND		500	505		ug/L		101	75 - 123	1	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*
4-Bromofluorobenzene (Surr)	*94*		*73 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-538133/1-A
Matrix: Water
Analysis Batch: 538562

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538133

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		5.0	0.48	ug/L		06/26/20 08:23	06/30/20 06:14	1
2,4,6-Trichlorophenol	ND		5.0	0.61	ug/L		06/26/20 08:23	06/30/20 06:14	1
2,4-Dichlorophenol	ND		5.0	0.51	ug/L		06/26/20 08:23	06/30/20 06:14	1
2,4-Dimethylphenol	ND		5.0	0.50	ug/L		06/26/20 08:23	06/30/20 06:14	1
2,4-Dinitrophenol	ND		10	2.2	ug/L		06/26/20 08:23	06/30/20 06:14	1
2,4-Dinitrotoluene	ND		5.0	0.45	ug/L		06/26/20 08:23	06/30/20 06:14	1
2,6-Dinitrotoluene	ND		5.0	0.40	ug/L		06/26/20 08:23	06/30/20 06:14	1
2-Chloronaphthalene	ND		5.0	0.46	ug/L		06/26/20 08:23	06/30/20 06:14	1
2-Chlorophenol	ND		5.0	0.53	ug/L		06/26/20 08:23	06/30/20 06:14	1
2-Methylnaphthalene	ND		5.0	0.60	ug/L		06/26/20 08:23	06/30/20 06:14	1
2-Methylphenol	ND		5.0	0.40	ug/L		06/26/20 08:23	06/30/20 06:14	1
2-Nitroaniline	ND		10	0.42	ug/L		06/26/20 08:23	06/30/20 06:14	1
2-Nitrophenol	ND		5.0	0.48	ug/L		06/26/20 08:23	06/30/20 06:14	1
3,3FDichlorobenzidine	ND		5.0	0.40	ug/L		06/26/20 08:23	06/30/20 06:14	1
3-Nitroaniline	ND		10	0.48	ug/L		06/26/20 08:23	06/30/20 06:14	1
4,6-Dinitro-2-methylphenol	ND		10	2.2	ug/L		06/26/20 08:23	06/30/20 06:14	1
4-Bromophenyl phenyl ether	ND		5.0	0.45	ug/L		06/26/20 08:23	06/30/20 06:14	1
4-Chloro-3-methylphenol	ND		5.0	0.45	ug/L		06/26/20 08:23	06/30/20 06:14	1
4-Chloroaniline	ND		5.0	0.5f	ug/L		06/26/20 08:23	06/30/20 06:14	1
4-Chlorophenyl phenyl ether	ND		5.0	0.35	ug/L		06/26/20 08:23	06/30/20 06:14	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-538133/1-A
Matrix: Water
Analysis Batch: 538562

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538133

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methylphenol	ND		10	0.36	ug/L		06/26/20 08:23	06/30/20 06:14	1
4-Nitroaniline	ND		10	0.25	ug/L		06/26/20 08:23	06/30/20 06:14	1
4-Nitrophenol	ND		10	1.5	ug/L		06/26/20 08:23	06/30/20 06:14	1
Acenaphthene	ND		5.0	0.41	ug/L		06/26/20 08:23	06/30/20 06:14	1
Acenaphthylene	ND		5.0	0.38	ug/L		06/26/20 08:23	06/30/20 06:14	1
Acetophenone	0.544	J	5.0	0.54	ug/L		06/26/20 08:23	06/30/20 06:14	1
Anthracene	ND		5.0	0.28	ug/L		06/26/20 08:23	06/30/20 06:14	1
Atrazine	ND		5.0	0.46	ug/L		06/26/20 08:23	06/30/20 06:14	1
Benzaldehyde	ND		5.0	0.27	ug/L		06/26/20 08:23	06/30/20 06:14	1
Benzo(a)anthracene	ND		5.0	0.36	ug/L		06/26/20 08:23	06/30/20 06:14	1
Benzo(a)pyrene	ND		5.0	0.47	ug/L		06/26/20 08:23	06/30/20 06:14	1
Benzo(b)9uoranthene	ND		5.0	0.34	ug/L		06/26/20 08:23	06/30/20 06:14	1
Benzo(g,h,i)perylene	ND		5.0	0.35	ug/L		06/26/20 08:23	06/30/20 06:14	1
Benzo(k)9uoranthene	ND		5.0	0.73	ug/L		06/26/20 08:23	06/30/20 06:14	1
Biphenyl	ND		5.0	0.65	ug/L		06/26/20 08:23	06/30/20 06:14	1
bi* (2-chloroi*opropyl) ether	ND		5.0	0.52	ug/L		06/26/20 08:23	06/30/20 06:14	1
Bi*(2-chloroethoxy)methane	ND		5.0	0.35	ug/L		06/26/20 08:23	06/30/20 06:14	1
Bi*(2-chloroethyl)ether	ND		5.0	0.40	ug/L		06/26/20 08:23	06/30/20 06:14	1
Bi*(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		06/26/20 08:23	06/30/20 06:14	1
Butyl benzyl phthalate	ND		5.0	1.0	ug/L		06/26/20 08:23	06/30/20 06:14	1
Caprolactam	ND		5.0	2.2	ug/L		06/26/20 08:23	06/30/20 06:14	1
Carbazole	ND		5.0	0.30	ug/L		06/26/20 08:23	06/30/20 06:14	1
Chry*ene	ND		5.0	0.33	ug/L		06/26/20 08:23	06/30/20 06:14	1
Dibenz(a,h)anthracene	ND		5.0	0.42	ug/L		06/26/20 08:23	06/30/20 06:14	1
Dibenzo9uran	ND		10	0.51	ug/L		06/26/20 08:23	06/30/20 06:14	1
Diethyl phthalate	ND		5.0	0.22	ug/L		06/26/20 08:23	06/30/20 06:14	1
Dimethyl phthalate	ND		5.0	0.36	ug/L		06/26/20 08:23	06/30/20 06:14	1
Di-n-butyl phthalate	ND		5.0	0.31	ug/L		06/26/20 08:23	06/30/20 06:14	1
Di-n-octyl phthalate	ND		5.0	0.47	ug/L		06/26/20 08:23	06/30/20 06:14	1
' luoranthene	ND		5.0	0.40	ug/L		06/26/20 08:23	06/30/20 06:14	1
' luorene	ND		5.0	0.36	ug/L		06/26/20 08:23	06/30/20 06:14	1
Hexachlorobenzene	ND		5.0	0.51	ug/L		06/26/20 08:23	06/30/20 06:14	1
Hexachlorobutadiene	ND		5.0	0.68	ug/L		06/26/20 08:23	06/30/20 06:14	1
Hexachlorocyclopentadiene	ND		5.0	0.5f	ug/L		06/26/20 08:23	06/30/20 06:14	1
Hexachloroethane	ND		5.0	0.5f	ug/L		06/26/20 08:23	06/30/20 06:14	1
Indeno(1,2,3-cd)pyrene	ND		5.0	0.47	ug/L		06/26/20 08:23	06/30/20 06:14	1
I*ophorone	ND		5.0	0.43	ug/L		06/26/20 08:23	06/30/20 06:14	1
Naphthalene	ND		5.0	0.76	ug/L		06/26/20 08:23	06/30/20 06:14	1
Nitrobenzene	ND		5.0	0.2f	ug/L		06/26/20 08:23	06/30/20 06:14	1
N-Nitro*odi-n-propylamine	ND		5.0	0.54	ug/L		06/26/20 08:23	06/30/20 06:14	1
N-Nitro*odiphenylamine	ND		5.0	0.51	ug/L		06/26/20 08:23	06/30/20 06:14	1
Pentachlorophenol	ND		10	2.2	ug/L		06/26/20 08:23	06/30/20 06:14	1
Phenanthrene	0.637	J	5.0	0.44	ug/L		06/26/20 08:23	06/30/20 06:14	1
Phenol	ND		5.0	0.3f	ug/L		06/26/20 08:23	06/30/20 06:14	1
Pyrene	ND		5.0	0.34	ug/L		06/26/20 08:23	06/30/20 06:14	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Unknown	*2.79*	*T J*	*ug/L*		*2.61*		*06/26/20 08:23*	*06/30/20 06:14*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-538133/1-A
Matrix: Water
Analysis Batch: 538562

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 538133

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.05	T J	ug/L		2.66		06/26/20 08:23	06/30/20 06:14	1
Unknown	2.16	T J	ug/L		2.93		06/26/20 08:23	06/30/20 06:14	1
Unknown	1.84	T J	ug/L		2.96		06/26/20 08:23	06/30/20 06:14	1
Unknown	158	T J	ug/L		3.07		06/26/20 08:23	06/30/20 06:14	1
Unknown	30.0	T J	ug/L		4.96		06/26/20 08:23	06/30/20 06:14	1
3-Ethoxy-1,1,1,5,5,5-hexamethyl-3-(trimethylsiloxy)trisiloxa	5.54	T J N	ug/L		6.03	18030-67-6	06/26/20 08:23	06/30/20 06:14	1
column bleed	6.10	T J	ug/L		6.98		06/26/20 08:23	06/30/20 06:14	1
Unknown	5.13	T J	ug/L		7.86		06/26/20 08:23	06/30/20 06:14	1
Unknown	3.24	T J	ug/L		8.63		06/26/20 08:23	06/30/20 06:14	1
Unknown	3.06	T J	ug/L		9.31		06/26/20 08:23	06/30/20 06:14	1
Unknown	1.98	T J	ug/L		9.89		06/26/20 08:23	06/30/20 06:14	1
Unknown	1.62	T J	ug/L		10.40		06/26/20 08:23	06/30/20 06:14	1
Unknown	1.78	T J	ug/L		13.40		06/26/20 08:23	06/30/20 06:14	1
Unknown	1.91	T J	ug/L		14.01		06/26/20 08:23	06/30/20 06:14	1
Unknown	2.15	T J	ug/L		14.65		06/26/20 08:23	06/30/20 06:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	105		41 - 120	06/26/20 08:23	06/30/20 06:14	1
2-Fluorobiphenyl	115		48 - 120	06/26/20 08:23	06/30/20 06:14	1
2-Fluorophenol	76		35 - 120	06/26/20 08:23	06/30/20 06:14	1
Nitrobenzene-d5	104		46 - 120	06/26/20 08:23	06/30/20 06:14	1
Phenol-d5	53		22 - 120	06/26/20 08:23	06/30/20 06:14	1
p-Terphenyl-d14	130		60 - 148	06/26/20 08:23	06/30/20 06:14	1

Lab Sample ID: LCS 480-538133/2-A
Matrix: Water
Analysis Batch: 538562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538133

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	32.0	40.0		ug/L		125	65 - 126
2,4,6-Trichlorophenol	32.0	36.4		ug/L		114	64 - 120
2,4-Dichlorophenol	32.0	3f .f	X	ug/L		125	63 - 120
2,4-Dimethylphenol	32.0	37.4		ug/L		117	47 - 120
2,4-Dinitrophenol	64.0	5f .6		ug/L		f 3	31 - 137
2,4-Dinitrotoluene	32.0	35.0		ug/L		10f	6f - 120
2,6-Dinitrotoluene	32.0	35.6		ug/L		111	68 - 120
2-Chloronaphthalene	32.0	32.5		ug/L		102	58 - 120
2-Chlorophenol	32.0	33.8		ug/L		106	48 - 120
2-Methylnaphthalene	32.0	36.6		ug/L		114	5f - 120
2-Methylphenol	32.0	2f .3		ug/L		f 2	3f - 120
3,3FDichlorobenzidine	64.0	76.1		ug/L		11f	4f - 135
3-Nitroaniline	32.0	25.7		ug/L		80	51 - 120
4,6-Dinitro-2-methylphenol	64.0	6f .2		ug/L		108	46 - 136
4-Bromophenyl phenyl ether	32.0	42.1	X	ug/L		132	65 - 120
4-Chloro-3-methylphenol	32.0	36.3		ug/L		113	61 - 123
4-Chloroaniline	32.0	25.2		ug/L		7f	30 - 120
4-Methylphenol	32.0	31.4		ug/L		f 8	2f - 131

