Phase II Environmental Site Assessment Report: Long Falls Paperboard, 161 Wellington Road, Brattleboro, Vermont (SMS #20184828)

PROJECT NO.

15-015

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Executive Summary

This Phase II Environmental Site Assessment (ESA) Report has been prepared by Stone Environmental, Inc. (Stone) on behalf of the Vermont Department of Environmental Conservation (VT DEC), the Town of Brattleboro, Vermont, and the Windham Regional Commission (WRC) for the Brattleboro Development Credit Corporation (BDCC). This Phase II ESA has been prepared in accordance with the VT DEC Investigation and Remediation of Contaminated Properties Rule (IRule) dated July 6, 2019 and the approved Site-Specific Quality Assurance Project Plan (SSQAPP) dated July 13, 2019 as amended on August 13, 2019.

According to a Phase I ESA completed by Ramboll US Environ Corporation (2015 Ramboll), the Site has been in continuous use as a paper mill since it was originally developed in 1960 by Case Brothers which operated at the Site until 1967 at which time it was acquired by Boise Cascade. The facility was operated by Boise Cascade until 1989 when the name was changed to Specialty Paper Board, Inc, which ultimately was renamed as FiberMark, Inc. in 1998. FiberMark filed for bankruptcy in 2004 and reemerged under new ownership of Silver Point Capital in 2006 before subsequently being acquired by America Securities in 2008. The FiberMark business was sold to Neenah in 2015 and operated as Neenah until purchase by BDCC in December 2018. Upon purchase by BDCC, Long Falls Paperboard took over facility operations.

A number of environmental assessments have been performed at the Site, beginning as far back as 1989 and up to the Phase I ESA performed in December 2018 by LE Environmental (LEE). LEE's Phase I ESA identified twelve Recognized Environmental Conditions. This Phase II ESA was performed to address these RECs as well as potential impacts from the wastewater treatment plant lagoons.

Based on the results of the Phase II ESA, Stone has made the following conclusions:

1. No. 6 fuel oil from the pre-1990 release is still present in the subsurface, but not at concentrations high enough to impact sensitive receptors, e.g. downgradient groundwater or soil.
2. With the exception of methyl-tert-butyl ether (MTBE) detections in the facility production wells, there was no evidence of a gasoline release from former USTs, and no evidence of diesel fuel releases that are significantly impacting groundwater.
3. Historically detected chlorinated volatile organic compounds (cVOCs) in groundwater have naturally attenuated over time and there appears to be no on or off-site continuing source.
4. Per- and polyfluoroalkyl substances (PFAS) are present in some on-site soils and in groundwater, but at concentrations below current Vermont Soil Standard (VSS) and Vermont Groundwater Enforcement Standard (VGES) standards.
5. Vanadium is present in on-site surface and subsurface soils at concentrations exceeding the VSS Resident standard, but with the exception of the shallow soil sample collected from the wastewater treatment system lagoon holding basin, below VSS Non-Resident Standard.
6. Total lead, manganese and arsenic are present in on-Site groundwater at concentrations exceeding the VGES. Concentrations of these metals in groundwater may be elevated due to sample turbidity.

7. Poly-cyclic aromatic hydrocarbons (PAHs) are present along the railway (DU-2) and railway spur to the Site (DU-1), as measured by the calculated B(a)P-TEQ 95% UCL, at concentrations that exceed the VSS Resident standard, but that are below the VSS Non-Resident standard.
8. Dioxins, polychlorinated biphenyls (PCBs) and metals are present in the wastewater treatment system lagoon holding basin at concentrations that exceed the VSS Non-Resident standards. The vertical and horizontal extent of these exceedances are unknown.

An Evaluation of Corrective Action Alternatives (ECAA) should be prepared to assess remedial alternatives to prevent unacceptable exposure of contaminants to Site users. An ECAA will require the following additional assessment tasks:

1. Sampling of on-site groundwater for dissolved lead, manganese and arsenic in select on-Site groundwater monitoring wells.
2. Continued assessment, i.e. groundwater monitoring, of PFAS in groundwater.
3. Additional soil assessment to determine the vertical and horizontal extent of dioxin, PCB, and metals contamination related to the holding basin.
4. Assessment of soils to support soil management during construction activities associated with the proposed installation of a biomass heat plant, including potential underground biomass storage, and other Site improvements, as appropriate.

Upon completion of an ECAA and its approval by the VTDEC, a Corrective Action Plan (CAP) can be prepared.

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Cover Photo: Advancing hollow-stem augers at IP-08

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Title and Approval Page

Document Title
Phase II Environmental Site Assessment Report: Long Falls Paperboard Facility, Brattleboro, Vermont

October 14, 2019

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I certify under penalty of perjury that I am an environmental professional and that all content contained within this deliverable is to the best of my knowledge true and correct.

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10/14/19

Signature Date

1. Introduction

This Phase II Environmental Site Assessment (ESA) Report has been prepared by Stone Environmental, Inc. (Stone) on behalf of the Vermont Department of Environmental Conservation (VT DEC), the Town of Brattleboro, Vermont, and the Windham Regional Commission (WRC) for the Brattleboro Development Credit Corporation (BDCC). This Phase II ESA has been prepared in accordance with the VT DEC Investigation and Remediation of Contaminated Properties Rule (IRule) dated July 6, 2019 and the approved Site-Specific Quality Assurance Project Plan (SSQAPP) dated July 13, 2019 as amended in an update letter dated August 13, 2019.

1.1. Site Description

The Site is located at 42°53'22.34" north latitude 72°32'234.28" west longitude and is situated on a 39.52-acre parcel of land located at 161 Wellington Road in Brattleboro, Vermont (Figure 1, Appendix A). A Site Vicinity Map is provided as Figure 2 in Appendix A. The Site includes an approximately 200,000-square foot paper manufacturing plant, an associated wastewater treatment plant and lagoons, and a sand filter house (Figure 3). The manufacturing facility is a concrete and metal structure with a partial basement and partial second floor. The facility was constructed in 1960, with several additions being constructed between the late 1960s and late 1990s. The wastewater treatment plant is composed of a clarifier that discharges liquids to four aerated treatment lagoons which were installed circa 1972; there is also an emergency lagoon located to the southwest and in-line with the four lined lagoons and it is believed that this is an unlined lagoon. The purpose of the emergency lagoon is to provide storage for contaminated liquid wastewater if the clarifier building receives input of toxic materials that would risk a die-off of the bacterial colonies of the main lagoons. Liquid effluent from the lagoons is discharged to the Connecticut River. Solids from the clarifier and lagoons are transported off-site. The sand filter house is a single-story structure constructed of cement blocks and contains a disinfection system. This building was constructed in 1996 to treat process water from the Connecticut River prior to use in the manufacturing facility.

The Site is generally flat and is situated on an alluvial terrace of the Connecticut River, and is zoned for industrial use. Process water for the plant is pumped primarily from the Connecticut River; the plant is also served by two on-site backup process water supply wells installed in the overburden (i.e., not drilled in to bedrock) in the southern corner of the site and are indicated as "Shallow Well" and "Deep Well" on Figure 3. The facility is also serviced by the municipal public water system. The bathrooms and laboratory are served by an on-site septic system located to the northwest of the wastewater treatment plant lagoons.

The Site is bound to the east by the Connecticut River, to the north by an undeveloped woodland, to the south by an electrical substation and Wellington Road, and to the west by several commercial properties, including: the BDCC Business Park, Suburban Propane, C&S Wholesale Grocers, and now closed Windham Solid Waste Management District (SWMD) Landfill.

1.2. Site History

According to a Phase I ESA completed by Ramboll US Environ Corporation (2015 Ramboll), the Site has been in continuous use as a paper mill since it was originally developed in 1960 by Case Brothers which operated at the Site until 1967 at which time it was acquired by Boise Cascade. The facility was operated by Boise Cascade until 1989 when the name was changed to Specialty Paper Board, Inc, which ultimately was renamed as FiberMark, Inc. in 1998. FiberMark filed for bankruptcy in 2004 and reemerged under new ownership of Silver Point Capital in 2006 before subsequently being acquired by America Securities in 2008. The FiberMark business was sold to Neenah in 2015 and operated as Neenah until purchase by BDCC in December 2018. Upon purchase by BDCC, Long Falls Paperboard took over facility operations.

1.3. Prior Environmental Investigations

1.3.1. 1989 – 2015 Various Environmental Assessments, Phase I ESAs and Environmental Compliance Reviews

Several environmental assessments, including Phase I ESAs and Limited Environmental Compliance Reviews, were performed on behalf of the owner and/or operator of the facility, the earliest available of which was performed in 1989 and the most recent in 2015. These assessments have been generally referenced in each subsequent assessment, including LEE's 2018 Phase I ESA, so the results of those assessments are not individually summarized. The available assessments include:

- Boise Cascade Corporation, Environmental Compliance Audit, Pressboard Products Mill, Brattleboro, Vermont, performed by C-E Engineering, May 1989
- Phase I ESA, Limited ACM and SVM Survey and Regulatory Compliance Review, FiberMark, performed by Tighe & Bond, November 2007
- Phase I Environmental Site Assessment and Limited Environmental Compliance Review of FiberMark, Inc., prepared by ENVIRON International Corporation, December 2007
- Phase I Environmental Site Assessment, FiberMark, prepared by Clayton Group Services, Inc., September 2003
- Phase I Environmental Site Assessment and Limited Environmental Compliance Review, FiberMark North America Inc., prepared by Ramboll Environ US Corporation, June 2015

1.3.2. 1990 – 1994 No. 6 Fuel Oil Release Investigation Reports

In February 1990, two 25,000-gallon underground storage tanks (USTs) containing No. 6 fuel oil USTs were excavated and removed from the property. Griffin International, Inc. (Griffin) performed an initial site investigation in 1990 and follow-up monitoring in 1994, recommending that the Site be considered for a Site Management Activities Complete (SMAC) designation, which was reportedly granted in 1994. Available documentation includes:

- Report on the Investigation of Subsurface Petroleum Contamination, Specialty Paperboard, Brattleboro, Vermont performed by Griffin International, Inc., July 1990
- Report on August 1994 Groundwater Sampling and Analysis for Specialty Paperboard, Brattleboro, Vermont performed by Griffin International, Inc., October 1994.

1.3.3. LE Environmental Phase I ESA, December 2018

LEE completed a Phase I ESA on December 12, 2018 of the Neenah Paper Manufacturing facility on behalf of the BDCC (2018 LEE). The Phase I was performed using the *Standard Practice for Environmental Site*

Assessments: Phase I ESA Assessment Process, published by ASTM International as Standard Practice E1527-13. The Phase I was performed as part of environmental due diligence in anticipation of purchasing the property. The Phase I ESA revealed no evidence of RECs in connection with the property, except for the following:

1. Documented No. 6 fuel oil release (historical REC and REC) due to leaking USTs.
2. Potential petroleum contamination due to diesel and gasoline USTs removed in 1988.
3. Use of the property for paper manufacturing for 58 years, which may have resulted in soil, groundwater and/or soil vapor contamination. Potential contaminants of concern include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, dioxin, and perfluorinated chemicals (PFCs).
4. Potential chemical and petroleum discharge to basement floor sumps and underground piping of unknown integrity possibly resulting in releases via piping breaches.
5. Visible and potential releases from equipment in the storage yard.
6. Potential for subsurface contamination due to an abandoned drum.
7. Filled area at the north end of the property with undocumented fill materials.
8. Windham Solid Waste Management District (SWMD) landfill documented and potential influence on the property's groundwater quality (Controlled REC).
9. Potential soil and groundwater contamination from the active septic system north of the mill.
10. Potential soil and groundwater contamination from the unused septic system east of the mill.
11. Potential contamination in connection with the active rail line adjoining the west side of the facility.
12. Potential releases of hazardous substances and/or petroleum products from the historical printing press adjoining the property to the west.