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-538133/2-A
Matrix: Water
Analysis Batch: 538562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538133

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Nitroaniline	32.0	34.2		ug/L		107	65 - 120
4-Nitrophenol	64.0	7f .3	X	ug/L		124	45 - 120
Acenaphthene	32.0	35.3		ug/L		110	60 - 120
Acenaphthylene	32.0	34.1		ug/L		107	63 - 120
Anthracene	32.0	37.8		ug/L		118	67 - 120
Atrazine	64.0	106	X	ug/L		165	71 - 130
Benzaldehyde	64.0	64.5		ug/L		101	10 - 140
Benzo(a)anthracene	32.0	37.4		ug/L		117	70 - 121
Benzo(a)pyrene	32.0	37.0		ug/L		116	60 - 123
Benzo(b)9uoranthene	32.0	3f .3		ug/L		123	66 - 126
Benzo(g,h,i)perylene	32.0	38.f		ug/L		122	66 - 150
Benzo(k)9uoranthene	32.0	38.f		ug/L		122	65 - 124
Biphenyl	32.0	34.0		ug/L		106	5f - 120
bi* (2-chloroi*opropyl) ether	32.0	2f .0		ug/L		f 1	21 - 136
Bi*(2-chloroethoxy)methane	32.0	31.f		ug/L		100	50 - 128
Bi*(2-chloroethyl)ether	32.0	2f .5		ug/L		f 2	44 - 120
Bi*(2-ethylhexyl) phthalate	32.0	32.0		ug/L		100	63 - 13f
Butyl benzyl phthalate	32.0	32.6		ug/L		102	70 - 12f
Caprolactam	64.0	26.0		ug/L		41	22 - 120
Carbazole	32.0	42.7	X	ug/L		133	66 - 123
Chry*ene	32.0	37.5		ug/L		117	6f - 120
Dibenz(a,h)anthracene	32.0	43.6	X	ug/L		136	65 - 135
Dibenzo9uran	32.0	35.6		ug/L		111	66 - 120
Diethyl phthalate	32.0	40.0		ug/L		125	5f - 127
Dimethyl phthalate	32.0	38.0		ug/L		11f	68 - 120
Di-n-butyl phthalate	32.0	38.2		ug/L		11f	6f - 131
Di-n-octyl phthalate	32.0	32.3		ug/L		101	63 - 140
' luoranthene	32.0	41.4	X	ug/L		12f	6f - 126
' luorene	32.0	37.f		ug/L		118	66 - 120
Hexachlorobenzene	32.0	43.8	X	ug/L		137	61 - 120
Hexachlorobutadiene	32.0	36.2		ug/L		113	35 - 120
Hexachlorocyclopentadiene	32.0	22.8		ug/L		71	31 - 120
Hexachloroethane	32.0	30.2		ug/L		f 4	43 - 120
Indeno(1,2,3-cd)pyrene	32.0	41.3		ug/L		12f	6f - 146
I*ophorone	32.0	34.f		ug/L		10f	55 - 120
Naphthalene	32.0	34.8		ug/L		10f	57 - 120
Nitrobenzene	32.0	35.f		ug/L		112	53 - 123
N-Nitro*odi-n-propylamine	32.0	35.2		ug/L		110	32 - 140
Pentachlorophenol	64.0	7f .1		ug/L		124	2f - 136
Phenanthrene	32.0	38.2		ug/L		11f	68 - 120
Phenol	32.0	21.2		ug/L		66	17 - 120
Pyrene	32.0	34.0		ug/L		106	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*135*	*X*	*41 - 120*
2-Fluorobiphenyl	*118*		*48 - 120*
2-Fluorophenol	*79*		*35 - 120*
Nitrobenzene-d5	*105*		*46 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-538133/2-A
Matrix: Water
Analysis Batch: 538562

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 538133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	60		22 - 120
p-Terphenyl-d14	128		60 - 148

Lab Sample ID: 480-171615-3 MS
Matrix: Water
Analysis Batch: 538562

Client Sample ID: W29
Prep Type: Total/NA
Prep Batch: 538133

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	ND		32.0	2f .5		ug/L		f 2	65 - 126
2,4,6-Trichlorophenol	ND		32.0	33.6		ug/L		105	64 - 120
2,4-Dichlorophenol	ND	X	32.0	27.7		ug/L		86	48 - 132
2,4-Dimethylphenol	ND		32.0	28.1		ug/L		88	3f - 130
2,4-Dinitrophenol	ND		64.0	70.4		ug/L		110	21 - 150
2,4-Dinitrotoluene	ND		32.0	2f .7		ug/L		f 3	54 - 138
2,6-Dinitrotoluene	ND		32.0	23.4	J	ug/L		73	17 - 150
2-Chloronaphthalene	ND		32.0	26.4		ug/L		83	52 - 124
2-Chlorophenol	ND		32.0	26.f		ug/L		84	48 - 120
2-Methylnaphthalene	ND		32.0	30.3		ug/L		f 5	34 - 140
2-Methylphenol	ND		32.0	27.1		ug/L		85	46 - 120
3,3FDichlorobenzidine	ND	' 1	64.0	ND	' 1	ug/L		0	10 - 150
3-Nitroaniline	ND	' 1	32.0	ND	' 1	ug/L		0	32 - 150
4,6-Dinitro-2-methylphenol	ND		64.0	57.8		ug/L		f 0	38 - 150
4-Bromophenyl phenyl ether	ND	X	32.0	23.f	J	ug/L		75	63 - 126
4-Chloro-3-methylphenol	ND		32.0	25.6		ug/L		80	64 - 127
4-Chloroaniline	ND	' 2 ' 1	32.0	4.3f	J ' 1	ug/L		14	16 - 124
4-Methylphenol	ND		32.0	23.2	J	ug/L		73	36 - 120
4-Nitroaniline	ND	' 1	32.0	ND	' 1	ug/L		0	32 - 150
4-Nitrophenol	ND	X	64.0	42.1	J	ug/L		66	23 - 132
Acenaphthene	ND		32.0	2f .f		ug/L		f 3	48 - 120
Acenaphthylene	ND		32.0	2f .6		ug/L		f 2	63 - 120
Anthracene	ND		32.0	24.7	J	ug/L		77	65 - 122
Atrazine	ND	' 2 ' 1 X	64.0	f .f 4	J ' 1	ug/L		16	50 - 150
Benzaldehyde	ND		64.0	52.2		ug/L		82	10 - 150
Benzo(a)anthracene	ND		32.0	24.3	J	ug/L		76	43 - 124
Benzo(a)pyrene	ND		32.0	21.4	J	ug/L		67	23 - 125
Benzo(b)9uoranthene	ND		32.0	22.7	J	ug/L		71	27 - 127
Benzo(g,h,i)perylene	ND		32.0	22.5	J	ug/L		70	16 - 147
Benzo(k)9uoranthene	ND		32.0	22.7	J	ug/L		71	20 - 124
Biphenyl	ND		32.0	26.6		ug/L		83	57 - 120
bi* (2-chloroi*opropyl) ether	ND		32.0	21.0	J	ug/L		66	28 - 121
Bi*(2-chloroethoxy)methane	ND		32.0	25.f		ug/L		81	44 - 128
Bi*(2-chloroethyl)ether	ND		32.0	28.4		ug/L		8f	45 - 120
Bi*(2-ethylhexyl) phthalate	ND		32.0	20.5	J	ug/L		64	16 - 150
Butyl benzyl phthalate	ND	' 2	32.0	18.3	J	ug/L		57	51 - 140
Caprolactam	ND	' 2	64.0	23.7	J	ug/L		37	10 - 120
Carbazole	ND	X	32.0	26.8		ug/L		84	16 - 148
Chry*ene	ND		32.0	25.2		ug/L		7f	44 - 122
Dibenz(a,h)anthracene	ND	X	32.0	24.2	J	ug/L		76	16 - 13f

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-171615-3 MS
Matrix: Water
Analysis Batch: 538562

Client Sample ID: W29
Prep Type: Total/NA
Prep Batch: 538133

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenzo9uran	ND		32.0	2f .3	J	ug/L		f 1	60 - 120
Diethyl phthalate	ND	' 2	32.0	26.1		ug/L		82	53 - 133
Dimethyl phthalate	ND	' 2	32.0	31.2		ug/L		f 7	5f - 123
Di-n-butyl phthalate	ND		32.0	21.8	J	ug/L		68	65 - 12f
Di-n-octyl phthalate	ND		32.0	22.3	J	ug/L		70	16 - 150
' luoranthene	ND	X	32.0	25.3		ug/L		7f	63 - 12f
' luorene	ND	' 2	32.0	31.7		ug/L		f f	62 - 120
Hexachlorobenzene	ND	' 2 X	32.0	25.f		ug/L		81	57 - 121
Hexachlorobutadiene	ND		32.0	30.6		ug/L		f 6	37 - 120
Hexachlorocyclopentadiene	ND		32.0	20.2	J	ug/L		63	21 - 120
Hexachloroethane	ND		32.0	27.0		ug/L		84	16 - 130
Indeno(1,2,3-cd)pyrene	ND		32.0	22.2	J	ug/L		6f	16 - 140
I*ophorone	ND		32.0	28.1		ug/L		88	48 - 133
Naphthalene	ND		32.0	28.2		ug/L		88	45 - 120
Nitrobenzene	ND		32.0	27.5		ug/L		86	45 - 123
N-Nitro*odi-n-propylamine	ND		32.0	2f .7		ug/L		f 3	4f - 120
Pentachlorophenol	ND		64.0	65.3		ug/L		102	23 - 14f
Phenanthrene	ND		32.0	28.0		ug/L		87	65 - 122
Phenol	ND		32.0	13.f	J	ug/L		43	16 - 120
Pyrene	ND		32.0	23.6	J	ug/L		74	58 - 128

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol	*111*		*41 - 120*
2-Fluorobiphenyl	*101*		*48 - 120*
2-Fluorophenol	*65*		*35 - 120*
Nitrobenzene-d5	*83*		*46 - 120*
Phenol-d5	*46*		*22 - 120*
p-Terphenyl-d14	*58*	*X*	*60 - 148*

Lab Sample ID: 480-171615-3 MSD
Matrix: Water
Analysis Batch: 538562

Client Sample ID: W29
Prep Type: Total/NA
Prep Batch: 538133

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-Trichlorophenol	ND		32.0	2f .5		ug/L		f 2	65 - 126	0	18
2,4,6-Trichlorophenol	ND		32.0	32.2		ug/L		101	64 - 120	4	1f
2,4-Dichlorophenol	ND	X	32.0	30.7		ug/L		f 6	48 - 132	10	1f
2,4-Dimethylphenol	ND		32.0	2f .4		ug/L		f 2	3f - 130	4	42
2,4-Dinitrophenol	ND		64.0	64.4		ug/L		101	21 - 150	f	22
2,4-Dinitrotoluene	ND		32.0	26.4		ug/L		82	54 - 138	12	20
2,6-Dinitrotoluene	ND		32.0	25.0		ug/L		78	17 - 150	6	15
2-Chloronaphthalene	ND		32.0	27.3		ug/L		85	52 - 124	3	21
2-Chlorophenol	ND		32.0	28.0		ug/L		88	48 - 120	4	25
2-Methylnaphthalene	ND		32.0	28.f		ug/L		f 0	34 - 140	5	21
2-Methylphenol	ND		32.0	26.1		ug/L		82	46 - 120	4	27
3,3FDichlorobenzidine	ND	' 1	64.0	ND	' 1	ug/L		0	10 - 150	NC	25
3-Nitroaniline	ND	' 1	32.0	6.50	J ' 1	ug/L		20	32 - 150	NC	1f
4,6-Dinitro-2-methylphenol	ND		64.0	54.0		ug/L		84	38 - 150	7	15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-171615-3 MSD
Matrix: Water
Analysis Batch: 538562

Client Sample ID: W29
Prep Type: Total/NA
Prep Batch: 538133

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Bromophenyl phenyl ether	ND	X	32.0	25.5		ug/L		80	63 - 126	6	15
4-Chloro-3-methylphenol	ND		32.0	2f .3		ug/L		f 2	64 - 127	14	27
4-Chloroaniline	ND	' 2 ' 1	32.0	6.00	J ' 2	ug/L		1f	16 - 124	31	22
4-Methylphenol	ND		32.0	22.7	J	ug/L		71	36 - 120	2	24
4-Nitroaniline	ND	' 1	32.0	ND	' 1	ug/L		0	32 - 150	NC	24
4-Nitrophenol	ND	X	64.0	33.6	J	ug/L		53	23 - 132	22	48
Acenaphthene	ND		32.0	27.f		ug/L		87	48 - 120	7	24
Acenaphthylene	ND		32.0	28.7		ug/L		f 0	63 - 120	3	18
Anthracene	ND		32.0	23.6	J	ug/L		74	65 - 122	5	15
Atrazine	ND	' 2 ' 1 X	64.0	5.24	J ' 2 ' 1	ug/L		8	50 - 150	62	20
Benzaldehyde	ND		64.0	52.3		ug/L		82	10 - 150	0	20
Benzo(a)anthracene	ND		32.0	25.6		ug/L		80	43 - 124	5	15
Benzo(a)pyrene	ND		32.0	22.2	J	ug/L		6f	23 - 125	4	15
Benzo(b)9uoranthene	ND		32.0	22.f	J	ug/L		71	27 - 127	0	15
Benzo(g,h,i)perylene	ND		32.0	23.f	J	ug/L		75	16 - 147	6	15
Benzo(k)9uoranthene	ND		32.0	22.8	J	ug/L		71	20 - 124	0	22
Biphenyl	ND		32.0	27.6		ug/L		86	57 - 120	4	20
bi* (2-chloroi*opropyl) ether	ND		32.0	21.1	J	ug/L		66	28 - 121	1	24
Bi*(2-chloroethoxy)methane	ND		32.0	23.8	J	ug/L		75	44 - 128	8	17
Bi*(2-chloroethyl)ether	ND		32.0	27.0		ug/L		84	45 - 120	5	21
Bi*(2-ethylhexyl) phthalate	ND		32.0	21.f	J	ug/L		68	16 - 150	7	15
Butyl benzyl phthalate	ND	' 2	32.0	21.7	J ' 2	ug/L		68	51 - 140	17	16
Caprolactam	ND	' 2	64.0	18.4	J ' 2	ug/L		2f	10 - 120	25	20
Carbazole	ND	X	32.0	26.4		ug/L		83	16 - 148	1	20
Chry*ene	ND		32.0	24.4	J	ug/L		76	44 - 122	3	15
Dibenz(a,h)anthracene	ND	X	32.0	25.1		ug/L		78	16 - 13f	4	15
Dibenzo9uran	ND		32.0	2f .7	J	ug/L		f 3	60 - 120	2	15
Diethyl phthalate	ND	' 2	32.0	30.7	' 2	ug/L		f 6	53 - 133	16	15
Dimethyl phthalate	ND	' 2	32.0	23.f	J ' 2	ug/L		75	5f - 123	26	15
Di-n-butyl phthalate	ND		32.0	21.8	J	ug/L		68	65 - 12f	0	15
Di-n-octyl phthalate	ND		32.0	21.8	J	ug/L		68	16 - 150	2	16
' luoranthene	ND	X	32.0	25.3		ug/L		7f	63 - 12f	0	15
' luorene	ND	' 2	32.0	25.0	' 2	ug/L		78	62 - 120	24	15
Hexachlorobenzene	ND	' 2 X	32.0	31.8	' 2	ug/L		f f	57 - 121	21	15
Hexachlorobutadiene	ND		32.0	31.3		ug/L		f 8	37 - 120	2	44
Hexachlorocyclopentadiene	ND		32.0	1f .7	J	ug/L		62	21 - 120	3	4f
Hexachloroethane	ND		32.0	25.8		ug/L		81	16 - 130	5	46
Indeno(1,2,3-cd)pyrene	ND		32.0	23.5	J	ug/L		73	16 - 140	6	15
I*ophorone	ND		32.0	26.4		ug/L		82	48 - 133	6	17
Naphthalene	ND		32.0	27.5		ug/L		86	45 - 120	2	2f
Nitrobenzene	ND		32.0	28.f		ug/L		f 0	45 - 123	5	24
N-Nitro*odi-n-propylamine	ND		32.0	2f .3		ug/L		f 1	4f - 120	1	31
Pentachlorophenol	ND		64.0	80.0		ug/L		125	23 - 14f	20	37
Phenanthrene	ND		32.0	24.0	J	ug/L		75	65 - 122	15	15
Phenol	ND		32.0	14.0	J	ug/L		44	16 - 120	1	34
Pyrene	ND		32.0	23.3	J	ug/L		73	58 - 128	2	1f

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-171615-3 MSD
Matrix: Water
Analysis Batch: 538562

Client Sample ID: W29
Prep Type: Total/NA
Prep Batch: 538133

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol	116		41 - 120
2-Fluorobiphenyl	95		48 - 120
2-Fluorophenol	66		35 - 120
Nitrobenzene-d5	83		46 - 120
Phenol-d5	45		22 - 120
p-Terphenyl-d14	60		60 - 148

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-537911/1-A
Matrix: Water
Analysis Batch: 538330

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 537911

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ar*enic	ND		0.015	0.0056	mg/L		06/26/20 0f :40	06/26/20 21:06	1
Chromium	ND		0.0040	0.0010	mg/L		06/26/20 0f :40	06/26/20 21:06	1
Lead	ND		0.010	0.0030	mg/L		06/26/20 0f :40	06/26/20 21:06	1

Lab Sample ID: LCS 480-537911/2-A
Matrix: Water
Analysis Batch: 538330

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 537911

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ar*enic	0.200	0.1f f		mg/L		f f	80 - 120
Chromium	0.200	0.204		mg/L		102	80 - 120
Lead	0.200	0.1f 3		mg/L		f 6	80 - 120

Lab Sample ID: LCSD 480-537911/18-A
Matrix: Water
Analysis Batch: 538330

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 537911

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ar*enic	0.200	0.202		mg/L		101	80 - 120	2	20
Chromium	0.200	0.206		mg/L		103	80 - 120	1	20
Lead	0.200	0.1f 1		mg/L		f 6	80 - 120	1	20

Lab Sample ID: 480-171615-3 MS
Matrix: Water
Analysis Batch: 538330

Client Sample ID: W29
Prep Type: Total/NA
Prep Batch: 537911

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ar*enic	ND		0.200	0.216		mg/L		108	75 - 125
Chromium	ND		0.200	0.200		mg/L		100	75 - 125
Lead	0.003f	J	0.200	0.1f 7		mg/L		f 7	75 - 125

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-171615-3 MSD
Matrix: Water
Analysis Batch: 538330

Client Sample ID: W29
Prep Type: Total/NA
Prep Batch: 537911

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ar*enic	ND		0.200	0.213		mg/L		106	75 - 125	2	20
Chromium	ND		0.200	0.1f 7		mg/L		f 8	75 - 125	2	20
Lead	0.003f	J	0.200	0.1f 3		mg/L		f 5	75 - 125	2	20

GC/MS VOA

Analysis Batch: 538031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171615-5	W18	Total/NA	Water	8260C	
MB 480-538031/8	Method Blank	Total/NA	Water	8260C	
LCS 480-538031/6	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 538052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171615-1	MW4	Total/NA	Water	8260C	
480-171615-2	MWSW	Total/NA	Water	8260C	
480-171615-3	W29	Total/NA	Water	8260C	
480-171615-4	MW5	Total/NA	Water	8260C	
480-171615-6	BLIND DUP	Total/NA	Water	8260C	
480-171615-7	TRIP BLANK	Total/NA	Water	8260C	
MB 480-538052/7	Method Blank	Total/NA	Water	8260C	
LCS 480-538052/5	Lab Control Sample	Total/NA	Water	8260C	
480-171615-3 MS	W29	Total/NA	Water	8260C	
480-171615-3 MSD	W29	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 538133

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171615-1	MW4	Total/NA	Water	3510C	
480-171615-2	MWSW	Total/NA	Water	3510C	
480-171615-3	W29	Total/NA	Water	3510C	
480-171615-4	MW5	Total/NA	Water	3510C	
480-171615-5	W18	Total/NA	Water	3510C	
480-171615-6	BLIND DUP	Total/NA	Water	3510C	
MB 480-538133/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-538133/2-A	Lab Control Sample	Total/NA	Water	3510C	
480-171615-3 MS	W29	Total/NA	Water	3510C	
480-171615-3 MSD	W29	Total/NA	Water	3510C	

Analysis Batch: 538562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171615-1	MW4	Total/NA	Water	8270D	538133
480-171615-3	W29	Total/NA	Water	8270D	538133
MB 480-538133/1-A	Method Blank	Total/NA	Water	8270D	538133
LCS 480-538133/2-A	Lab Control Sample	Total/NA	Water	8270D	538133
480-171615-3 MS	W29	Total/NA	Water	8270D	538133
480-171615-3 MSD	W29	Total/NA	Water	8270D	538133

Analysis Batch: 538679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171615-2	MWSW	Total/NA	Water	8270D	538133
480-171615-4	MW5	Total/NA	Water	8270D	538133
480-171615-5	W18	Total/NA	Water	8270D	538133
480-171615-6	BLIND DUP	Total/NA	Water	8270D	538133

QC Association Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Metals

Prep Batch: 537911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171615-1	MW4	Total/NA	Water	3005A	
480-171615-2	MWSW	Total/NA	Water	3005A	
480-171615-3	W29	Total/NA	Water	3005A	
480-171615-4	MW5	Total/NA	Water	3005A	
480-171615-5	W18	Total/NA	Water	3005A	
480-171615-6	BLIND DUP	Total/NA	Water	3005A	
MB 480-537911/1-A	Method Blank	Total/NA	Water	3005A	
LCS 480-537911/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 480-537911/18-A	Lab Control Sample Dup	Total/NA	Water	3005A	
480-171615-3 MS	W29	Total/NA	Water	3005A	
480-171615-3 MSD	W29	Total/NA	Water	3005A	

Analysis Batch: 538330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-171615-1	MW4	Total/NA	Water	6010C	537911
480-171615-2	MWSW	Total/NA	Water	6010C	537911
480-171615-3	W29	Total/NA	Water	6010C	537911
480-171615-4	MW5	Total/NA	Water	6010C	537911
480-171615-5	W18	Total/NA	Water	6010C	537911
480-171615-6	BLIND DUP	Total/NA	Water	6010C	537911
MB 480-537911/1-A	Method Blank	Total/NA	Water	6010C	537911
LCS 480-537911/2-A	Lab Control Sample	Total/NA	Water	6010C	537911
LCSD 480-537911/18-A	Lab Control Sample Dup	Total/NA	Water	6010C	537911
480-171615-3 MS	W29	Total/NA	Water	6010C	537911
480-171615-3 MSD	W29	Total/NA	Water	6010C	537911

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Job ID: 480-171615-1
Project/Site: Benchmark - Olean Parcel 3 GWS

Client Sample ID: MW4
Lab Sample ID: 480-171615-1
Date Collected: 06/23/20 15:35
Matrix: Water
Date Received: 06/24/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	538052	06/25/20 23:39	RJF	TAL BUF
Total/NA	Prep	3510C			538133	06/26/20 08:23	JMP	TAL BUF
Total/NA	Analysis	8270D		5	538562	06/30/20 14:42	PJQ	TAL BUF
Total/NA	Prep	3005A			537911	06/26/20 09:40	ADM	TAL BUF
Total/NA	Analysis	6010C		1	538330	06/26/20 21:14	LMH	TAL BUF