LEE made the following recommendations further assessment to determine whether these RECs constitute an actual release to the environment:

1. The Phase II ESA should include soil, groundwater and soil gas testing. Chlorinated VOC (CVOC) detections in groundwater at 70-foot depth suggest there is a source of CVOCs in the nearby soils.
2. Groundwater monitoring wells from the previous site investigation may be present beneath the pavement. These wells were 70-80 feet deep and in light of the cost of replacement, a geophysical survey to attempt to locate the buried wells might be cost effective.
3. Groundwater beneath the northern portion of the property in the Class IV zone is non-potable and its investigation may be less of a priority than elsewhere on the property. The contents of the fill area should be evaluated via backhoe test pits to determine if hazardous substances and/or petroleum products are present and whether there is soil contamination.
4. A video evaluation of the basement sump and piping system could provide useful information on the condition of the piping and whether there are breaches that should be evaluated for soil contamination.

1.3.4. Weston & Sampson Limited PFAS Sampling – December 2018

On December 12, 2018, Weston & Sampson (W&S) collected a sample of wastewater treatment plant biosolids and submitted it for per- and polyfluoroalkyl substances (PFAS) analysis as well as synthetic precipitation leaching procedure (SPLP) for PFAS (2018 WSE). W&S also collected groundwater samples from the two on-Site facility production wells and liquid samples of the wastewater treatment plant effluent and lagoon liquids and submitted them to a laboratory for PFAS analysis. PFASs were not detected in the biosolids sample, however, Perfluorobutanoic acid (PFBA), perfluoropentanoic acid (PFPeA) and perfluorooctanesulfonic acid (PFOS) were detected in the biosolids SPLP analysis sample above the method detection limit, but below the method reporting limit, at estimated concentrations of 6.19 nanograms per liter (ng/L), 4.00 ng/L and 4.11

ng/L, respectively. Perfluorooctanoic acid (PFOA) and PFOS were detected in the wastewater treatment plant effluent sample at concentrations of 2.59 (estimated) and 17.1 ng/L, respectively. PFBA, perfluorohexanoic acid (PFHxA) and PFOS were detected in the liquid sample collected from the lagoon at concentrations of 4.13 ng/L (estimated), 8.02 ng/L and 10.2 ng/L (estimated), respectively.

1.4. Prior Environmental Investigations – Adjacent Properties

Stone reviewed files available on the VT Environmental Research Tool to evaluate potential contamination from nearby off-site sources. Stone reviewed the following sites which are all located to the north-north west of the Site.

1.4.1. Former The Book Press, Putney Road, Brattleboro, Vermont, SMS No. 93-1461

The former The Book Press property is located off the southwestern property boundary across and adjacent to the railroad tracks and as of the date of this Phase II ESA report, is currently owned by BDCC. As reported by Environmental Services of America, Inc. (ESA) in their 1994 Environmental Site Investigation Report for Quebecor Printing Book Press on Putney Road, five USTs were excavated and removed from the property in 1992. The five USTs were used to store diesel, naphtha, kerosene, alcohol and gasoline. Soil screening using a photoionization detector (PID) indicated a release of product from the naphtha and gasoline USTs. Soils in former naphtha and gasoline UST areas were further assessed in 1993; volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs), including naphthalene, were not detected in the subsurface soil samples. VTDEC subsequently issued a SMAC letter on April 5, 1994. It is not anticipated

The former The Book Press property was noted as a REC in the LE Phase I ESA for the potential for VOCs and metals, if released, potentially migrating onto the Site. This REC is addressed in this Phase II ESA report.

1.4.2. Melsur Corporation, 239 Old Ferry Road

In October 2005, a 10,000-gallon fuel oil UST reportedly in fair condition was removed from the former Melsur Corporation property located at 239 Old Ferry Road, located to the northwest of the Site, adjacent to the Windham SWMD landfill. Petroleum contamination appeared isolated to an area surrounding the UST fill pipes. The VT DEC subsequently issued a SMAC letter in December 2005. Based on the information contained in the SMAC letter, there is likely no impact to the Site due to a release from this former UST.

1.4.3. Former Vantem Panels Property, SMS No. 2013-4372

In February 2013, it was discovered that a 275-gallon kerosene aboveground storage tank (AST) had leaked to the ground surface and the adjacent concrete building foundation. Five 55-gallon drums (roughly 1.5 cubic yards) of surface and subsurface soils were excavated and transported off-site for disposal. In 2017, VTDEC issued a SMAC letter after confirmation of drum disposal and a filing of a Notice to Land Records indicating the presence of at-depth petroleum contamination were provided. Based on the presumed depth to groundwater (> 50 feet) at the release location and distance relative to the site, it is unlikely that this release would impact the Site.

1.4.4. C&S Wholesale, 54 O'Bryan Drive, SMS No. 2009-3895

Three diesel USTs (2,000, 10,000 and 12,000 gallons in capacity) – located on the western side of the main C&S Wholesale building, were removed in November 2008. Approximately 300 – 400 cubic yards of petroleum impacted soils were removed, but post-excavation confirmation sampling indicated total petroleum hydrocarbons remaining as high as 7,500 parts per million (ppm). A Notice to Land Records (NTLR) indicating the presence of diesel fuel oil-related compounds remaining at the site was filed with the Town of Brattleboro in April 2009 and VTDEC issued a SMAC letter in May 2009.

1.4.5. C&S Wholesale Grocers, Old Ferry Road, SMS No. 92-1258

In the First Letter dated July 1992, three 10,000-gallon gasoline USTs and one 1,000-gallon oil UST were removed from the property Approximately 3,850 cubic yards of contaminated soil were removed and stockpiled at an off-site location. There was no follow-up investigation performed, with the exception of screening subsurface utilities for organic vapors using a PID which revealed 'no detectable vapors' according to the consultant's report. Groundwater is greater than 70 feet below ground surface (bgs). Priority of the site is listed as LOW and there is not closure date on the Vermont Environmental Research Tool, so it is presumed that this site has not been closed by VTDEC.

2. Methods

Phase II ESA field work was performed by Stone between July 22 and July 24, 2019 and August 14 and August 30, 2019. Field notes and soil boring logs are provided as Appendix B. Drilling locations were marked for DigSafe utility clearance prior to advancing soil borings and installing groundwater monitoring wells. Vermont Underground Locators provided mark-out of private Site utilities in the proposed subsurface investigation locations.

2.1. Initial Site Activities

Stone prepared a Site-specific health and safety plan and participated in on-site training and orientation by Long Falls Paperboard.

Stone performed demarcation of sample locations for Dig-safe utility clearance on July 17, 2019. Stone assessed the condition of previously installed groundwater monitoring wells on July 17, 2019. Monitoring wells MW-9, MW-10, MW-11, MW-12, and MW-13 could not be located using a sub-meter GPS and magnetic locator; they are presumed destroyed. MW-1, MW-3, MW-4, and MW-16 were each found. MW-1 was dry to a depth of 72.1 feet. MW-3 has a total depth of 72 feet and was also found to be dry. MW-4 was found to be 83 feet deep with a depth to water of 80 feet. MW-16 was found to be 68 feet deep and contains approximately 1 foot of heavy petroleum non-aqueous phase liquid (NAPL). Due to lack of groundwater in MW-1 and MW-3, minimal groundwater observed in MW-4 and product observed in MW-16, it was determined that these wells would not be redeveloped for future sampling. Wells downgradient of the Windham SWMD landfill MW-5, 6 & 7 were located, however, MW-5 was found to be on the southeast side of the field, generally in line with MW-6 & 7. The formerly labeled MW-5 was found to be a landfill vapor well, similar to the others.

Due to the density of plant-owned underground infrastructure at the Site, Stone subcontracted and oversaw geophysical survey at the Site by Vermont Underground Locators (VUL) clear each proposed location. Several locations, due to their proximity to buried and/over overhead utilities required relocation. VUL performed geophysical survey of each proposed investigation location using a ground penetrating radar on July 22, 2019.

2.2. SSQAPP Deviations

Due to subsurface conditions, specifically the presence of coarse gravel and cobbles at the Site, deep soil cores and monitoring wells were performed using hollow-stem augur with split spoon sampling. The need for this alternative method was identified during the initial site investigation work between July 22 and July 24 and an amendment to the SSQAPP was submitted and approved on August 13, 2019.

The following deviations to the SSQAPP were encountered during the completion of Phase II ESA field work.

1. Due to the depth and severity of the slope, the bank of the Connecticut River could not be safely accessed; therefore, a staff gauge was not installed and groundwater elevations observed during execution of this Phase II ESA were not compared to the surface water elevation of the Connecticut

River. The lack of a staff gauge surveyed to the same datum prevents the comparison of hydraulic head within the monitoring well network to the Connecticut River.

2. Stone was unable to locate the local survey benchmark noted on Sheet 1 of 2 titled "ALTA / ACSM Land Title Survey" of the Boise Cascade Corp. Facility and therefore, monitoring well top of casing elevations are referenced to an arbitrary benchmark of 100 feet. This deviation does not affect the findings or conclusions of the Phase II ESA.
3. Three additional soil borings (IP-22 through IP-24) were performed to assess potential buried solid wastes in the northeastern corner of property. These borings were added to provide better special coverage due to observations by Stone field staff that solid wastes, including asphalt and concrete rubble, was visible at the surface in these areas. This deviation provides additional clarity on the content of buried waste area.
4. Groundwater samples collected for metals analyses that exhibited greater than 10 NTUs of turbidity were not field filtered.
5. A trip blank for VOC analysis was provided in the cooler shipment on July 24, 2019 but was inadvertently left off of the chain-of-custody and was therefore, not analyzed. This does not impact the usability of the results as discussed in Section 3.6.
6. Stressed vegetation was not observed in the area of planned IP-14 (near the active leach field); IP-14 was subsequently moved to immediately above the center of the active leach field. This deviation does not have an adverse impact on the interpretation of the results.
7. The wastewater treatment lagoons were not accessible during this Phase II ESA and there was no lagoon sludge on-site; therefore, sludge samples were instead collected off of the wastewater treatment system clarifier. This deviation is not expected to have an effect on the interpretation of the results.

2.3. Soil Assessment

Subsurface and surface soil assessment was performed as part of this Phase II ESA as presented in the following subsections. All soil boring locations were located using a Global Positioning System (GPS) capable of sub-meter horizontal accuracy

Between July 22 and July 23, Stone oversaw the advancement of ten stand-alone soil borings using a Geoprobe 7822 DT and closed-piston, direct push tooling (i.e., Geoprobe MC5) at investigation locations IP-12, 13, 15 and 18 through 24 (Figure 3). Soil cores were recovered in dedicated, disposable acetate sleeves using a closed piston corer (MC5). Tooling was advanced in five-foot intervals to refusal, except where the objective of the boring was achieved prior to refusal. Nine additional borings were performed using 4.25-inch hollow-stem augers and subsequently converted to be groundwater monitoring wells (see Section 2.4). Table 1, below, summarizes soil borings performed at the Site, their associated area of concern, terminal depth, sample depth(s) and sample analytical parameters.

Soil borings were logged by a Stone field geologist for texture, color, moisture content, visual or olfactory evidence of contamination, and VOCs using a handheld photoionization detector (PID) equipped with a 11.6 eV lamp. The PID was calibrated at the beginning of each day in accordance with Stone SOPs. Soil sample intervals were selected based on visual, olfactory, or PID evidence of contamination. Soil boring logs are included in Appendix B.

Table 1: Summary of Soil Borings & Samples

Soil Boring ID	Area of Concern	Total Depth (ft bgs)	Sample Depths (ft bgs)	Analytical Parameters
IP-01	Presumed downgradient of basement area with floor drains, adjacent to loading dock.	75	None	None
IP-02	Presumed downgradient of former clarifier and basement area.	75	66	VOCs, SVOCs, TAL Metals + Cn
IP-03/3a	Within former fuel oil release area and presumed downgradient of current maintenance shop.	75	70.5	VOCs, SVOCs, TAL Metals + Cn
IP-04	Presumed downgradient of northern portion of plant	75	None	None
IP-05	Adjacent sludge storage area, stormwater DI.	75	11.0	VOCs, SVOCs, TAL Metals + Cn, Dioxins, PCBs, PFAS
IP-06/6A	Within and adjacent to overflow lagoon.	80	0.5	VOCs, SVOCs, TAL Metals + Cn, Dioxins, PCBs, PFAS
IP-07	Presumed downgradient of former fuel release	75	66.5 / 71.0	VOCs, SVOCs, TAL Metals + Cn
IP-08	Presumed downgradient of active lagoons	85	None	None
IP-12	Assess former leach field	18.1	7.5 / 11.0	VOCs, SVOCs, TAL Metals + Cn, PCBs, PFAS
IP-13	Assess former leach field	42.4	7.5 / 10.5 / 13.0	VOCs, SVOCs, TAL Metals + Cn, PCBs, PFAS
IP-15	Assess current leach field	8.5	6.0 / 7.0 / 8.0	VOCs, SVOCs, TAL Metals + Cn
IP-16	Assess potential upgradient sources in groundwater.	75	None	None
IP-18	Assess former solid waste disposal area.	8	None	None
IP-19	Assess former solid waste disposal area.	8	None	None
IP-20	Assess former solid waste disposal area.	8	None	None
IP-21	Assess former solid waste	8	None	None

Soil Boring ID	Area of Concern	Total Depth (ft bgs)	Sample Depths (ft bgs)	Analytical Parameters
	disposal area.			
IP-22	Assess former solid waste disposal area.	8.5	None	None
IP-23	Assess former solid waste disposal area.	8	None	None
IP-24	Assess former solid waste disposal area.	8	None	None

Abbreviations: bgs – below ground surface; VOCs – volatile organic compounds, PFAS – poly- and perfluoroalkyl substances; TAL Metals – target analyte list metals; Cn – cyanide; SVOCs – semi-volatile organic compounds; PCBs – polychlorinated biphenyls;

Soil samples were collected in accordance with Stone's SOPs, placed in an ice filled cooler and submitted under chain-of-custody protocol to NELAP-accredited Alpha Analytical's (Alpha's) Westboro, Massachusetts laboratory for analysis. Samples for dioxins and PFAS analyses were transported by Alpha to their NELAP-accredited Mansfield, Massachusetts laboratory for analysis. Quality assurance/ quality control (QA/QC) samples included field duplicates collected at a 5% frequency, one trip blank per sample shipment containing samples for VOC analysis, and one field blank per shipment containing samples for PFAS analysis. Analytical methods for soil samples submitted for parameters noted in Table 1 included the following EPA Methods:

- VOCs – 8260C;
- SVOCs – 8270D and 8270D-SIM[1];
- Dioxins – 8290A;
- PCBs – 8082A;
- PFAS – 537(M);
- Metals (23 TAL and cyanide) – 6010D, 7471B, and 4500CN-CE;

2.3.1. Surface Soil Sampling

Surface soil was evaluated at locations IP-11, 14 and 17. Soils were inspected for visible indications of a release and field screened using a PID.

No evidence visual, olfactory or other evidence of a release was observed at IP-17, located at the "sartomer drum" and therefore, no sample was collected for laboratory analysis. The drum was partially filled with concrete and concrete rubble was observed adjacent to the drum. Based on this observation, it is Stone's opinion that this drum was used to contain concrete refuse.

Stone inspected the equipment storage area (IP-11), located southeast of the wastewater lagoons. The equipment storage area was much smaller in size than originally thought. Note that this area was covered in snow during the Phase I ESA site inspection in November 2018 and a site visit by Stone in January 2019 and it

[1] For benzo(a)pyrene, and dibenzo(a,h)anthracene only.

was not known at that time that this area was paved. The equipment storage is located on asphalt pavement, and oily releases to the pavement appeared to be contained to the asphalt. At locations where precipitation would run off the pavement, surficial soils were inspected and field screened; there was no visual or olfactory evidence of contamination and no PID readings above background, therefore, no samples were collected.

A discrete sample for analysis was collected at IP-14, associated with the active leach field, which was moved from the planned location as noted in Section 2.2. The sample was collected into laboratory-supplied glass ware from 0.5 ft bgs after removing sod using a hand trowel and submitted for laboratory analysis of VOCs, semi-volatile organic compounds (SVOCs), total analyte list (TAL) metals and cyanide (Cn).

To evaluate soil quality adjacent to the railroad line for polycyclic aromatic hydrocarbons (PAHs) and herbicides, Stone completed an assessment of surface soil using incremental sampling methodology (ISM) in two decision units (DUs). DUs are presented on Figure 3 and include:

- DU1: along the Site rail spur off the northern corner of the manufacturing facility.
- DU2: along the adjacent rail corridor along the northwestern boundary of the Site.

Each ISM sample consisted of soil from a minimum of 30 grid-based increments. Hand tooling was used to remove topsoil and vegetation at each ISM increment location and to collect soil from the 0.0-0.5 ft bgs interval. This sampling procedure was repeated at three locations (A, B, and C) per increment, following a randomized sampling strategy, in order to generate three replicates of the ISM sample.

To collect each ISM replicate, approximately 90 grams of soil was collected from each increment location and placed in dedicated aluminum trays. Separate aluminum trays were used for each of the three replicates within each DU. Once all increments had been sampled and soil aliquots placed in the aluminum trays, soil was mixed, subsampled, and placed in sample containers in accordance with Stone SOPs. A key aspect of ISM is to provide the laboratory with only enough sample that is required for extraction and analysis. In this manner, potential bias resulting in the settling of grain sizes within the sample jar during transport is limited. Subsampling was conducted by spreading the mixed soil to uniform thickness across the aluminum trays, dividing the trays into 30 equally sized grid squares, and placing approximately 3 grams of soil from each grid square into the sample container for the replicate. An electronic field balance was used to weigh the proper amount of soil from each increment and from each subsample grid square. Duplication is inherent in ISM; therefore, field duplicates were not collected. Samples were submitted to Alpha for PAHs and herbicides.

All soil samples were placed in ice-filled coolers and transported via same-day currier under chain of custody protocols to NELAP accredited Alpha's Westboro, Massachusetts laboratory for analysis. Samples collected for dioxins, PFAS and metals were subsequent transported by Alpha to their NELAP accredited laboratory in Mansfield, Massachusetts for analysis. Quality assurance/ quality control (QA/QC) samples included field duplicates collected at a 5% frequency and 1 trip blank per sample shipment containing VOC or PFAs samples.

Analytical methods for surface soil samples included the following EPA Methods:

- VOCs – 8260C;
- SVOCs – 8270D and 8270D-SIM[2];
- PCBs – 8082A;
- Metals (23 TAL and cyanide) – 6010D, 7471B, and 4500CN-CE;
- PAHs – 8270D, and 8270D-SIM[2]; and
- Herbicides – 8151A

2.4. Groundwater Assessment

To assess whether past Site practices have adversely affected groundwater quality, Stone utilized two existing groundwater production wells and oversaw the installation of nine new groundwater monitoring wells. Groundwater monitoring wells were installed under the direction of a Stone field geologist by Drilex Environmental (Drilex) of Auburn, Massachusetts. Wells were constructed within 4.25-inch inner-diameter hollow stem augers advanced to at least 5 feet below the potentiometric surface, using new, 2-inch diameter PVC well screen with 0.010 machine-slotted screen interval and sufficient riser to reach the ground surface. A sand pack, consisting of #1 silica sand, was installed within the annular space to approximately 2 feet above the screened interval. The screen and sand pack were sealed from meteoric input using approximately 2 feet of bentonite chips. The remaining annular space was backfilled with cuttings generated during the drilling of the associated bore hole. Wells were completed with 5- or 7-inch diameter flush-mount road boxes set within a concrete pad. Table 2, below, includes a summary of each well installed and its construction details.

Table 2: Summary of Groundwater Monitoring Wells

ID	Total Depth (ft bgs)	Top of Screen Interval (ft bgs)	Top of Sand Pack (ft bgs)	Top of Well Seal (ft bgs)	Analytical Parameters
IP-01	75.0	65.0	63.0	61.0	VOCs, SVOCs, TAL Metals + Cn, PFAS
IP-02	75.0	65.0	63.0	61.0	
IP-03	75.0	65.0	63.0	61.0	
IP-04	75.0	65.0	63.0	61.0	
IP-05	75.0	65.0	62.5	59.5	VOCs, SVOCs, TAL Metals + Cn, PFAS, Dioxins, PCBs
IP-06	80.0	70.0	67.4	64.9	
IP-07	75.0	65.0	63.0	61.0	VOCs, SVOCs, TAL Metals + Cn, PFAS
IP-08	82.0	72.0	70.0	68.0	
IP-16	75.0	65.0	62.5	60.5	VOCs, TAL Metals + Cn

Abbreviations: bgs – below ground surface; VOCs – volatile organic compounds, PFAS – poly- and perfluoroalkyl substances; TAL Metals – target analyte list metals; Cn – cyanide; SVOCs – semi-volatile organic compounds; PCBs – polychlorinated biphenyls;

Upon installation, Stone developed each well using a Waterra Hydrolift-2 to simultaneously surge and purge groundwater. Dedicated 5/8-inch outer diameter high density polyethylene (HDPE) tubing and a stainless-

[2] For benzo(a)pyrene, and dibenzo(a,h)anthracene only.

steel check valve were used for each well. Wells were developed until purge water was visibly clear of sediment. All purge water was contained within two 55-gallon drums.

On August 29 and 30, 2019, one week following installation, Stone collected groundwater samples from each well using low-flow (slow purge) methods in accordance with Stone SOPs. Due to the depth to water, Stone used a 1.5-inch diameter stainless steel bladder pump equipped with dedicated HDPE bladders and ¼-inch tubing. Effluent from the wells was routed via a flow-through cell to a calibrated, multi-parameter water quality sonde equipped with sensors for pH, specific conductance, temperature, dissolved oxygen [DO], oxidation reduction potential [ORP]) and turbidity. Total volume purged was recorded using a graduated cylinder. Each well was purged until the following parameters stabilized:

- pH ± 0.1 unit
- Specific Conductance ±3%
- ORP ± 10 mV
- DO ± 10%, or 3 consecutive readings below 0.5 mg/L
- Temperature ± 3%
- Turbidity ± 10%, or 3 consecutive readings below 5.0 nephelometric turbidity units (NTU)

Prior to purging each well, the depth to groundwater from top of casing was measured with a groundwater interface probe. Upon stabilization, samples were collected in accordance with Stone SOPs. Groundwater monitoring well top of casing were surveyed using a total station versus an assigned Site datum.