Client Sample ID: MWSW
Lab Sample ID: 480-171615-2
Date Collected: 06/23/20 13:45
Matrix: Water
Date Received: 06/24/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	538052	06/26/20 00:04	RJF	TAL BUF
Total/NA	Prep	3510C			538133	06/26/20 08:23	JMP	TAL BUF
Total/NA	Analysis	8270D		5	538679	06/30/20 20:32	JMM	TAL BUF
Total/NA	Prep	3005A			537911	06/26/20 09:40	ADM	TAL BUF
Total/NA	Analysis	6010C		1	538330	06/26/20 21:18	LMH	TAL BUF

Client Sample ID: W29
Lab Sample ID: 480-171615-3
Date Collected: 06/23/20 11:30
Matrix: Water
Date Received: 06/24/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	538052	06/26/20 00:28	RJF	TAL BUF
Total/NA	Prep	3510C			538133	06/26/20 08:23	JMP	TAL BUF
Total/NA	Analysis	8270D		5	538562	06/30/20 09:31	PJQ	TAL BUF
Total/NA	Prep	3005A			537911	06/26/20 09:40	ADM	TAL BUF
Total/NA	Analysis	6010C		1	538330	06/26/20 21:33	LMH	TAL BUF

Client Sample ID: MW5
Lab Sample ID: 480-171615-4
Date Collected: 06/23/20 10:00
Matrix: Water
Date Received: 06/24/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	538052	06/26/20 00:53	RJF	TAL BUF
Total/NA	Prep	3510C			538133	06/26/20 08:23	JMP	TAL BUF
Total/NA	Analysis	8270D		5	538679	06/30/20 21:01	JMM	TAL BUF
Total/NA	Prep	3005A			537911	06/26/20 09:40	ADM	TAL BUF
Total/NA	Analysis	6010C		1	538330	06/26/20 21:52	LMH	TAL BUF

Client Sample ID: W18
Lab Sample ID: 480-171615-5
Date Collected: 06/22/20 12:30
Matrix: Water
Date Received: 06/24/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		4	538031	06/26/20 03:54	LCH	TAL BUF

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Job ID: 480-171615-1
Project/Site: Benchmark - Olean Parcel 3 GWS

Client Sample ID: W18
Lab Sample ID: 480-171615-5
Date Collected: 06/22/20 12:30
Matrix: Water
Date Received: 06/24/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			538133	06/26/20 08:23	JMP	TAL BUF
Total/NA	Analysis	8270D		10	538679	06/30/20 21:30	JMM	TAL BUF
Total/NA	Prep	3005A			537911	06/26/20 09:40	ADM	TAL BUF
Total/NA	Analysis	6010C		1	538330	06/26/20 21:56	LMH	TAL BUF

Client Sample ID: BLIND DUP
Lab Sample ID: 480-171615-6
Date Collected: 06/23/20 11:50
Matrix: Water
Date Received: 06/24/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	538052	06/26/20 01:17	RJF	TAL BUF
Total/NA	Prep	3510C			538133	06/26/20 08:23	JMP	TAL BUF
Total/NA	Analysis	8270D		5	538679	06/30/20 21:59	JMM	TAL BUF
Total/NA	Prep	3005A			537911	06/26/20 09:40	ADM	TAL BUF
Total/NA	Analysis	6010C		1	538330	06/26/20 21:59	LMH	TAL BUF

Client Sample ID: TRIP BLANK
Lab Sample ID: 480-171615-7
Date Collected: 06/23/20 00:00
Matrix: Water
Date Received: 06/24/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	538052	06/26/20 01:41	RJF	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Benchmark Env. Eng. & Science, PLLC
Job ID: 480-171615-1
Project/Site: Benchmark - Olean Parcel 3 GWS

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-02-21

Method Summary

Client: Benchmark Env. Eng. & Science, PLLC
Job ID: 480-171615-1
Project/Site: Benchmark - Olean Parcel 3 GWS

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
6010C	Metals (ICP)	SW846	TAL BUF
3005A	Preparation, Total Metals	SW846	TAL BUF
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - Olean Parcel 3 GWS

Job ID: 480-171615-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-171615-1	MW4	Water	06/23/20 15:35	06/24/20 11:30	
480-171615-2	MWSW	Water	06/23/20 13:45	06/24/20 11:30	
480-171615-3	W29	Water	06/23/20 11:30	06/24/20 11:30	
480-171615-4	MW5	Water	06/23/20 10:00	06/24/20 11:30	
480-171615-5	W18	Water	06/22/20 12:30	06/24/20 11:30	
480-171615-6	BLIND DUP	Water	06/23/20 11:50	06/24/20 11:30	
480-171615-7	TRIP BLANK	Water	06/23/20 00:00	06/24/20 11:30	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Conor Deubel	Lab PM: Fischer, Brian J	Carrier Tracking No(s):	COC No: 480-147130-29887.1
Client Contact: Ms. Lori Riker	Phone: (716) 697-5931	E-Mail: brian.fischer@testamericainc.com		Page: Page 1 of 1
Company: Benchmark Env. Eng. & Science, PLLC				Job #:

Address: 2558 Hamburg Turnpike Suite 300	Due Date Requested:
City: Lackawanna	TAT Requested (days): STANDARD
State, Zip: NY, 14218	
Phone: 716-856-0599(Tel)	PO #: T0334-016-001
Email: lriker@bm-tk.com	WO #:
Project Name: Benchmark - Olean Parcel 3 GWS	Project #: 48020513
Site: OLEAN REDEV. PARCEL 3	SSOW#:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3

480-171615 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - (MOD) TCL SVOA - OLM04.2 w/ TICs	8260C - (MOD) TCL list OLM04.2 w/ TICs	6010C - (MOD) As/Cr/Pb only	Total Num	Special Instructions/Note:
			Preservation Code:				N	A	D		
~~WCMW9~~				~~Water~~							
MW4	6-23-20	1535	G	Water			X	X	X	6	
MWSW	6-23-20	1345	G	Water			X	X	X	6	
W29	6-23-20	1130	G	Water		Y	X	X	X	18	* MS / MSD
MW5	6-23-20	1000	G	Water			X	X	X	6	
W18	6-22-20	1230	G	Water			X	X	X	6	
~~W24~~				~~Water~~							
~~W22~~				~~Water~~							
BLIND DUP	6-23-20	1150	G				X	X	X	6	
TRIP BLANK								X		2	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

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

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		6-24-20 / 0805			6/24/20 10:10	TAL
2		6/24/20 11:30	TAL		6/24/20 1130	TAL
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.4

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Benchmark Env. Eng. & Science, PLLC

Job Number: 480-171615-1

Login Number: 171615

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

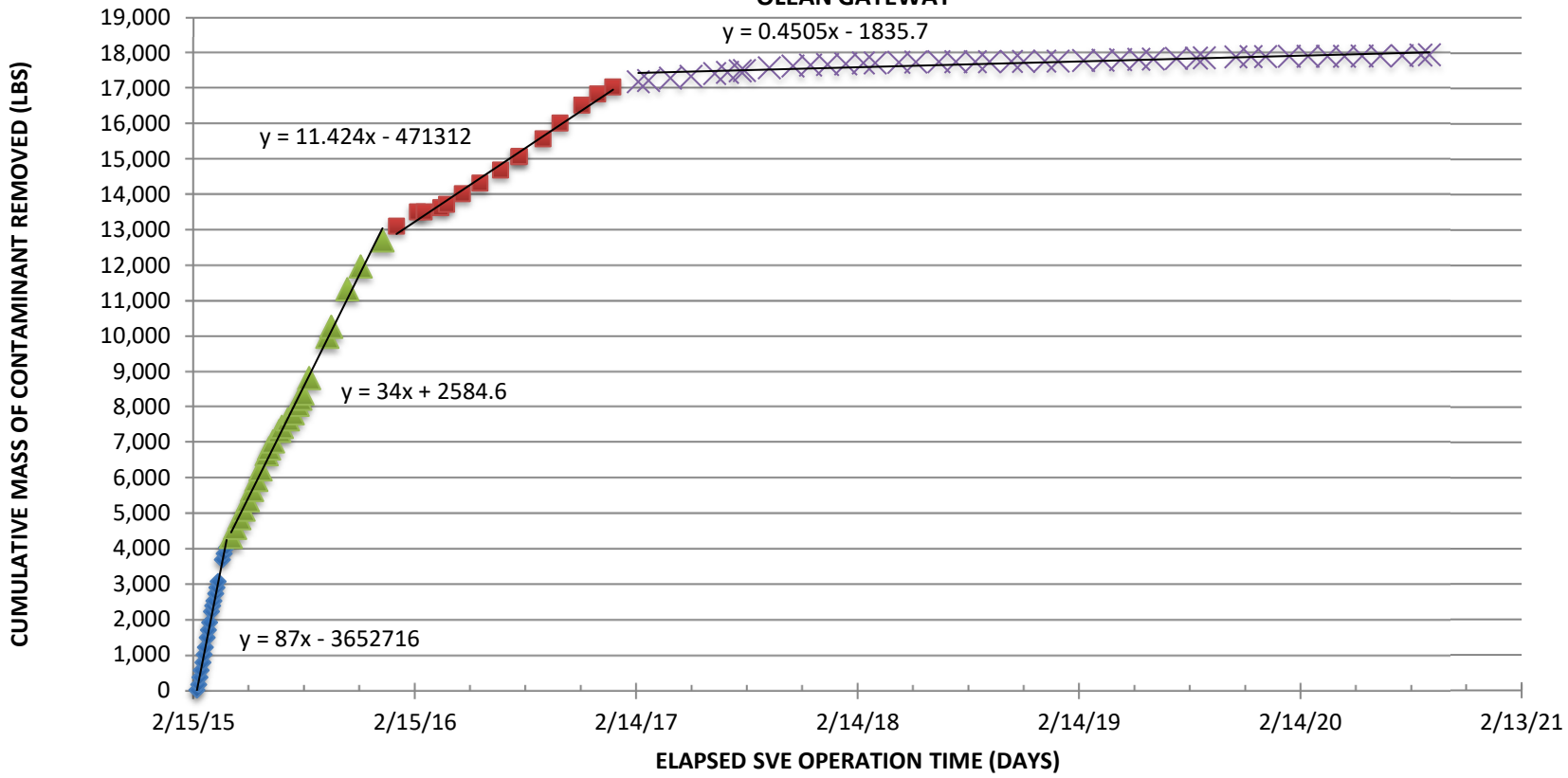
Creator: Wallace, Cameron

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

APPENDIX D

SVE SYSTEM MASS REMOVAL TRACKING TABLES AND CHARTS

CHART 3-SVE-1
CUMULATIVE MASS REMOVAL VERSUS TIME
SVE SYSTEM
OLEAN GATEWAY



Mass removal is based on a correlation of PID readings and vapor sample analysis for gasoline and diesel range organics (GRO and DRO) measured in influent air.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Table D-1
Summary of VOC Mass Removal: 3-SVE-1 System