On July 23, 2019, grab samples were collected from the two groundwater production wells located in the southern corner of the site. Samples were collected from a hose spigot near where the water from each well enters the manufacturing facility. Each well was allowed to purge for thirty minutes before collecting samples. Sample were collected and submitted for VOC, SVOC, PFAS, and TAL Metals plus Cn analyses. On August 29, 2019, additional sample volume was collected in the same manner for low-level SIM procedure for 1,4-dixoane analysis.

All groundwater samples were collected into laboratory supplied bottle ware, placed in an ice-filled cooler, and shipped under chain of custody protocols to NELAP-accredited Alpha's Westboro, Massachusetts laboratory for analysis. Samples collected for dioxins, PFAS and metals were transported by Alpha to their NELAP accredited laboratory in Mansfield, Massachusetts for analysis.

Quality assurance/ quality control (QA/QC) samples included field duplicates collected at a 5% frequency, 1 trip blank per sample shipment containing VOC or PFAs samples, 1 field blank per day of PFAS sampling, and 1 equipment blank sampling from groundwater sampling equipment for PFAS analysis. Analytical methods for groundwater samples include the following EPA Methods:

- VOCs – 8260C;
- 1,4-Dioxane – 8270D GS/MS-SIM;
- SVOCs – 8270D, and 8270D-SIM
- Dioxins/ Furans – 8290A;
- PCBs – 8082A;
- PFAS – 537(M); and
- Metals (23 TAL and cyanide) – 6010D, 6020B, 7470A, and 9010C/9012B

2.5. Wastewater Treatment System Sludge Assessment

To evaluate potential contaminants in the sludge generated in the wastewater treatment system per VT DEC's request, Stone collected a grab sample of the sludge as it came off of the wastewater treatment system clarifier on July 23, 2019. The single sample was collected in laboratory supplied bottle ware and in accordance with Stone's SOPs. The sludge sample was placed in an ice-filled cooler and transported via currier under chain of custody protocols to NELAP accredited Alpha's Westboro, Massachusetts laboratory for analysis. Samples collected for dioxins, PFAS and metals were subsequently transported by Alpha to their NELAP accredited laboratory in Mansfield, Massachusetts for analysis. Analytical methods for the lagoon sludge sample include the following EPA Methods:

- VOCs – 8260C;
- SVOCs – 8270D, and 8270D-SIM
- Dioxins/ Furans – 8290A;
- PCBs – 8082A;
- PFAS – 537(M); and
- Metals (23 TAL and cyanide) – 6010D, 7471B, and 4500CN-CE

Additional sludge sample volume was collected on August 20, 2019 and submitted for Synthetic Precipitation Leaching Procedure (SPLP) extraction. The extract was analyzed for PFAS and also underwent a Total Oxidizable Precursor (TOP) Assay to mimic biotransformation of polyfluorinated perfluoroalkyl acids (PFAA) precursors into PFAAs; the subsequent aliquot was also be analyzed for PFAS.

2.6. Maintenance Area Drain Assessment

On July 24, 2019, the floor drain in the maintenance bay area was dye tested to aid in determining its discharge location. Red dye initially used was not observed in any basement trenches or drains, catch basins, or the clarifier. Green dye was then applied and no dye was observed in the catch basins or the clarifier after a short period of time. On the morning of July 25, 2019, facility personnel observed green dye in basement process water trench, indicating that the maintenance area floor drain discharges there. Facility personnel mentioned that this floor drain backs up when the septic system backs up, but the septic system (e.g. tank) was not observed during this assessment.

2.7. Investigation Derived Waste

Investigation derived wastes (IDW) generated during the Phase II ESA included purge water, soil cuttings, tubing, decontamination fluids, and personal protective equipment (PPE). To the extent possible, soil was backfilled in each boring from which it was collected. Excess soil generated during the groundwater monitoring well installation was contained within 55-gallon drums.

All purge water and decontamination fluid generated during the Phase II ESA was contained within a US DOT-approved, 55-gallon drum pending analytical results of groundwater samples.

PPE and other consumables were managed as solid waste.

3. Evaluation of Investigation Results

Analytical results are summarized in the following tables located in Appendix C:

- Table C-1: Metals and Cyanide Analytical Results – Soil;
- Table C-2: VOC Analytical Results – Soil;
- Table C-3: SVOC Analytical Results – Soil;
- Table C-4: PFAS Analytical – Soil;
- Table C-5: PCB Analytical Results – Soil;
- Table C-6: Herbicide Analytical Results – Soil;
- Table C-7: Dioxin Analytical Results – Soil;
- Table C-8: Metals and Cyanide Analytical Results – Groundwater;
- Table C-9: VOC Analytical Results – Groundwater;
- Table C-10: SVOC Analytical Results – Groundwater;
- Table C-11: PFAS Analytical Results – Groundwater;
- Table C-12: PCB Analytical Results – Groundwater;
- Table C-13: 1,4-Dioxane Analytical Results – Groundwater;
- Table C-14: Dioxin Analytical Results – Groundwater;
- Table C-15: Metals and Cyanide Analytical Results – Sludge;
- Table C-16: VOC Analytical Results – Sludge;
- Table C-17: SVOC Analytical Results – Sludge;
- Table C-18: PFAS Analytical – Sludge;
- Table C-19: PCB Analytical Results – Sludge;
- Table C-20: Dioxin Analytical Results – Sludge;
- Table C-21: SPLP PFAS / TOP Assay Analytical Results – Sludge.

FID and PID soil screening results are summarized on soil boring logs within Appendix B. Full analytical laboratory reports are provided as Appendix D.

3.1. Relevant Regulatory Criteria

For this Phase II ESA, Stone has compared analytical results to the following regulatory criteria:

- Soil and Sludge: VT DEC Soil Standards (VSS) included in Appendix A of the July 6, 2019 IRule, and, in the absence of a VSS, the current Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for residential and industrial soils (April 2019);
- Groundwater: Vermont Groundwater Enforcement Standards (VGES).

3.2. Subsurface Soil Assessment

3.2.1. Description of Stratigraphy

Stratigraphy across the Site varies significantly with depth and from one location to another. Within IP-16, at the southeast end of the Site, stratigraphy was predominantly coarse sand and gravel. Roundness of individual

grains ranged from sub round to angular, with the majority of clasts being sub-angular. In the center of the Site, as indicated by IP-2, -7, -3, and -5, the sand and gravel deposits are predominant to approximately 20 ft bgs and below 40 ft bgs. In some cases, such as IP-5 and IP-7, the sand and gravel unit is un-interrupted to the bottom of the borehole while in others, such as IP-3 and IP-4, the sand and gravel unit is underlain by sand with silt starting at approximately 65 ft bgs. Strata from 20 to 40 ft bgs in the center of the Site are comprised of interbedded fine to medium sands or fine sands and silt couplets – typical of a lacustrine environment. At the northeast end of the Site, demonstrated by IP-6 and IP-8, lacustrine deposits were not observed; strata in this area of the Site is dominated by interbedded sand and sand and gravel, indicative of a higher energy, alluvial environment.

Soil borings IP-18 through IP-24 were advanced in the area noted as "Active Fill Area' in the 1989 survey of the property. Physical evidence of fill included concrete and asphalt rubble; there was no evidence of any other material used as fill in this area and no elevated PID readings (all were 0.0 parts per million on volume basis (PPMv). It appears this area was used to dispose of concrete and asphalt only, therefore, no soil samples were collected.

3.2.2. Metals Results

With the exception of thallium, all 23 TAL Metals and cyanide were detected above reporting limits in one or more soil samples (Table C-1, Appendix B). Table 3, below, provides a summary of metals in soil that were detected at or above applicable screening value in any soil sample. These results are shown graphically in Figure 4 (Appendix A).

Table 3: Summary of Metals Detected in Soil in Excess of Standards

Sample ID (sample depth in feet bgs is last number of ID)	Arsenic (mg/Kg)	Cadmium (mg/Kg)	Iron (mg/Kg)	Lead (mg/Kg)	Vanadium (mg/Kg)	Mercury (mg/Kg)
VSS Resident	16	6.9	51,302	400	2.8	3.1
VSS Non-Resident	16	87	686,351	800	27	3.1
IP-02-66	**1.09 J**	**1.07**	**19,400**	**9.84**	**17.9**	< 0.66
IP-3A-70.5	**0.548 J**	**0.43 J**	**7,640**	**2.67 J**	**6.64**	< 0.075
IP-05-11.0	< 4.2	**0.743 J**	**11,200**	**3.71 J**	**14.3**	< 0.069
IP-06-0.5	**16**	**8.56**	**122,000**	**633**	**246**	**3.45**
IP-06-0.5-FD	**6.81**	**3.66**	**47,100**	**555**	**243**	**3.04**
IP-12-7.5	**2.75**	**0.688 J**	**11,500**	**3.24 J**	**15.8**	< 0.073
IP-13-7.5	**2.28**	**0.612 J**	**10,400**	**2.45 J**	**14**	< 0.705
IP-15-6.0	**2.53**	**0.7 J**	**11,500**	**3.6 J**	**15.3**	< 0.072
IP-15-6.0-FD	**2.56**	**0.772 J**	**12,800**	**4.06 J**	**16.8**	< 0.077

< Indicates analyte was not detected, laboratory reporting limit provided; mg/kg – milligrams per kilogram; bgs – feet below ground surface; bold values indicate detection; shaded cell indicates exceedance of one or more standards.

Vanadium was detected in all soil samples above the VSS Resident standard, but, with the exception the sample and its duplicate collected from shallow soil within the holding lagoon (IP-06-0.5 and IP-06-0.5-FD), below the VSS Non-Resident standard.

For IP-06-0.5 and IP-06-0.5-FD, vanadium exceeded the VSS Non-Resident standard. Lead in these two samples was also reported at concentrations that exceeded the VSS Resident standard but were below the VSS Non-Resident standard. Cadmium and iron were also detected in the primary sample at concentrations above the VSS Resident standard, but below the VSS Non-Resident standard. Arsenic was also detected in this sample at the VSS standards of 16 mg/Kg in the primary sample, but below the standards in the duplicate

sample. Mercury was detected in the primary sample above the VSS Resident and Non-Resident standards, but just below these standards in the duplicate sample.

Arsenic, cadmium, iron, lead and mercury were not detected in any other subsurface soil sample at concentrations exceeding the applicable standard.

3.2.3. Volatile Organic Compound Results

No VOCs were detected in any soil sample above the applicable regulatory standard. Only acetone was detected above the reporting limit, with a maximum reported concentration of 0.21 mg/Kg, many orders of magnitude below the VSS-Resident standard of 40,609 mg/Kg; all other detections were estimated above the method detection limit, but below the reporting limit.

3.2.4. Semi-Volatile Organic Compound Results

No SVOCs were detected in any subsurface soil sample at concentrations above the applicable regulatory standard. Two compounds, benzidine and n-nitrosodimethylamine, had MDLs above the applicable regulatory standards. According to the EPA, uses of n-nitrosodimethylamine included as a research chemical, additive for lubricants, as a softener of copolymers and in the production of rocket fuels. It is unlikely that this compound was used at the site and therefore, is not considered a contaminant of concern (COC). According to the EPA, benzidine was used in the production of dyes ("benzidine-based dyes") and could be found in printing inks and paper, however, according to the Agency for Toxic Substances and Disease Registry, benzidine has not been made for sale in the United States since the mid-1970s. In the absence of a noticeable release of dyes at the Site, it is unlikely benzidine has been released and therefore, is not a Site COC.

Toxicity equivalency quotients (TEQ) were calculated for the seven cPAHs in accordance with Appendix F of the IRule and summed to compare to the B(a)P-TEQ. One-half the reporting limit was used to calculate the TEQ where an analyte was not detected at a concentration above the laboratory reporting limit, in accordance with IRule. Total TEQs, are included in Table C-3 (Appendix C). No B(a)P-TEQs exceeded the VSS Resident standard in the subsurface soil samples.

3.2.5. Poly- and Perfluoroalkyl Substances Results

PFAS were detected in each of the four soil samples analyzed for PFAS, but well below the VSS Resident standard of 1.22 mg/Kg for the total of five regulated PFAS. The highest levels and largest number of PFAS detected were in the shallow subsurface sample collected from the holding basin and totaled 0.47 mg/Kg (sample IP-06-0.5). Analytical results are summarized in Table C-4 (Appendix C).

3.2.6. Polychlorinated Biphenyl Results

PCBs were detected in the shallow subsurface soil sample collected from the holding basin, and its duplicate (IP-06-0.5 and IP-06-0.5-FD) at total PCB concentrations of 3.53 and 2.72 mg/Kg, respectively, above the VSS Resident and Non-Resident standards and above the EPA Toxic Substances Control Act (TSCA) walk away criteria of 1 PPM. PCBs were not detected in any other soil samples. PCB results for soil samples are summarized in Table C-6 (Appendix C) are shown graphically in Figure 4 (Appendix A).

3.2.7. Dioxin Results

Dioxins were detected primarily in the shallow subsurface sample collected from the holding basin (IP-06-0.5) and its duplicate. In the other three subsurface soil samples collected for dioxin analysis, only octachloro-dibenzo-p-dioxin (OCDD) was detected (IP-05-11.0 and IP-12-11.0). No dioxins were detected in subsurface soil sample IP-13-10.5. TEQs were calculated for the seventeen dioxins in accordance with Appendix F of the IRule and summed to compare to the 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) TEQ standard. One-half the reporting limit was used to calculate the TEQ where an analyte was not detected at a

concentration above the laboratory reporting limit. . 2,3,7,8-TCDD TEQ for IP-06-0.5 and its duplicate exceeded the VSS Non-Resident standard; the 2,3,7,8-TCDD TEQs for the other subsurface soil samples did not exceed either VSS. Dioxin results are summarized in Table C-7 in Appendix C and graphically depicted in Figure 4, Appendix A.

3.3. Surface Soil Assessment

The surface soil sample collected from above the active leach field at IP-14 (IP-14-0.5) was analyzed for VOCs, SVOCs and TAL Metals plus cyanide. Vanadium was reported at 14.6 mg/Kg, above the VSS Resident standard of 2.8 mg/Kg, but below the VSS Non-Resident standard of 27 mg/Kg. No other analytes were detected in this sample above the applicable standard.

ISM was performed at DU-1 and DU-2 to evaluate if the area along the railroad has been impacted by PAHs and/or herbicides and, if so, to evaluate risk to Site users. No herbicides were detected in the three replicate samples collected from each DU, therefore, an Upper Confidence Level of the arithmetic mean (UCL) was not calculated for herbicides. With the exception of cPAHs, no other PAHs were detected above applicable standards.

To determine the concentration of cPAHs as averaged across DU-1 and DU-2, Stone calculated the 95% UCL for PAHs as B(a)P-TEQ. The 95% UCL is a value that, when repeatedly calculated for randomly drawn subsets from a population, equals or exceeds the population arithmetic mean ninety-five percent of the time (State of Connecticut, 2014). Stone utilized the Chebyshev method for calculating the 95% UCL as provided by the Interstate Technology Regulatory Council (ITRC) calculator, http://www.itrcweb.org/ism-/4_2_2_UCL_Calculation_Method.html.

ISM cPAH results for DU-1 and DU-2, expressed as B(a)P-TEQ and 95% UCL are shown below in Tables 4 and 5, respectively. The B(a)P-TEQ 95% UCL for DU-1 was 0.94 mg/Kg, above the VSS Resident standard of 0.07, but below the VSS Non-Resident standard of 1.54. The B(a)P-TEQ 95% UCL for DU-2 was 0.14 mg/Kg, also above the VSS Resident standard of 0.07, but below the VSS Non-Resident standard of 1.54.

Table 4: DU-1 Summary of Carcinogenic PAHs – ISM Samples

Analyte	VSS – Resident (mg/Kg)	VSS – Non Resident (mg/Kg)	DU-1-A (mg/Kg)	DU-1-B (mg/Kg)	DU-1-C (mg/Kg)
Benzo(a)anthracene			0.079	0.450	0.290
Benzo(a)pyrene			0.130 U	0.310	0.180
Benzo(b)fluoranthene			0.170	1.20	0.890
Benzo(k)fluoranthene			0.088 U	0.300	0.250
Chrysene			110	0.870	0.920
Dibenz(a,h)anthracene			0.064 U	0.079	0.066 U
Indeno(1,2,3-cd)pyrene			0.077 U	0.320	0.200
B(a)P-TEQ	0.07	1.54	**0.126**	**0.590**	**0.351**
B(a)P-TEQ 95% UCL	0.07	1.54	**0.94**		

U: Not detected – method detection limit shown; One-half the method detection limit was used in the TEQ calculation if the compound was not detected; VSS: Vermont Soil Standard; Total carcinogenic PAH (cPAH) calculated as benzo(a)pyrene Toxicity Equivalence Quotient (B(a)P-TEQ) using Toxicity Equivalency Factors per IRule; B(a)P-TEQ 95% UCL calculated using the Chebyshev method as provided by the Interstate Technology Regulatory Council (ITRC) calculator, source: http://www.itrcweb.org/ism-1/4_2_2_UCL_Calculation_Method.html.

Table 5: DU-2 Summary of Carcinogenic PAHs – ISM Samples

Analyte	VSS – Resident (mg/Kg)	VSS – Non Resident (mg/Kg)	DU-2-A (mg/Kg)	DU-2-B (mg/Kg)	DU-2-C (mg/Kg)
Benzo(a)anthracene			0.088	0.058 U	0.058 U
Benzo(a)pyrene			0.130 U	0.130 U	0.120 U
Benzo(b)fluoranthene			130	0.088 U	0.086 U
Benzo(k)fluoranthene			0.085 U	0.083 U	0.082 U
Chrysene			0.094	0.054 U	0.053 U
Dibenz(a,h)anthracene			0.061 U	0.060 U	0.059 U
Indeno(1,2,3-cd)pyrene			0.074 U	0.072 U	0.071 U
B(a)P-TEQ	0.07	1.54	**0.122**	**0.106**	**0.101**
B(a)P-TEQ 95% UCL	0.07	1.54	**0.14**		

U: Not detected – method detection limit shown; One-half the method detection limit was used in the TEQ calculation if the compound was not detected; VSS: Vermont Soil Standard; Total carcinogenic PAH (cPAH) calculated as benzo(a)pyrene Toxicity Equivalence Quotient (B(a)P-TEQ) using Toxicity Equivalency Factors per IRule; B(a)P-TEQ 95% UCL calculated using the Chebyshev method as provided by the Interstate Technology Regulatory Council (ITRC) calculator, source: http://www.itrcweb.org/ism-1/4_2_2_UCL_Calculation_Method.html.

3.4. Groundwater Assessment

Table 6 summarizes equilibrated physical chemical parameters for each well sampled in August 2019. Values presented in Table 6 for these locations represent the last values recorded prior sample collection.

Table 6: Groundwater Physical-Chemical Properties

Location ID	Temperature (°C)	ORP (mV)	pH (S.U.)	DO (mg/L)	Specific Conductivity (µS/cm)	Turbidity (NTU)
IP-01	16.3	146	6.87	9.84	1407	25.3
IP-02	16.5	163	6.58	6.28	870	164
IP-03	18.8	248	5.95	7.68	155	80
IP-04	14.2	220	5.92	9.80	1614	41
IP-05	14.7	280	6.12	9.55	148	22
IP-06	14.2	215	6.13	6.21	1052	47
IP-07	14.9	283	6.50	6.29	929	12
IP-08	12.5	142	6.01	8.90	778	1296
IP-16	14.2	258	6.14	6.45	1800	23.8

ORP = oxygen-reduction potential
pH = log hydrogen ion concentration
DO = dissolved oxygen
µS/cm = microSeimens per centimeter
NC = not collected
mV = milliVolts
s.u. = standard units
mg/L = milligrams per liter
NTU = nephelometric turbidity units
°C = degrees centigrade

Oxidation reduction potential (ORP) and dissolved oxygen (DO) indicate the presence of an oxidizing environment in Site groundwater. Monitoring wells IP-02 and IP-08 had relatively elevated turbidity measurements.

3.4.1. Hydrology

Groundwater elevations in Site monitoring wells were measured during the groundwater sampling conducted on August 29 and 30, 2019, relative to an assigned Site datum. Groundwater elevations are shown in Table 7, below. The groundwater surface ranged between 26.22 feet (IP-08) and 28.75 feet (IP-16). In the primary groundwater investigation area of the Site between IP-01 and IP-08, the general hydraulic gradient is to the

east, with some variance to the north-northeast and to the southeast. The horizontal component of the hydraulic gradient varies between 0.001 feet per foot (ft/ft) as calculated between IP-04 to IP-08 to 0.004 ft/ft as calculated between IP-03 and IP-07. It is likely that local variations in groundwater levels contribute to the varying horizontal hydraulic gradient direction. Based on these data, the Connecticut was likely a marginally gaining river during this groundwater monitoring event. Potentiometric surface contours are included on Figure 5 (Appendix A).

Table 7: Groundwater Elevations

Location ID	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
IP-01	95.93	69.05	26.88
IP-02	93.52	67.00	26.52
IP-03	94.76	67.94	26.82
IP-04	95.86	69.12	26.74
IP-05	95.54	68.83	26.71
IP-06	101.82	75.35	26.47
IP-07	93.14	66.85	26.29
IP-08	100.72	74.50	26.22
IP-16	96.68	67.93	28.75

The monitoring well network is not sufficient to accurately evaluate hydraulic gradients in the southwestern portion of the Site. Groundwater elevations in the southwestern extent of the Site (IP-16) was higher than those observed in other areas. The vertical component of the hydraulic gradient was not assessed during this Phase II ESA.

3.4.2. Metals Results

Total lead, manganese and arsenic were detected in the groundwater samples collected from monitoring wells IP-02 and IP-08 at concentrations that exceed their respective VGES. Total manganese was also detected above the VGES in groundwater samples collected from monitoring wells IP-03, IP-04 and IP-06. Total lead was also detected above the VGES in groundwater sample collected from the 'Deep' production well. A summary of lead, manganese and arsenic results in groundwater are provided below in Table 8; the complete metals analyses are summarized in Table C-8 in Appendix C.