BCP Parcel 3
Olean, New York

Date	Elapsed Time (days)	SVE Operation Time (days)	Influent (Untreated) PID Reading (ppm)	Effluent PID Reading Biofilter (ppm)	Corrected Influent Concentration[1] (mg/m^3)	Vacuum (in of H_2O)	Air Velocity (ft/min)	Pipe Diameter (in)	Air Flow Rate		Volume of Air Processed Since Previous Reading (CF)	Rate of VOC Removal (lb/day)	VOCs Removed Since Last Monitoring Period (lb)	Total VOC Removal to Date (lb)	Notes
									(ACFM)	(SCFM)					
1/5/15	0	0			0	29.0	3000	6	589	514	0	0.0			Set-up/start-up 1/5-3/6/15
2/20/15	0	0.0	700	100	2022	28.0	3600	6	707	616	0	0.0	0.0	0	
2/23/15	3	3.0	660	90	1907	28.0	3600	6	707	616	2634847	105.7	156.9	157	
2/25/15	5	5.0	615	80	1777	28.0	3600	6	707	616	1775055	98.5	204.1	361	
2/27/15	7	7.2	480	75	1387	28.0	3600	6	707	616	2015427	76.9	199.1	560	
3/2/15	10	10.0	550	80	1589	28.0	3600	6	707	616	2422210	88.1	225.0	785	
3/4/15	12	12.1	715	70	2066	28.0	3600	6	707	616	1913731	114.5	218.4	1,003	
3/6/15	14	14.2	570	60	1647	28.0	3600	6	707	616	1821280	91.3	211.1	1,215	
3/9/15	17	17.0	645	150	1864	28.0	3600	6	707	616	2486926	103.3	272.6	1,487	
3/11/15	19	19.0	640	105	1849	28.0	3800	6	746	651	1883428	108.2	212.5	1,700	
3/13/15	21	21.0	635	130	1835	30.0	3800	6	746	651	1873669	107.3	215.5	1,915	
3/16/15	24	24.0	590	120	1705	32.0	3800	6	746	651	2781228	99.7	307.3	2,222	
3/18/15	26	25.9	400	85	1156	34.0	3800	6	746	651	1863910	67.6	166.4	2,389	
3/20/15	28	27.9	400	75	1156	32.0	3800	6	746	651	1873669	67.6	135.2	2,524	
3/23/15	31	31.0	400	90	1156	32.0	3800	6	746	651	2830021	67.6	204.2	2,728	
3/25/15	33	33.3	445	50	1286	32.0	4000	6	785	685	2300997	79.2	171.2	2,900	
3/27/15	35	35.2	600	60	1734	32.0	4000	6	785	685	1849016	106.7	174.3	3,074	
4/3/15	42	42.3	370	100	1069	27.0	4000	6	785	685	7005714	65.8	613.0	3,687	
4/6/15	45	45.3	275	30	795	27.0	4000	6	785	685	2937880	48.9	170.9	3,858	
4/10/15	49	49.0	240	40	693	28.0	4000	6	785	685	3656942	42.7	169.9	4,028	
4/17/15	56	56.3	223	55	644	27.0	4000	6	785	685	7211161	39.7	301.2	4,329	
4/24/15	63	63.0	215	30	621	27.0	4000	6	785	685	6584550	38.2	260.1	4,589	
5/1/15	70	70.3	205	20	592	26.0	4000	6	785	685	7221433	36.5	273.6	4,862	
5/8/15	77	77.2	185	40	535	26.0	4000	6	785	685	6861902	32.9	241.4	5,104	
5/15/15	84	84.3	235	60	679	26.0	4000	6	785	685	6933808	41.8	262.7	5,367	
5/22/15	91	91.3	225	30	650	26.0	4000	6	785	685	6933808	40.0	287.7	5,654	
5/29/15	98	98.3	236	20	682	26.0	4000	6	785	685	6913264	42.0	287.5	5,942	
6/5/15	105	105.3	250	40	722	27.0	4000	6	785	685	6913264	44.5	303.1	6,245	
6/15/15	115	115.2	260	20	751	32.0	3600	6	707	616	8801314	41.6	426.9	6,672	
6/19/15	119	119.3	225	20	650	30.0	3600	6	707	616	3624070	36.0	158.5	6,830	
6/26/15	126	125.6	165	40	477	30.0	3600	6	707	616	5584027	26.4	196.4	7,027	
7/6/15	136	136.3	190	20	549	32.0	3600	6	707	616	9485450	30.4	303.7	7,330	
7/10/15	140	140.2	150	10	433	32.0	3600	6	707	616	3494639	24.0	107.2	7,438	
7/20/15	150	150.3	120	10	347	28.0	3600	6	707	616	8912255	19.2	217.0	7,655	
7/28/15	158	158.1	155	10	448	28.0	3600	6	707	616	6933808	24.8	172.0	7,827	
8/5/15	166	166.1	225	20	650	28.0	3600	6	707	616	7087893	36.0	242.9	8,070	
8/10/15	171	170.6	225	20	650	28.0	3600	6	707	616	4024690	36.0	163.4	8,233	System shut-down due to high water
8/13/15	174	174.3	290	20	838	32.0	3600	6	707	616	3235777	46.4	150.3	8,383	
8/24/15	185	185.1	215	20	621	30.0	3600	6	707	616	9577900	34.4	436.3	8,820	
9/23/15	215	215.3	265	20	766	30.0	3600	6	707	616	26875440	42.4	1163.6	9,983	
9/30/15	222	221.9	265	20	766	30.0	3600	6	707	616	5870624	42.4	280.7	10,264	System shut-down due to high water
10/26/15	248	248.3	240	10	693	31.0	3600	6	707	616	23390046	38.4	1065.4	11,329	
11/17/15	270	270.2	160	10	462	33.0	2800	6	550	479	15143437	19.9	640.0	11,969	
12/23/15	306	306.2	170	10	491	33.0	2800	6	550	479	24836387	21.2	739.3	12,709	
1/15/16	329	329.2	100	10	289	33.0	3100	6	609	531	17562052	13.8	401.6	13,110	
2/19/16	364	364.0	70	10	202	36.0	3100	6	609	531	26573948	9.7	407.5	13,518	
3/1/16	375	374.6	10	ND	29	26.0	3100	6	609	531	#REF!	0.0	1.1	13,519	
3/28/16	402	402.1	59	8	170	38.0	3100	6	609	531	21033065	8.1	111.9	13,631	
4/7/16	412	412.1	50	5	144	38.0	5150	6	1011	882	12617220	11.5	97.3	13,728	
5/3/16	438	438.0	50	5	144	40.0	5150	6	1011	882	32958188	11.5	297.3	14,025	
6/1/16	467	467.1	40	10	116	38.0	5150	6	1011	882	36952318	9.2	300.0	14,325	
7/5/16	501	501.0	55	5	159	40.0	5150	6	1011	882	43009642	12.6	368.6	14,694	
8/4/16	531	531.1	56	3	162	38.0	5150	6	1011	882	38248427	12.8	383.0	15,077	Turn off wells 3-SVE-1, -2, -3, -4
8/5/16	532	532.1	63	4	182	40.0	3100	6	609	531	716494	8.7	10.1	15,087	
9/13/16	571	570.9	120	10	347	54.0	3100	6	609	531	29710598	16.5	490.4	15,577	
10/11/16	599	599.2	110	15	318	55.0	3100	6	609	531	21590338	15.2	447.9	16,025	
11/16/16	635	635.2	95	10	274	60.0	3100	6	609	531	27481507	13.1	508.2	16,533	
12/12/16	661	661.1	80	10	231	56.0	3100	6	609	531	19838909	11.0	313.2	16,846	
1/6/17	686	686.2	35	5	101	58.0	3100	6	609	531	19170182	4.8	198.9	17,045	
2/17/17	728	727.9	15	5	43	58.0	3100	6	609	531	31907844	2.1	143.9	17,189	
3/6/17	745	744.9	20	5	58	58.0	2400	6	471	411	10058644	2.1	35.7	17,225	
4/11/17	781	781.0	15	2	43	58.0	2400	6	471	411	21337639	1.6	67.4	17,292	
5/15/17	815	815.0	15	2	43	64.0	2400	6	471	411	20104962	1.6	54.4	17,347	
6/23/17	854	854.2	19	3	55	66.0	2400	6	471	411	23186655	2.0	71.1	17,418	
7/14/17	875	874.9	18	3	52	82.0	2400	6	471	411	12289790	1.9	41.0	17,459	7/31: all wells on except SVE-3, -4, -5, -6, -11, -14, -17
8/4/17	896	896.1	15	1.3	43	56.0	2400	6	471	411	12505508	1.6	37.2	17,496	
8/11/17	903	903.1	16	3	46	55.0	2400	6	471	411	4139740	1.7	11.6	17,508	
9/21/17	944	944.3	18	2	52	63.0	2400	6	471	411	24415223	1.9	74.9	17,583	
10/30/17	983	983.1	8.7	3.4	25	82.0	2400	6	471	411	22952446	0.9	55.3	17,638	
11/28/17	1012	1012.1	6.5	4.7	19	60.0	2400	6	471	411	17115720	0.7	23.5	17,661	

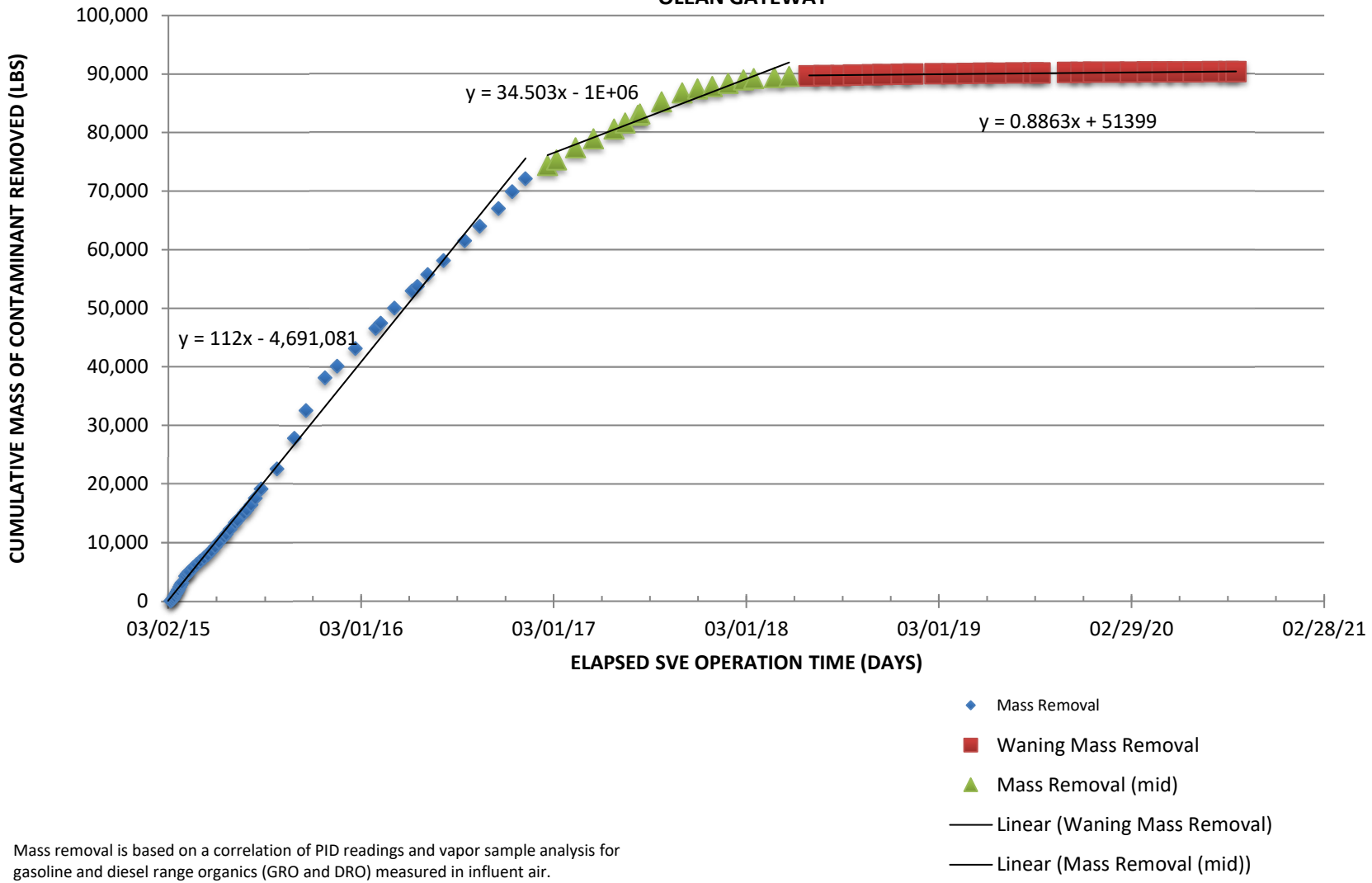
BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Table D-1
Summary of VOC Mass Removal: 3-SVE-1 System

BCP Parcel 3
Olean, New York

Date	Elapsed Time (days)	SVE Operation Time (days)	Influent (Untreated) PID Reading (ppm)	Effluent PID Reading Biofilter (ppm)	Corrected Influent Concentration[1] (mg/m^3)	Vacuum (in of H_2O)	Air Velocity (ft/min)	Pipe Diameter (in)	Air Flow Rate		Volume of Air Processed Since Previous Reading (CF)	Rate of VOC Removal (lb/day)	VOCs Removed Since Last Monitoring Period (lb)	Total VOC Removal to Date (lb)	Notes
									(ACFM)	(SCFM)					
12/26/17	1040	1040.1	2.9	3	8	66.0	2400	6	471	411	16573342	0.3	14.1	17,675	
1/25/18	1070	1070.1	10.8	1.8	31	52.0	2400	6	471	411	17781366	1.2	22.0	17,697	
2/23/18	1099	1099.2	2.2	NA	6	84.0	2400	6	471	411	17191735	0.2	20.2	17,717	
3/15/18	1119	1118.6	5.6	2.1	16	78.0	2400	6	471	411	11498822	0.6	8.1	17,726	
4/23/18	1158	1157.6	1.9	0.2	5	74.0	2400	6	471	411	23075714	0.2	15.6	17,741	
5/21/18	1186	1185.6	3.1	0.1	9	74.0	2400	6	471	411	16567179	0.3	7.5	17,749	
6/28/18	1224	1223.6	0.2	0	1	78.0	2400	6	471	411	22484029	0.0	6.7	17,755	
7/26/18	1252	1251.6	0.2	0	1	78.0	2400	6	471	411	16567179	0.0	0.6	17,756	
8/27/18	1284	1283.6	0.7	0.1	2	78.0	2400	6	471	411	18933919	0.1	1.5	17,757	
9/20/18	1308	1307.6	0.7	0.1	2	78.0	2400	6	471	411	14200439	0.1	1.8	17,759	
10/26/18	1344	1343.6	1	0.4	3	76.0	2400	6	471	411	21300659	0.1	3.3	17,763	
11/15/18	1364	1363.6	0.8	0.2	2	78.0	2400	6	471	411	11833699	0.1	1.9	17,764	
12/20/18	1399	1398.6	2.4	0.9	7	76.0	2400	6	471	411	20708974	0.3	6.0	17,770	
1/11/19	1421	1420.6	1.4	0.1	4	44.0	2400	6	471	411	13017069	0.1	4.5	17,775	
2/22/19	1463	1462.6	4.1	0.3	12	38.0	2400	6	471	411	24850769	0.4	12.3	17,787	
3/26/19	1495	1494.6	3.7	0.2	11	36.0	2400	6	471	411	18933919	0.4	13.3	17,801	Raked biofilter March 1, 15, 22
4/24/19	1524	1523.6	4.4	0.4	13	36.0	2400	6	471	411	17158864	0.5	12.5	17,813	Raked biofilter April 5, 19
5/24/19	1554	1553.6	3.2	0.3	9	32.0	2400	6	471	411	17750549	0.3	12.2	17,825	Raked biofilter May 13, 17, 31
6/17/19	1578	1577.6	3.4	0.2	10	33.0	2400	6	471	411	14200439	0.4	8.5	17,834	Raked biofilter June 14, 28
7/25/19	1616	1615.6	2.7	0.1	8	53.0	2400	6	471	411	22484029	0.3	12.4	17,846	Raked biofilter July 12, 26
8/27/19	1649	1648.6	6.1	0.1	18	47.0	2400	6	471	411	19525604	0.7	15.5	17,862	Raked biofilter August 9, 23
9/9/19	1662	1661.6	7	0.1	20	49.0	2400	6	471	411	7691905	0.7	9.1	17,871	Raked biofilter September 9
10/31/19	1714	1713.6	1.3	0.3	4	61.0	2400	6	471	411	30767618	0.1	23.0	17,894	No odors observed
11/25/19	1739	1738.6	2.4	0	7	53.9	2400	6	471	411	14792124	0.3	4.9	17,899	No odors observed
12/19/19	1763	1762.6	1.3	0	4	60.5	2400	6	471	411	14200439	0.1	4.7	17,903	No odors observed
1/27/20	1802	1801.6	1	0	3	79.0	2400	6	471	411	23075714	0.1	4.8	17,908	No odors observed
2/27/20	1833	1832.6	0.3	0	1	70.0	2400	6	471	411	18342234	0.0	2.2	17,910	No odors observed
3/30/20	1865	1864.6	0.6	0	2	64.0	2400	6	471	411	18933919	0.1	1.5	17,912	No odors observed
4/27/20	1893	1892.6	0.1	0	0	59.0	2400	6	471	411	16567179	0.0	1.1	17,913	No odors observed
5/26/20	1922	1921.6	0.7	0	3	48.0	2400	6	471	411	17158864	0.1	1.8	17,915	No odors observed
6/25/20	1952	1951.6	1.1	0	5	55.0	2400	6	471	411	17750549	0.2	4.2	17,919	No odors observed
7/31/20	1988	1987.6	2	0	8	52.0	2400	6	471	411	21300659	0.3	8.7	17,928	No odors observed
8/31/20	2019	2018.6	3.9	0	16	48.4	2400	6	471	411	18342234	0.6	14.2	17,942	No odors observed
9/14/20	2033	2032.6	3	0	13	47.6	2400	6	471	411	8283590	0.5	7.5	17,949	No odors observed

CHART 3-SVE-2
CUMULATIVE MASS REMOVAL VERSUS TIME
SVE SYSTEM
OLEAN GATEWAY



Mass removal is based on a correlation of PID readings and vapor sample analysis for gasoline and diesel range organics (GRO and DRO) measured in influent air.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Table D-2
Summary of VOC Mass Removal: 3-SVE-2 System

BCP Parcel 3
Olean, New York

Date	Elapsed Time (days)	SVE Operation Time (days)	Influent (Untreated) PID Reading (ppm)	Effluent PID Reading Biofilter (ppm)	Corrected Influent Concentration[1] (mg/m^3)	Vacuum (in of H_2O)	Air Velocity (ft/min)	Pipe Diameter (in)	Air Flow Rate		Volume of Air Processed Since Previous Reading	Rate of VOC Removal (lb/day)	VOCs Removed Since Last Monitoring Period (lb)	Total VOC Removal to Date (lb)	Notes
									(ACFM)	(SCFM)	(CF)				
01/05/15	0	0	0	0	0	28.0	3000	6	589	515	0	0.0			Set-up/start-up between 1/5-3/6/15
03/06/15	0	0	695	75	3157	28.0	3000	6	589	515	0	0.0	0.0	0	
03/09/15	3	3	735	120	3339	30.0	3000	6	589	515	2108943	154.6	219.8	220	
03/11/15	5	5	765	140	3475	30.0	3000	6	589	515	1460038	160.9	310.6	530	
03/13/15	7	7	750	140	3407	32.0	3000	6	589	515	1483213	157.8	318.7	849	
03/16/15	10	10	680	160	3089	34.0	3000	6	589	515	2232544	143.0	452.8	1,302	
03/18/15	12	12	580	100	2635	35.0	4000	6	785	687	1967317	162.7	304.1	1,606	
03/20/15	14	14	575	100	2612	34.0	4000	6	785	687	1977617	161.3	324.0	1,930	
03/23/15	17	17	540	90	2453	35.0	4000	6	785	687	2987026	151.5	472.4	2,402	
03/25/15	19	19	560	70	2544	35.0	4000	6	785	687	2303787	157.1	359.4	2,762	
03/27/15	21	21	665	75	3021	35.0	4000	6	785	687	1857449	186.5	322.7	3,084	
04/03/15	28	28	500	105	2271	32.0	4000	6	785	687	7024661	140.2	1160.7	4,245	
04/06/15	31	31	365	30	1658	32.0	4000	6	785	687	2945825	102.4	361.4	4,607	
04/09/15	34	34	345	45	1567	33.0	4000	6	785	687	2657423	96.8	267.6	4,874	
04/10/15	35	35	370	100	1681	33.0	4000	6	785	687	1009409	103.8	102.4	4,977	
04/17/15	42	42	300	35	1363	31.0	4000	6	785	687	7230662	84.1	687.1	5,664	
04/24/15	49	49	300	40	1363	31.0	4000	6	785	687	6602357	84.1	561.8	6,225	
05/01/15	56	56	285	40	1295	30.0	4000	6	785	687	7240962	79.9	600.8	6,826	
05/08/15	63	63	250	55	1136	30.0	4000	6	785	687	6890759	70.1	522.9	7,349	
05/15/15	70	70	330	60	1499	30.0	4000	6	785	687	6942260	92.6	571.1	7,920	
05/22/15	77	77	325	40	1476	30.0	4000	6	785	687	6952560	91.2	645.9	8,566	
05/29/15	84	84	390	20	1772	32.0	4000	6	785	687	6877026	109.4	697.4	9,263	
06/05/15	91	91	360	50	1635	32.0	4000	6	785	687	6976593	101.0	742.1	10,005	
06/15/15	101	101	330	40	1499	36.0	4300	6	844	738	10352877	99.5	976.3	10,982	
06/19/15	105	105	400	45	1817	36.0	4300	6	844	738	4473329	120.6	463.1	11,445	
06/26/15	112	112	370	40	1681	34.0	4300	6	844	738	7396494	111.6	807.7	12,253	
07/06/15	122	122	370	45	1681	36.0	4300	6	844	738	10718272	111.6	1124.9	13,377	
07/10/15	126	126	295	40	1340	36.0	4300	6	844	738	4185441	88.9	394.7	13,772	
07/23/15	139	139	350	40	1590	30.0	4300	6	844	738	13552857	105.5	1239.8	15,012	
07/28/15	144	144	370	50	1681	34.0	4300	6	844	738	5425572	111.6	554.0	15,566	
08/05/15	152	152	360	40	1635	34.0	4300	6	844	738	8488990	108.5	878.9	16,445	
08/13/15	160	160	560	30	2544	34.0	4300	6	844	738	8695678	168.8	1134.6	17,580	
08/24/15	171	171	400	50	1817	32.0	4300	6	844	738	11471209	120.6	1561.8	19,141	
09/23/15	201	201	350	50	1590	32.0	4300	6	844	738	32188035	105.5	3423.8	22,565	
10/26/15	234	234	700	50	3180	32.0	4300	6	844	738	35044764	211.1	5218.8	27,784	
11/17/15	256	256	740	40	3362	33.0	4300	6	844	738	23318886	223.1	4762.4	32,546	
12/23/15	292	292	390	50	1772	34.0	3200	6	628	549	28461205	87.5	5588.1	38,135	
01/15/16	315	315	370	36	1681	34.0	3200	6	628	549	18177597	83.0	1959.3	40,094	
02/19/16	350	350	410	25	1863	34.0	3200	6	628	549	27538317	92.0	3046.4	43,140	
03/28/16	388	388	390	20	1772	35.0	3200	6	628	549	30158660	87.5	3421.8	46,562	
04/07/16	398	398	410	20	1863	34.0	3200	6	628	549	7795107	92.0	884.4	47,447	
05/03/16	424	424	360	25	1635	34.0	4250	6	834	730	27359611	107.3	2594.8	50,041	
06/06/16	457	457	210	10	954	32.0	4500	6	884	773	37335247	66.3	2912.3	52,954	
06/15/16	467	467	305	20	1386	40.0	4500	6	884	773	10776468	96.2	787.1	53,741	
07/05/16	487	487	335	35	1522	40.0	4500	6	884	773	21946914	105.7	1992.1	55,733	
08/04/16	517	517	250	40	1136	40.0	3200	6	628	549	23681964	56.1	2422.0	58,155	
09/13/16	557	557	500	18	2271	40.0	3200	6	628	549	31641873	112.2	3365.7	61,521	
10/11/16	585	585	290	45	1317	41.0	3200	6	628	549	22347073	65.1	2503.8	64,024	
11/16/16	621	621	460	50	2090	42.0	3200	6	628	549	28411765	103.2	3022.2	67,047	
12/12/16	647	647	519	40	2358	44.0	3200	6	628	549	20550737	116.5	2853.4	69,900	
01/06/17	672	672	270	20	1227	44.0	3200	6	628	549	19825611	60.6	2218.5	72,118	
02/17/17	714	714	245	15	1113	46.0	2800	6	550	481	28941189	48.1	2272.2	74,391	
03/06/17	731	731	320	20	1454	46.0	2800	6	550	481	11766821	62.8	942.9	75,334	
04/11/17	767	767	265	20	1204	50.0	2800	6	550	481	24946815	52.0	2069.8	77,403	
05/15/17	801	801	200	8	909	50.0	2800	6	550	481	23519223	39.3	1551.1	78,954	
06/23/17	840	840	230	20	1045	52.0	2800	6	550	481	27138674	45.2	1655.1	80,609	
07/14/17	861	861	285	15	1295	52.0	2800	6	550	481	14362444	56.0	1049.0	81,659	
08/07/17	885	885	263	23	1195	52.0	2800	6	550	481	16676874	51.6	1296.1	82,955	
08/11/17	889	889	268	18	1217	52.0	2800	6	550	481	2768664	52.6	208.5	83,163	
09/21/17	930	930	242	19	1099	50.0	2800	6	550	481	28590300	47.5	2068.0	85,231	
10/30/17	969	969	168	12.8	763	60.0	2800	6	550	481	26797398	33.0	1558.2	86,789	
11/28/17	998	998	68.7	39.4	312	58.0	2800	6	550	481	20087233	13.5	674.3	87,464	
12/26/17	1026	1026	72	68.7	327	58.0	2800	6	550	481	19395067	14.1	387.0	87,851	
01/25/18	1056	1056	111.8	38.4	508	58.0	2800	6	550	481	20786609	22.0	541.9	88,393	
02/23/18	1085	1085	101.7	NA	462	60.0	2800	6	550	481	20065603	20.0	607.6	89,000	
03/15/18	1104	1104	13.8	5.2	63	58.0	2800	6	550	481	13475606	2.7	220.7	89,221	
04/23/18	1143	1143	34.2	2.3	155	64.0	2800	6	550	481	26994473	6.7	183.8	89,405	
05/21/18	1171	1171	22.4	2.7	102	62.0	2800	6	550	481	19380647	4.4	155.6	89,560	
06/28/18	1209	1209	7.4	3	34	64.0	2800	6	550	481	26302307	1.5	111.2	89,671	
07/26/18	1237	1237	4.7	2.1	21	48.0	2800	3	137	120	4845162	0.2	23.6	89,695	