Table 8: Summary of Total Metals Detected in Groundwater in Excess of VGES

Sample ID	Lead (µg/L)	Manganese (µg/L)	Arsenic (µg/L)
VGES	15	300	10
IP-01	< 10	**136**	**0.26 J**
IP-02	**52**	**2580**	**20.54**
IP-03	**8 J**	**777**	**2.76**
IP-04	**5 J**	**443**	**1.26**
IP-05	< 10	**78**	**0.24 J**
IP-05-FD	< 10	**65**	< 0.5
IP-06	**6 J**	**346**	**4.15**
IP-07	**3 J**	**45**	**0.71**
IP-08	**21**	**722**	**22.03**
IP-16	**3 J**	**161**	**1.48**
Deep Well	**27**	**31**	**0.37**
Shallow Well	**3 J**	**267**	**0.64**

Abbreviations: VGES – Vermont Groundwater Enforcement Standards; µg/L – micrograms per liter; < Indicates analyte was not detected, laboratory reporting limit provided; J – estimated detection above the method detection limit but below the reporting limit.

3.4.3. Volatile Organic Compound Results

Several VOCs were detected in one or more groundwater samples, including acetone, chloroform, tetrachloroethene, 1,2-dichloroethene, bromomethane, methyl-tert-butyl-ether (MTBE) and naphthalene. Of these, only naphthalene was detected above the VGES of 0.5 micrograms per liter (μg/L). This occurred in both the 'Deep' and 'Shallow' production well samples at estimated concentrations of 1.1 μg/L and 1.8 μg/L, respectively. Note that the reported naphthalene concentrations in the SVOC analysis were estimated at 0.06 μg/L and 0.27 μg/L, respectively, for these two samples which is below the VGES.

Tetrachloroethene was detected in groundwater samples collected from IP-03 and IP-04 at concentrations of 1.5 μg/L and 0.19 μg/L (estimated), respectively, below the VGES of 5 μg/L. 1,2-Dichloroethene was detected in the 'Shallow' production well at an estimated concentration of 0.21 μg/L, below the VGES of 5 μg/L. MTBE was detected in both the 'Deep' and 'Shallow' projection wells at concentrations of 2 μg/L and 9.9 μg/L, respectively, below the VGES of 11 μg/L. 1,4-dixoane was detected in groundwater samples collected from IP-04 and the 'Shallow' production well at concentrations of 0.0542 μg/L (estimated) and 0.16 μg/L, respectively, below the VGES of 0.3 μg/L, however, it is likely that acetone was introduced within the laboratory as discussed in Section 3.6.

VOC analytical results are summarized in Table C-9 in Appendix C. Low-level 1,4-dioxane results are summarized in Table C-13 in Appendix C.

As identified in Table A.2 of the SSQAPP, the laboratory MDLs for 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane and 1,2-dibromomethane were above the VGES. 1,2,3-trichloropropane is used in solvents, and in the absence of other solvent constituents, is not considered a COC in groundwater at this Site. 1,2-dibromo-3-chloropropane and 1,2-dibromomethane are fumigant pesticides and are not considered COCs at this Site.

3.4.4. Semi Volatile Organic Compound Results

Several SVOCs were detected in one or more groundwater samples, including bis-2-ethylhexyl-phthalate, dimethyl phthalate and a number of PAHs, but none at concentrations above their respective VGES. Bis-2-ethylhexyl-phthalate (a plasticizer) was detected in groundwater samples collected from IP-16 and both the 'Deep' and 'Shallow' production wells at concentrations of 2.5 μg/L (estimated), 4.2 μg/L, and 2.2 μg/L (estimated) respectively, all below the VGES of 6 μg/L. Dimethyl phthalate was detected in the groundwater sample collected from IP-07 at an estimated concentration of 1.3 μg/L; there is no VGES for this compound. SVOC analytical results are summarized in Table C-10 in Appendix C.

3.4.5. Poly- and Perfluoroalkyl Substances Results

A number of PFAS were detected in all groundwater samples, but at concentrations below the VGES of 20 nanograms per liter (ng/L) for the sum of five PFAS: perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorohexanesulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA) and perfluorononanoic acid (PFNA). The maximum concentration of the sum of these five PFAS was 13 ng/L in the sample collected from IP-06. PFAS analytical results for groundwater are summarized in Table C-11 in Appendix C.

3.4.6. Polychlorinated Biphenyl Results

Arochlor-1260 was detected in the groundwater sample collected from IP-06 at an estimated concentration of 0.1 μg/L, below the VGES for total PCBs of 0.5 μg/L. No other PCBs were detected in groundwater samples. PCB analytical results are summarized in Table C-12 in Appendix C.

3.4.7. Dioxin Results

No dioxins were detected in the two groundwater samples collected from IP-05 and IP-06. The dioxin analytical results are summarized in Table C-14 in Appendix C.

3.5. Wastewater Treatment System Sludge Assessment

Analytical results for the wastewater treatment plant sludge sample collected on July 23, 2019 are summarized in Tables C-15 through C-20 in Appendix C. This sample reported as containing 29% solids. The results of the PFAS / TOP Assay performed on the SPLP extract of the sludge sample collected on August 30, 2019 are summarized in Table C-21 in Appendix C.

3.5.1. Metals

Metals were detected in the sludge sample, but results were below applicable VSS or EPA RSL standards. Thallium's MDL of 0.855 mg/Kg is just above the EPA Residential RSL of 0.78 mg/Kg, but below the EPA Industrial RSL.

3.5.2. Volatile Organic Compounds

VOC 1,4-dichlorobutane was detected at a concentration of 0.0029 mg/Kg; there is no related soil standard for this VOC. Acetone was detected at a concentration of 0.093 mg/Kg, well below the VSS Resident standard of 40,609 μg/L. No other VOCs were detected in the sludge sample.

3.5.3. Semi-Volatile Organic Compounds

No SVOCs were detected above reporting limits; some MDLs were above VSS Resident or EPA RSLs.

3.5.4. Polychlorinated Biphenyls

PCBs were not detected in the sludge sample.

3.5.5. Dioxins

Each dioxin in the analysis was detected in the sludge sample. The 2,3,7,8-TCDD TEQ was calculated at 22.988 picograms per gram(pg/g), above the VSS Non-Resident standard of 13.7 pg/g.

3.5.6. Poly- and Perfluoroalkyl Substances

PFAS 6:2 FTS, PFDoA, PFHxA were detected at estimated concentrations of 0.00202 mg/Kg, 0.000229 mg/Kg and 0.000203 mg/Kg, respectively. None of the five PFAS regulated compounds included in the VSS were detected.

Results of the PFAS TOP Assay procedure performed on the SPLP extract showed that total per-fluorinated carboxylic acids (PFCAs) exhibited a net increase of 10.74 nanograms per liter (ng/L), from 32.72 ng/L to 43.46 ng/L after undergoing the TOP Assay procedure. Ignoring net decreases reported in the PFCAs, the total increase was 16.84 ng/L.

3.6. Quality Assurance/Quality Control

Field duplicate samples were collected for each media and analyte group sampled during the Phase II ESA. Additionally, a number of trip blanks, field equipment blanks and for PFAS, field reagent blanks, were submitted and analyzed.

Field blank data were used to assess precision of the analytical results by calculating relative percent difference (RPD) values for each primary-duplicate field blank sample pair using the following formula:

$$RPD = \frac{|C_1 - C_2|}{\frac{C_1 + C_2}{2}} \times 100$$

Where: C1 = Concentration of a given target analyte in the Primary Sample, and

C2 = Concentration of a given target analyte in the Field Duplicate sample

The results of these QA/QC sampling are provided in the following subsections. Full laboratory analytical reports are provided in Appendix D and provide additional discussion regarding internal surrogate recoveries and sample re-analysis.

3.6.1. Soil

Field Duplicates

As a general note, calculated RPDs in soil sample IP-06-0.5 and its duplicate ranged greatly, indicating high degree of heterogeneity in this sample.

Calculated RPDs for metals in soil ranged between 1% and 38% in sample IP-15-6.0 and its duplicate, which is within quality control threshold of 50%. RPDs for metals in soil ranged between 1% and 99% in sample IP-06-0.5 and its duplicate, with many of the RPDs exceeding the 50% quality control threshold; this is likely due to matrix interference for this sample and does not impact the usability of the data. The poor RPD values for sample IP-06-0.5 and its duplicate illustrates the high degree of heterogeneity of these contaminants in this soil sample.

Calculated RPDs for VOCs in soil sample IP-15-8.0 and its duplicate were 11% for toluene and 46% for acetone, a common laboratory contaminant, both within the 50% quality control threshold. RPDs for VOCs in IP-06-0.5 and its duplicate ranged from 40% to 102% and again, likely represents high degree of heterogeneity in this sample.

The calculated RPDs for SVOCs in soil sample IP-06-0.5 and its duplicate ranged from 17% to 130%, most exceeding the 50% quality control threshold.

The calculated RPDs for PFAS and PCBs in soil sample IP-06-0.5 and its duplicate ranged from 0% to 45%, within the 50% quality control threshold.

The calculated RPDs for dioxin in soil sample IP-06-0.5 and its duplicate ranged from 0% to 81%, with 6 of the 17 RPDs above the 50% quality control threshold.

Field Blanks

PFAS: PFOA and PFDA were detected at low concentrations in both field blanks collected in conjunction with the soil sampling at locations IP-05 and IP-06, but were also detected at much higher concentrations in the laboratory method blank analyses for these samples; therefore, the presence of PFOA and PFDA in the field blanks does not impact the data usability. The method blank analyses for the primary samples were within limits.

3.6.2. Groundwater

Field Duplicates

Calculated RPDs for metals in groundwater ranged from 0% to 43%, with only the RPD for aluminum outside the 30% quality control threshold. Based on the results of this Phase II ESA, aluminum is not considered a COC, so this RPD result does not impact the usability of the data. Calculated RPDs for PFAS in groundwater ranged from 1% to 16%, within the 30% quality control threshold. No RPDs were calculated for SVOCs, PCBs, or dioxins in groundwater due to lack of detections in the primary and/or duplicate sample.

Trip Blanks

The trip blank sample for VOCs submitted with the Deep and Shallow production well groundwater samples was not analyzed due to an incomplete chain of custody record. This did not come to Stone's attention until after the sample was outside of the 14-day hold time. Chloroform, MTBE and naphthalene were detected in the primary samples. Because MTBE use has been phased out of commercial use in gasoline and has only been historically detected in groundwater at the site, it is unlikely that the MTBE detected in the primary samples was introduced to the samples after collection. Due to the low relative volatility of naphthalene, it is also unlikely that it was introduced to the samples after collection. Chloroform detected at an estimated concentration in the Shallow production well sample well below the VT Water Quality Criteria for the protection of human health and aquatic biota. Therefore, the absence of a trip blank does not affect the usability of these data in relation to the conclusions of this Phase II ESA.

In the trip blank samples submitted with the groundwater samples collected on August 29th and 30th, 2019, the VOC acetone was detected at 3.4 ug/L and PFAS PFHxA was detected at estimated concentration of 0.379 ng/L. Acetone is a known common laboratory contaminant and it is likely that the detections in groundwater samples at the site is due to laboratory contamination. Additionally, the detections were orders of magnitude below the VGES, so even with these detections, it does not affect the conclusions of this Phase II ESA. PFHxA was detected in all but one groundwater sample at varying concentrations. PFHxA is currently not regulated and no other standards were exceeded for PFAS compounds, so the detection of PFHxA in the trip blank does not affect the conclusions of this Phase II ESA.

Field Blanks

PFAS PFHxA was detected at estimated concentrations of 0.372 ng/L and 0.686 ng/L in the field blanks associated with the groundwater samples collected on August 29 and 30, 2019. As stated above, PFHxA was detected in all but one groundwater sample at varying concentrations. PFHxA is currently not regulated and no other standards were exceeded for PFAS compounds, so the detection of PFHxA in the field blank does not affect the conclusions of this Phase II ESA. PFAS 6:2FTS and 8:2FTS were detected in the field blank sample associated with the groundwater samples collected on August 30, 2019 at concentrations of 12.5 ng/L and 1.81 ng/L, respectively. 8:2FTS was detected in 2 of the 3 primary groundwater samples collected on August 30, 2019 at concentrations of 2.32 ng/L and 1.85 ng/L (estimated). 6:2FTS was also detected in 2 of the 3 primary groundwater samples collected on August 30, 2019 at concentrations of 22.9 ng/L and 11 ng/L. 6:2FTS and 8:2FTS are currently not regulated and no other standards were exceeded for PFAS compounds, so the detection of 6:2FTS and 8:2 FTS in the field blank does not affect the conclusions of this Phase II ESA. See equipment blank note below regarding 6:2FTS.

Equipment Blanks

PFAS PFHxA was detected at an estimated concentration of 0.326 ng/L in the equipment blank sample collected on August 29, 2019. The following PFAS were detected in the equipment blank collected on August 30, 2019: PFHxA at 0.647 ng/L (estimated), PFOA at 0.588 ng/L (estimated), 6:2 FTS at 13.6 ng/L and 8:2FTS at 1.98 ng/L. Of these, only PFHxA was detected after re-extraction at an estimated concentration of 0.381 ng/L. 6:2FTS was detected in all primary samples collected on August 30, 2019 therefore, the results of

these samples may not be indicative of groundwater concentrations. Because 6:2FTS is currently not regulated, and no other standards were exceeded for PFAS compounds, the detection of these compounds in the equipment blanks does not affect the conclusions of this Phase II ESA.

4. Conceptual Site Model

The Conceptual Site Model (CSM) presented herein is based on results from the Phase II ESA and historical investigations and assessments of the Site, including those sources referenced in Section 1.3 of this report. This CSM provides a set of working hypotheses that describe key aspects of the Site. As with any hypothesis, the CSM may require additional testing to arrive at the desired level of confidence. The CSM includes a discussion of the known physical, geologic, and hydraulic attributes of the Site and surrounding area, how chemicals were or may have been released at the Site, their transport pathways, fate mechanisms, and potential routes of exposure to ecological and human receptors. The CSM provides the context from which site investigation activities are developed and a framework to make sound Site management decisions.

4.1. Geology and Hydrogeology

According to the Agency of Natural Resource (ANR) Atlas, the Site is underlain by schist (primary) and metawacke (secondary) bedrock. The bedrock is described as dark gray to coaly-black, fine-grained plagioclase-muscovite-quartz schist and metawacke, shown southeast of Springfield, in part correlative with staurolite-grade rocks mapped as Littleton Formation. Bedrock was reported at depths of 137 and 142 feet below ground surface in two bedrock wells drilled to the west and southwest of the Site where ground surface elevations are relatively similar to that of the Site. Overburden groundwater production wells at the Site were drilled to approximately 100 ft bgs. Therefore, it is anticipated that bedrock would be encountered between 100 and 150 ft bgs at the Site. Depth to water is approximately was measured between 66 and 69 ft bgs in the parking area of the site, and 75 ft bgs in the area immediately southeast of the lagoons.

Overburden soils at the Site are mapped as fluvial sands. In an appendix to the 2015 Ramboll Phase I ESA, Griffin reported in their "Report on the Investigation of Subsurface Petroleum Contamination, Specialty Paperboard, Brattleboro, Vermont" dated July 1990 (1990 Griffin), that subsurface soils consisted of "nearly horizontal stratigraphic sequences, each measuring approximately one-foot thick and that they begin as coarse, well rounded, well sorted sand at the top and grade into fine, silty sand at the bottom" of each sequence. Griffin further concluded that the stratigraphic sequence planes dip slightly to the south. During this Phase II ESA, strata observed during the installation of groundwater monitoring wells did not concur with this prior assessment; while lower-energy (e.g., fine sands and silt) stratigraphic units were observed in select borings, such as IP-05 and IP-03, high-energy deposits (medium to coarse sands through gravel and cobbles) were common. We interpret this variability within Site strata to be indicative of a meandering river system bisecting through previously deposited lacustrine deltaic sediments. Coarser sediments with angular to sub-angular grains, like those that are prominent between 0 and 20 ft bgs Site-wide, suggest that these sediments are close to their source and that the paleo-Connecticut River flowed at high velocities along the Site.

Ground surface at the Site is generally flat, except along the Connecticut River where the land slopes steeply downward approximately 70 feet. Ground surface in the surrounding area north and northwest of the Site generally slopes to the south and east. Based on surrounding area topography, groundwater flow would be presumed to be east or southeast toward the Connecticut, however, due to the impoundment of the Connecticut River by the Vernon Dam at Vernon, Vermont approximately 10 miles downstream of the Site, at

least periodically, the Connecticut River may be a losing stream in the vicinity of the Site. Groundwater contour maps created during prior environmental assessment of the Site indicate groundwater surface gradient toward the river (Griffin, 1994) and groundwater elevation data collected as part of this Phase II ESA showed slight horizontal gradients to the east and southeast. Based on this information, and in the absence of multiple rounds of groundwater and surface water level data, we would expect the Connecticut to be both a losing and gaining stream near the LFP property, depending on groundwater and river levels and recharge.

The vertical component of the hydraulic head distribution is unknown. In the southeast portion of the Site, we expect that pumping of the Long Falls Paperboard production wells will induce a downward gradient.

The connection between the unconsolidated, overburden aquifer and the bedrock aquifer is unknown.

Groundwater at the northeastern portion of the site, northeast of the wastewater treatment system lagoons, has been reclassified as Class IV groundwater due to contaminants from the Windham SWMD landfill located immediately to the northwest of the site.

4.2. Industrial Setting and Release Mechanisms

As noted in Section 1.2, the Property was developed in 1960 for paperboard manufacturing. Manufactured wood pulp from off-site sources is delivered to the facility for use in making paperboard. The facility also receives recycled paper that is processed through a re-pulper. The LFP facility currently does not bleach pulp, although a chemical bleaching process was used in color stripping in the 1960s and was discontinued in the 1970s (2015 Ramboll). Dioxins are known to be present in paper pulp that has been bleached; if pulp that was bleached was used at the plant, then dioxins may be present, most likely in the facility waste sludge, and wherever these sludges were stored and/or disposed at the site.

The only known documented contaminant releases at the Site are from various petroleum surface spills and releases from No. 6 fuel oil USTs. Reported petroleum spills were generally contained (with the exception of a reported release that impacted the on-site clarifier) and the no. 6 fuel oil leaking UST release received a VT DEC SMAC letter in 1994. However, soil and groundwater were not sampled for the primary constituents of no. 6 fuel oil: PAHs. Additionally, detections of CVOCs in groundwater samples collected during the No. 6 fuel oil investigation from 1990 to 1994 indicate undocumented releases of CVOCs at the Site and/or at an unknown upgradient source; this was possibly an indication of a release mechanism for other contaminants of concern at the Site that had not been investigated until this Phase II ESA.

Other potential COCs include VOCs, SVOCs, metals, dioxins, and PFAS. In regard to metals, it is known that copper is used at the facility and titanium was used historically, along with aluminum and sodium compounds, although these metals were not detected at concentrations that exceeded their regulatory standards.

4.3. Contaminant Distribution, Fate and Transport

The initial CSM was presented in the SSQAPP primarily in table format (Table 1 in the SSQAPP) and is included as Appendix E of this Phase II ESA report. This table outlined contaminants and potential contaminants of concern, source and release mechanisms, and media of interest, organized by REC, for what was previously understood.

Performance of this Phase II ESA has greatly refined the CSM, including closing the following RECs identified in the Phase I ESA:

- RECs 5 – Equipment Storage Yard. There was no evidence of a release to surface soils or subsurface soils.
- REC 6 – Abandoned Drum. There was no evidence of a release observed related to this drum. The drum appeared to have been empty and used for moving concrete rubble. Additional inert debris (e.g. plastic pipe) was also located in this area.
- REC 7 – Former 'Active Fill Area' in the northwest end of the site. There was no evidence of fill other than concrete, asphalt, & inert debris (e.g. plastic pipe) in this area.
- REC 8 – Windham SWMD closed landfill's influence on the Site's groundwater quality beneath the northeastern portion of the Site. This is considered a controlled REC and therefore was not investigated further as part of this Phase II ESA. The groundwater in this area had previously been reclassified as a Class IV groundwater and it should be assumed that groundwater beneath this area of the Site remains contaminated.
- RECs 9 & 10 – Active and Inactive Septic Leach Fields. There was no evidence from soil screening or the soil sample analytical results of any substantial release to soils in the area of the current active and inactive leach fields.
- REC – 12 – There were no COCs detected in the groundwater sample collected from IP-16, therefore, the contaminants migrating in groundwater to the Site from the former The Book Press property does not appear to be a concern for this Site.

The following subsections update the CSM for the remaining RECs.

4.3.1. RECs 1 and 2: No. 6 Fuel Oil Release and Former Diesel & Gasoline USTs

Petroleum products, containing VOCs and SVOCs, will tend to migrate downward through soil to the groundwater table with some of the product adsorbing to soil particles. Petroleum VOCs and most SVOCs have a specific gravity less than water and will tend to stay high in the groundwater column.

Investigation point IP-03 was advanced as close as practicable to the former leaking No. 6 fuel oil USTs. Less than 1 ppmv PID response was measured in screened soils to the water table. In the soil sample collected at 70.5 feet depth, no VOCs or SVOCs were detected above screening values. Of note, an extremely low detection of tetrachloroethene in this soil sample was estimated at 0.00029 mg/Kg, many orders of magnitude below the VSS Resident standard of 2.4 mg/Kg. In groundwater, no VOCs of concern or SVOCs were detected in IP-03.

Free-phase petroleum product was detected in monitoring well MW-16 at an elevation > 10 feet above the observed water table; is unknown if this is representative of current in-situ conditions as it could be the same No. 6 fuel oil present as it was left when last monitored in 1994.

Monitoring wells IP-02 and IP-07 were installed at locations that were presumed to be hydraulically downgradient of the suspected former locations of the five diesel and gasoline USTs to evaluate current groundwater conditions. PID response of soils screened were at 1.0 ppmv or lower at each well location. No VOCs of concern or SVOCs were detected in the groundwater. Note that due to above ground natural gas tanks and underground utilities, IP-07 could not be installed directly in the suspected area of the former USTs.