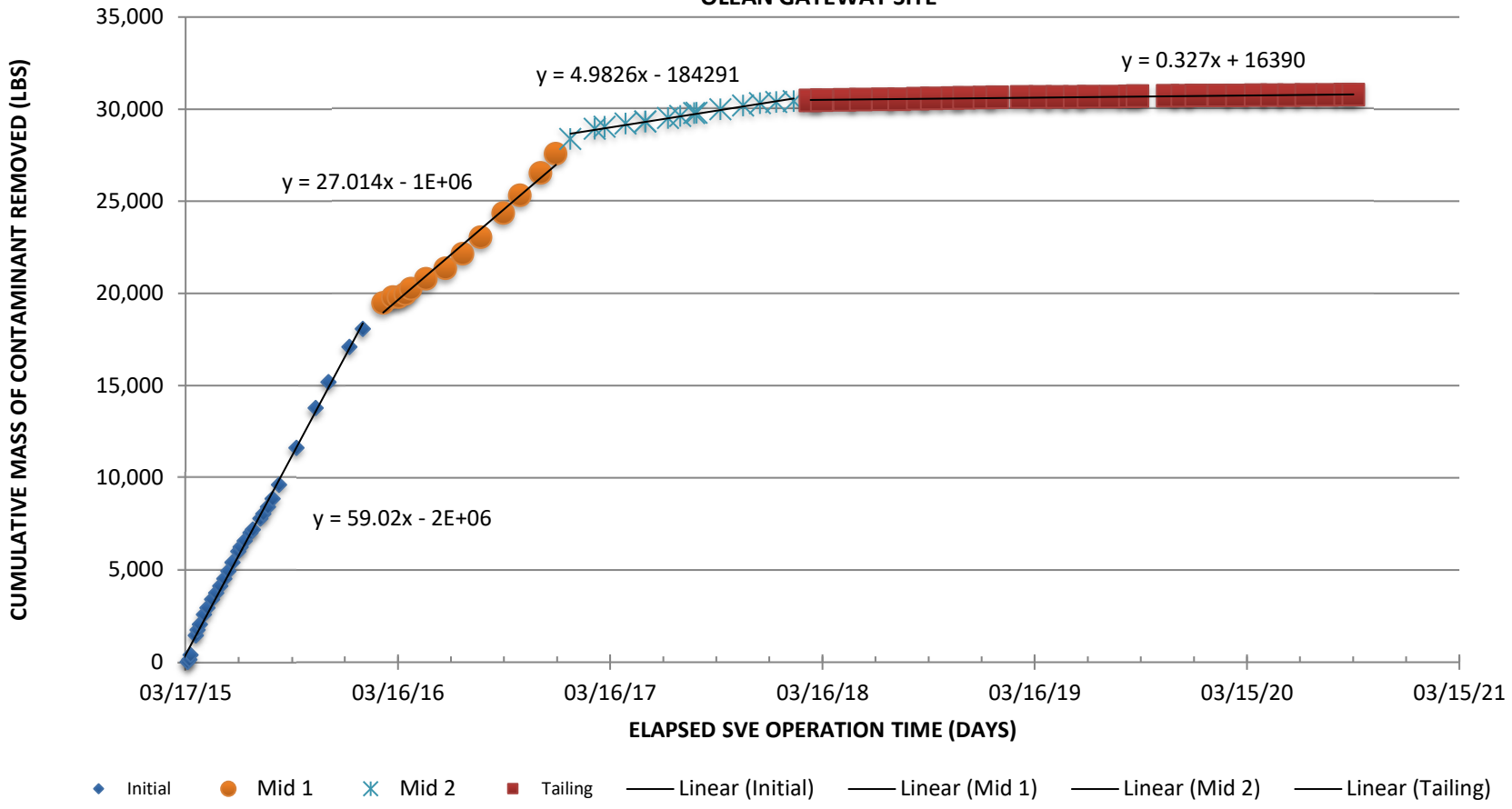
BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Table D-2
Summary of VOC Mass Removal: 3-SVE-2 System

BCP Parcel 3
Olean, New York

Date	Elapsed Time (days)	SVE Operation Time (days)	Influent (Untreated) PID Reading (ppm)	Effluent PID Reading Biofilter (ppm)	Corrected Influent Concentration[1] (mg/m^3)	Vacuum (in of H_2O)	Air Velocity (ft/min)	Pipe Diameter (in)	Air Flow Rate		Volume of Air Processed Since Previous Reading	Rate of VOC Removal (lb/day)	VOCs Removed Since Last Monitoring Period (lb)	Total VOC Removal to Date (lb)	Notes
									(ACFM)	(SCFM)	(CF)				
08/27/18	1269	1269	40	11.2	182	48.0	2800	3	137	120	5537328	2.0	35.1	89,730	
09/20/18	1293	1293	45.3	16.7	206	54.0	2800	3	137	120	4152996	2.2	50.2	89,780	
10/26/18	1329	1329	34.8	3.4	158	60.0	2800	3	137	120	6229494	1.7	70.8	89,851	
11/15/18	1349	1349	16.8	2.8	76	58.0	2800	3	137	120	3460830	0.8	25.3	89,876	
12/20/18	1384	1384	38.4	4.7	174	60.0	2800	3	137	120	6056452	1.9	47.4	89,924	
01/11/19	1406	1406	30	2.7	136	54.0	2800	3	137	120	3806913	1.5	36.9	89,961	
02/22/19	1448	1448	18.2	3.6	83	48.0	2800	3	137	120	7267743	0.9	49.7	90,010	
03/26/19	1480	1480	24.3	3	110	46.0	2800	3	137	120	5537328	1.2	33.4	90,044	Raked biofilter March 1, 15, 22
04/24/19	1509	1509	13.9	1.1	63	38.0	2800	3	137	120	5018203	0.7	27.2	90,071	Raked biofilter April 5, 19
05/24/19	1539	1539	17.6	2	80	34.0	2800	3	137	120	5191245	0.9	23.2	90,094	Raked biofilter May 13, 17, 31
06/17/19	1563	1563	15.4	1.3	70	55.0	2800	3	137	120	4152996	0.8	19.4	90,114	Raked biofilter June 14, 28
07/25/19	1601	1601	15.9	1.2	72	53.0	2800	3	137	120	6575577	0.8	29.2	90,143	Raked biofilter July 12, 26
08/27/19	1634	1634	16.4	0.3	75	51.0	2800	3	137	120	5710369	0.8	26.2	90,169	Raked biofilter August 9, 23
09/09/19	1647	1647	23.6	0.3	107	50.0	2800	3	137	120	2249539	1.2	12.8	90,182	Raked biofilter September 9
10/31/19	1699	1699	23.2	0.2	105	68.0	2800	3	137	120	8998158	1.1	59.7	90,242	No odors observed
11/25/19	1724	1724	17.8	0	81	48.0	2800	3	137	120	4326037	0.9	25.2	90,267	No odors observed
12/19/19	1748	1748	15.2	0	69	63.0	2800	3	137	120	4152996	0.7	19.4	90,286	No odors observed
01/27/20	1787	1787	6.1	0	28	52.0	2800	3	137	120	6748618	0.3	20.4	90,306	No odors observed
02/27/20	1818	1818	6.5	0	30	62.0	2800	3	137	120	5364286	0.3	9.6	90,316	No odors observed
03/30/20	1850	1850	3.6	0	16	58.0	2800	3	137	120	5537328	0.2	7.9	90,324	No odors observed
04/27/20	1878	1878	3.9	0	10	50.0	2800	3	137	120	4845162	0.1	4.1	90,328	No odors observed
05/26/20	1907	1907	6.1	0	16	40.0	2800	3	137	120	5018203	0.2	4.2	90,332	No odors observed
06/25/20	1937	1937	25.6	0	69	43.4	2800	3	137	120	5191245	0.7	13.8	90,346	No odors observed
07/31/20	1973	1973	25.7	0	69	39.1	2800	3	137	120	6229494	0.7	26.8	90,373	No odors observed
08/31/20	2004	2004	25.5	1.5	69	43.0	2800	3	137	120	5364286	0.7	23.1	90,396	No odors observed
09/14/20	2018	2018	16.6	0.9	45	38.2	2800	3	137	120	2422581	0.5	8.6	90,405	No odors observed

CHART 3-SVE-3
CUMULATIVE MASS REMOVAL VERSUS TIME
SVE SYSTEM
OLEAN GATEWAY SITE



Mass removal is based on a correlation of PID readings and vapor sample analysis for gasoline and diesel range organics (GRO and DRO) measured in influent air.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Table D-3
Summary of VOC Mass Removal: 3-SVE-3 System

BCP Parcel 3
Olean, New York

Date	Elapsed Time (days)	SVE Operation Time (days)	Influent (Untreated) PID Reading (ppm)	Effluent PID Reading Biofilter (ppm)	Corrected Influent Concentration[1] (mg/m^3)	Vacuum (in of H_2O)	Air Velocity (ft/min)	Pipe Diameter (in)	Air Flow Rate		Volume of Air Processed Since Previous Reading (CF)	Rate of VOC Removal (lb/day)	VOCs Removed Since Last Monitoring Period (lb)	Total VOC Removal to Date (lb)	Notes
									(ACFM)	(SCFM)					
02/04/15	0	0	600	160	1800	20.0	3000	6	589	526	0	0.0			System set-up/start-up from 2/4-3/20
03/20/15	0	0.0	470	110	1410	24.0	4000	6	785	701	0	0.0	0.0	0	
03/23/15	3	2.7	500	80	1500	24.0	4000	6	785	701	2714761	94.6	127.1	127	
03/25/15	5	5.0	635	80	1905	24.0	4000	6	785	701	2357002	120.1	250.5	378	
04/03/15	14	13.9	630	100	1890	24.0	4000	6	785	701	9007116	119.2	1066.9	1,444	
04/06/15	17	17.0	400	30	1200	25.0	4000	6	785	701	3072521	75.7	296.3	1,741	
04/10/15	21	20.7	450	60	1350	26.0	4000	6	785	701	3745950	85.1	298.1	2,039	
04/17/15	28	28.0	340	60	1020	26.0	4000	6	785	701	7386677	64.3	546.4	2,585	
04/23/15	34	33.7	310	50	930	26.0	4000	6	785	701	5734671	58.6	349.0	2,934	
05/01/15	42	42.0	285	20	855	26.0	4000	6	785	701	8407343	53.9	468.4	3,403	
05/08/15	49	49.0	245	70	735	26.0	4000	6	785	701	7049962	46.3	349.9	3,753	
05/15/15	56	56.0	310	30	930	26.0	4000	6	785	701	7081529	58.6	368.0	4,121	
05/22/15	63	63.0	285	20	855	26.0	4000	6	785	701	7102574	53.9	395.7	4,516	
05/29/15	70	69.9	350	30	1050	26.0	4000	6	785	701	6979813	66.2	415.0	4,931	
06/05/15	77	77.0	350	40	1050	26.0	4000	6	785	701	7162200	66.2	469.4	5,401	
06/15/15	87	86.9	320	20	960	30.0	3800	6	746	666	9436427	57.5	608.3	6,009	
06/19/15	91	91.0	300	30	900	32.0	3800	6	746	666	3958501	53.9	229.8	6,239	
06/26/15	98	98.0	220	30	660	32.0	3800	6	746	666	6697464	39.5	326.1	6,565	
07/06/15	108	108.0	275	30	825	32.0	3800	6	746	666	9656343	49.4	447.6	7,013	
07/10/15	112	112.0	220	30	660	34.0	3800	6	746	666	3778569	39.5	175.1	7,188	
07/23/15	125	124.7	300	25	900	30.0	3800	6	746	666	12235367	53.9	595.8	7,784	
07/28/15	130	129.8	275	3	825	30.0	3800	6	746	666	4898145	49.4	263.7	8,047	
08/05/15	138	138.0	220	30	660	32.0	3800	6	746	666	7837032	39.5	363.2	8,410	
08/13/15	146	146.0	400	40	1200	32.0	3800	6	746	666	7677093	71.9	445.7	8,856	
08/24/15	157	156.8	380	35	1140	32.0	3800	6	746	666	10356078	68.3	756.4	9,613	
09/23/15	187	187.1	360	30	1080	34.0	3800	6	746	666	29078989	64.7	2014.9	11,627	
10/26/15	220	220.0	370	45	1110	38.0	3800	6	746	666	31618027	66.5	2161.2	13,789	
11/17/15	242	242.0	340	45	1020	31.0	3800	6	746	666	21052028	61.1	1399.6	15,188	
12/23/15	278	277.9	396	20	1188	32.0	2400	6	471	421	21806479	44.9	1907.8	17,096	
01/15/16	301	300.9	280	20	840	32.0	3100	6	609	544	17989504	41.1	988.1	18,084	
02/19/16	336	335.8	265	10	795	32.0	3100	6	609	544	27269674	38.9	1391.6	19,476	
03/07/16	352	352.3			0		3100	6	609	544	12949833	0.0	321.3	19,797	System down; Replace blower
03/17/16	362	352.3			0		3100	6	609	544	0	0.0	321.3	19,797	
03/28/16	374	363.9	200	15	600	38.0	3100	6	609	544	9051836	29.3	169.5	19,967	
04/07/16	384	373.7	210	20	630	38.0	3100	6	609	544	7714447	30.8	296.2	20,263	
05/03/16	410	399.8	65	10	195	38.0	3200	6	628	561	21044663	9.8	529.0	20,792	
06/06/16	443	433.3	160	5	480	40.0	3200	6	628	561	27105525	24.2	571.1	21,363	
07/05/16	473	462.7	190	35	570	38.0	3200	6	628	561	23788887	28.8	779.6	22,142	
08/05/16	504	493.8	195	30	585	36.0	3200	6	628	561	25068402	29.5	903.7	23,046	
09/13/16	543	532.7	250	15	750	40.0	3200	6	628	561	31449144	37.8	1310.4	24,357	
10/11/16	571	560.9	200	20	600	40.0	3200	6	628	561	22829250	30.3	961.9	25,319	
11/16/16	607	596.9	250	15	750	42.0	3200	6	628	561	29058470	37.8	1224.4	26,543	
12/12/16	633	622.8	280	10	840	43.0	3200	6	628	561	20943648	42.4	1039.4	27,582	
01/06/17	658	647.9	140	15	420	43.0	3200	6	628	561	20303891	21.2	798.5	28,381	
02/17/17	700	689.7	60	10	180	42.0	2000	6	393	351	21107797	5.7	561.3	28,942	
03/06/17	717	706.7	70	10	210	44.0	2000	6	393	351	8586222	6.6	104.5	29,047	
04/11/17	753	742.7	36	5	108	46.0	2000	6	393	351	18193111	3.4	180.6	29,227	
05/15/17	787	776.7	30	3	90	36.0	2000	6	393	351	17161922	2.8	106.1	29,333	
05/15/17	787	776.7	50	3	150	50.0	2000	6	393	351	5261	4.7	0.0	29,333	
06/23/17	826	815.9	49	2	147	50.0	2000	6	393	351	19787244	4.6	183.4	29,517	
07/14/17	847	836.7	59	4	177	50.0	2000	6	393	351	10490764	5.6	106.1	29,623	
08/07/17	871	860.7	80	8.8	240	42.0	2000	6	393	351	12142770	7.6	158.0	29,781	
08/11/17	875	864.7	44	7	132	43.0	2000	6	393	351	2025549	4.2	23.5	29,804	
09/21/17	916	906.0	53	6.8	159	42.0	2000	6	393	351	20849999	5.0	189.4	29,994	
10/30/17	955	944.7	60	14.9	180	40.0	2000	6	393	351	19550492	5.7	206.9	30,201	
11/28/17	984	973.8	27.2	22.7	82	45.0	2000	6	393	351	14710219	2.6	120.1	30,321	
12/26/17	1012	1001.8	18.4	21.3	55	42.0	2000	6	393	351	14142013	1.7	60.4	30,381	
01/25/18	1042	1031.9	17.3	15.1	52	44.0	2000	6	393	351	15173202	1.6	50.7	30,432	
02/23/18	1071	1060.8	7.3	NA	22	42.0	2000	6	393	351	14606750	0.7	33.6	30,466	
03/15/18	1090	1080.3	6.5	0.7	19	42.0	2000	6	393	351	9847148	0.6	12.7	30,478	
04/23/18	1129	1119.3	5.2	0.5	16	44.0	2000	6	393	351	19697804	0.5	21.6	30,500	
05/21/18	1157	1147.3	2.9	2.3	9	44.0	2000	6	393	351	14142013	0.3	10.7	30,511	
06/28/18	1195	1185.3	5.4	1.6	16	44.0	2000	6	393	351	19192732	0.5	14.9	30,525	
07/26/18	1223	1213.3	3.8	1.7	11	46.0	2000	6	393	351	14142013	0.4	12.2	30,538	
08/27/18	1255	1245.3	10	3	30	46.0	2000	6	393	351	16174080	0.9	20.9	30,559	
09/20/18	1279	1269.3	6.2	1.7	19	42.0	2000	6	393	351	12130560	0.6	18.4	30,577	
10/26/18	1315	1305.3	4.7	2.1	14	42.0	2000	6	393	351	18195840	0.4	18.6	30,596	
11/15/18	1335	1325.3	5.8	3	17	42.0	2000	6	393	351	10108800	0.5	9.9	30,605	
12/20/18	1370	1360.3	10.2	2.5	31	42.0	2000	6	393	351	17690400	1.0	26.5	30,632	
01/11/19	1392	1382.3	1	0.1	3	44.0	2000	6	393	351	11119680	0.1	11.7	30,644	
02/22/19	1434	1424.3	2.4	0.3	7	38.0	2000	6	393	351	21228480	0.2	6.8	30,650	
03/26/19	1466	1456.3	1.2	0.1	4	32.0	2000	6	393	351	16174080	0.1	5.5	30,656	Raked biofilter March 1, 15, 22

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

Table D-3
Summary of VOC Mass Removal: 3-SVE-3 System

BCP Parcel 3
Olean, New York

Date	Elapsed Time (days)	SVE Operation Time (days)	Influent (Untreated) PID Reading (ppm)	Effluent PID Reading Biofilter (ppm)	Corrected Influent Concentration[1] (mg/m^3)	Vacuum (in of H_2O)	Air Velocity (ft/min)	Pipe Diameter (in)	Air Flow Rate		Volume of Air Processed Since Previous Reading (CF)	Rate of VOC Removal (lb/day)	VOCs Removed Since Last Monitoring Period (lb)	Total VOC Removal to Date (lb)	Notes
									(ACFM)	(SCFM)					
04/24/19	1495	1485.3	1	0	3	40.0	2000	6	393	351	14657760	0.1	3.0	30,659	Raked biofilter April 5, 19
05/24/19	1525	1515.3	1.8	0	5	36.0	2000	6	393	351	15163200	0.2	4.0	30,663	Raked biofilter May 13, 17, 31
06/17/19	1549	1539.3	1.2	0	4	34.0	2000	6	393	351	12130560	0.1	3.4	30,666	Raked biofilter June 14, 28
07/25/19	1587	1577.3	5.1	0	15	34.0	2000	6	393	351	19206720	0.5	11.3	30,678	Raked biofilter July 12, 26
08/27/19	1620	1610.3	5.3	0.1	16	35.0	2000	6	393	351	16679520	0.5	16.2	30,694	Raked biofilter August 9, 23
09/09/19	1633	1623.3	4.4	0.1	13	35.0	2000	6	393	351	6570720	0.4	6.0	30,700	Raked biofilter September 9
10/31/19	1685	1675.3	2.8	0	8	39.0	2000	6	393	351	26282880	0.3	17.7	30,717	No odor
11/25/19	1710	1700.3	2.5	0	7	38.4	2000	6	393	351	12636000	0.2	6.3	30,724	No odor
12/19/19	1734	1724.3	1.1	0	3	36.0	2000	6	393	351	12130560	0.1	4.1	30,728	No odor
01/27/20	1773	1763.3	2.5	0	7	44.0	2000	6	393	351	19712160	0.2	6.6	30,734	No odor
02/27/20	1804	1794.3	1.1	0	3	49.0	2000	6	393	351	15668640	0.1	5.3	30,740	No odor
03/30/20	1836	1826.3	1.4	0	4	46.0	2000	6	393	351	16174080	0.1	3.8	30,744	No odor
04/27/20	1864	1854.3	1.4	0	6	45.0	2000	6	393	351	14152320	0.2	4.3	30,748	No odor
05/26/20	1893	1883.3	4.2	0	17	38.0	2000	6	393	351	14657760	0.5	10.3	30,758	No odor
06/25/20	1923	1913.3	0.9	0	4	43.0	2000	6	393	351	15163200	0.1	9.7	30,768	No odor
07/31/20	1959	1949.3	1	0	4	37.0	2000	6	393	351	18195840	0.1	4.3	30,772	No odor
08/31/20	1990	1980.3	4.5	0	18	40.0	2000	6	393	351	15668640	0.6	10.8	30,783	No odor
09/14/20	2004	1994.3	4.2	0	13	35.6	2000	6	393	351	7076160	0.4	6.8	30,790	No odor