Naphthalene was detected in samples collected from both the 'Deep' and 'Shallow' production well (EPA Method 8260C analysis) at estimated concentrations of 1.1 μg/L and 1.8 μg/L, above the VGES of 0.5 μg/L for this compound. Additional SVOCs were detected in each of these samples but well below the respective VGES standards. MTBE was also detected in each of these samples at concentrations of 2 μg/L and 9.9 μg/L, below the VGES standard of 11 μg/L. MTBE was detected in a 1994 sample collected from nearby former

monitoring well MW-11 at a concentration of 14.2 μg/L. These data indicate that petroleum products may have migrated and/or were hydraulically influenced due to pumping to the production well area and in the absence of a continuing source, are and/or would be expected to decline over time.

4.3.2. RECs 3 & 4: General Use of the Property for Paperboard Manufacturing and Potential Releases from Basement Sumps and/or Underground Piping

With the exception of the MTBE and naphthalene detections discussed above, and PCBs in the holding lagoon discussed below, VOCs, SVOCs and PCBs were not detected above applicable standards and are not a current concern at the Site. Chlorinated VOCs were detected in groundwater between 1990 and 1994 above current VGES but were only detected at concentrations well below VGES during this Phase II ESA, indicating that there is currently no on- or off-Site continuing source of cVOCs and natural attenuation of the cVOCs previously detected has occurred over time.

PFAS were detected at levels well below the VSS for regulated PFAS compounds in select subsurface soil samples collected at the Site. PFAS were also detected in ten of the eleven groundwater samples collected, but at concentrations below the VGES standard of 20 ng/L for the total of five regulated PFAS compounds.

PFAS have been used historically in paper coatings, among other uses, and have been detected in the facility wastewater treatment liquid effluent in December 2018 as well as the sludge samples collected during this Phase II ESA. Some PFAS can adsorb to material with high organic content, but in general, they tend to move with groundwater.

Vanadium was detected in all soil samples at concentrations above the VSS Resident standard, but, with the exception of the shallow soil sample collected from the wastewater treatment plant holding basin (discussed below), were below the VSS Non-Resident standard. Vanadium was also detected in five of the eleven groundwater samples, up to 11 ug/L; there is no VGES for vanadium in groundwater. There is no known use for vanadium at the Site; vanadium is used in the production of steel to reduce its weight. Total lead, manganese, and arsenic were each detected in more than one groundwater sample at concentrations above the VGES; this may not be indicative of what is migrating through soils due to the relatively high turbidity readings measured during sample collection. The samples with the highest turbidity readings had the highest concentrations of total metals. Dissolved concentrations of these metals would likely be lower. While copper and magnesium are used at the facility and titanium was used historically along with sodium and aluminum compounds, these metals were not detected in soil or groundwater above VSS or VGES standards. Cyanide may also be a byproduct of the papermaking process but was not detected above VGES.

Dioxins were detected in subsurface soils, but, with the exception of the shallow subsurface soil sample collected in the wastewater treatment system lagoon holding basin, at concentrations that calculated well below 2,3,7,8-TCDD TEQ VSS standards. Dioxins were not detected in the two groundwater samples collected from monitoring wells IP-05 and IP-06 indicating that if there has been a release to soil, the dioxins have not migrated to groundwater in these areas.

4.3.3. REC 11: Impacts from the Adjacent Railway Line

PAHs are known to be historically deposited along railroads; they occur naturally in fuel oil, coal, and tar and are common byproducts of the combustion of fuels in internal combustion engines including train engines. Select PAHs have been identified as carcinogenic compounds (cPAHs). PAHs do not readily dissolve into water without help from a co-solvent and are therefore slow to migrate to or via groundwater.

Herbicides, including chlorinated herbicides, have been commonly used for agricultural or maintenance purposes including those along the railway right of way and can have carcinogenic and/or mutagenic

properties. Herbicides typically bioaccumulate in animal fat and will bind to soil and sediment. They are less soluble in water and do not typically migrate via groundwater.

Herbicides were not detected along the railway in the ISM samples collected. However, cPAHs were detected. These compounds were evaluated by calculating the B(a)P-TEQ 95% UCL for the ISM samples collected in each of the two decision units. The B(a)P-TEQ 95% UCL for DU-1 was 0.94 mg/Kg, above the VSS Resident standard of 0.07, but below the VSS Non-Resident standard of 1.54. The B(a)P-TEQ 95% UCL for DU-2 was 0.14 mg/Kg, also above the VSS Resident standard of 0.07, but below the VSS Non-Resident standard of 1.54.

4.3.4. REC 13: Wastewater Treatment Plant Lagoons

The wastewater treatment plant lagoons receive liquid wastes from the clarifier and oxygenate them for additional processing prior to discharge to the Connecticut River under the facility's discharge permit. Investigation points IP-06 and IP-08 were advanced adjacent and hydraulically downgradient of the lagoons to assess groundwater quality. Total lead, manganese, and arsenic were each detected in the groundwater sample collected at IP-08 at concentrations above the VGES; however, this may not be indicative of what is migrating through soils due to the relatively high turbidity readings measured during sample collection. This groundwater sample had the highest turbidity measurement of all groundwater samples at 1,296 nephelometric turbidity units (NTUs); dissolved concentrations of these metals would likely be lower.

A shallow subsurface soil sample and its duplicate were collected from the center of the wastewater treatment plant lagoon holding basin (IP-06-0.5 and IP-06-0.5-FD). Metals vanadium and mercury were detected at concentrations above the VSS Non-Resident standard. PCBs were detected in these samples at total PCB concentrations of 3.53 and 2.72 mg/Kg, respectively, above the VSS Resident and Non-Resident standards and above the EPA Toxic Substances Control Act (TSCA) walk away criteria of 1 PPM. PCBs are extremely persistent in the environment.

PFAS were detected in these shallow subsurface soil samples, but well below current VSS. No VOCs or SVOCs were detected above VSS standards and are not a concern.

Dioxins were detected primarily in the shallow subsurface sample collected from the holding basin (IP-06-0.5) and its duplicate. The calculated 2,3,7,8-TCDD TEQ in sample IP-06-0.5 was calculated as 14.7 picograms per gram (pg/g), exceeding both the VSS Resident and VSS Non-Resident standards of 2.25 pg/g and 13.7 pg/g, respectively. The duplicate sample calculated 2,3,7,8-TCDD TEQ was 11.4 pg/g, above the VSS Resident standard but just below the VSS Non-Resident standard of 13.7 pg/g. Dioxins and their subset furans, are produced during pulp bleaching operations The LFP facility currently does not bleach pulp, although a chemical bleaching process was used in color stripping in the 1960s and was discontinued in the 1970s (2015 Ramboll). Dioxins are known to be present in paper pulp that has been bleached. If pulp that was bleached was used at the plant, then dioxins may have been or are present, most likely in the facility waste sludge, and wherever these sludges were disposed. Dioxins are extremely persistent in the environment and tend to stay strongly sorbed to soil, especially those with a high organic content.

The wastewater treatment system lagoons were installed circa 1972; it is unknown when the holding basin was installed, but it was present in 1989 based on a survey. According to Long Falls Paperboard personnel, the holding basin serves as an emergency storage basin to contain wastewater in the event of an incident at the Site where materials enter the wastewater treatment system that would result in a die-off of the bacterial colony within the aeration lagoons. Field observations of sludge and stained soils within the holding basin by Stone staff during the collection of IP-6A-0.5 indicate that discharge(s) to the holding basin have occurred in the past. It is not known when such incidents have occurred or what materials may have been discharged to the basin.

Based on the analytical results of this shallow subsurface soil sample, dioxins, metals and PCBs are of concern in the holding basin area. It is likely that these contaminants extend in soil to at least the top of the holding basin berm, however, the complete horizontal extent, along with the vertical extent, are unknown.

The results of the wastewater treatment system sludge assessment (Section 3.5) relates to waste management of facility operations and is not in and of itself considered a REC.

4.4. Sensitive Receptor Evaluation

Contamination from Site sources has been evaluated for its potential to adversely affect sensitive receptors. Table 9 presents the potentially affected media, potential pathways, and potential receptors.

Table 9: Sensitive Receptors Evaluation

Affected Media	Potential Pathways	Sensitive Receptors/Potential Risk
Surface Water	Overland flow of stormwater runoff and groundwater discharge	Connecticut River / Low – contaminants in groundwater are generally at concentrations below VGES and or just above, with the exception of total lead, manganese and arsenic which may not be in a dissolved state.
Surface Soil	Direct contact to contaminated materials	Site users & trespassers / Medium – Surface soil sample collected near the active septic leach field contained vanadium above VSS Resident, but below VSS Non-Resident standards. However, a shallow subsurface soil from the holding basin contained metals, dioxins and PCBs at concentrations exceeding VSS Non-Resident standards.
Sub Surface Soil	Prior fuel spill and/or releases from wastewater processes.	Groundwater / Low – there does not appear to be any widespread groundwater contamination at the Site. Construction workers / Medium
Groundwater	Infiltration of surface water through impacted soil may leach contaminants to groundwater.	Potential discharge to Connecticut River / Unknown Potential uptake into facility process water / Medium – naphthalene and lead were detected in the sample collected from the 'Deep' production well at concentrations above VGES.
Sediment	Discharge of contaminated soils to the Connecticut River from stormwater.	Potential discharge to the Connecticut River / Low

Affected Media	Potential Pathways	Sensitive Receptors/Potential Risk
Air	Vapor intrusion of petroleum or chlorinated VOCs. Discharge to ambient air from contaminated Site Media.	Potential Vapor Intrusion from subsurface VOCs / Low Potential volatilization of VOCs in soil (current or future) / Low

Abbreviations: VOCs – volatile organic compounds; CVOCs- chlorinated volatile organic compounds; VSS – Vermont Soil Standards; VGES – Vermont Groundwater Enforcement Standards; PCBs – polychlorinated biphenyls;

4.5. Adjoining Property Owners

Adjoining property owners, as presented in the City of Brattleboro 2018 Grand List, are summarized in Table 10, below.

Table 10: Adjoining Property Owner Information

Property Address	Parcel Id	Direction	Owner
153 Wellington Road	00080041.000	Southeast	Green Mountain Power Corp
22 Browne Court	00080035.000	Northeast	Brattleboro Development Credit Corp
89 Glen Orne Drive	00080006.000	North	L & S Associates
109 Glen Orne Drive	00080006.000	North	L & S Associates
111 Glen Orne Drive	00080006.000	North	L & S Associates
54 O'Bryan Drive	00080006.000	North	L & S Associates
47 Old Ferry Road	00080006.000	North	L & S Associates
Old Ferry Road	00080025.000	East	Allard Ruth B Revocable Trust
327-329 Old Ferry Road	00080022.100	Northeast	Windham Solid Waste Management District

5. Conclusions and Recommendations

Based on the results of the Phase II ESA, Stone has made the following conclusions:

1. No. 6 fuel oil from the pre-1990 release is still present in the subsurface, but not at concentrations high enough to impact sensitive receptors, e.g. downgradient groundwater or soil.
2. With the exception of MTBE detections in the facility production wells, there was no evidence of a gasoline release from former USTs, and no evidence of diesel fuel releases that are significantly impacting groundwater.
3. Historically detected cVOCs in groundwater have naturally attenuated over time and there appears to be no on or off-site continuing source.
4. PFAS are present in some on-site soils and in groundwater, but at concentrations below current VSS and VGES standards.
5. Vanadium is present in on-site surface and subsurface soils at concentrations exceeding the VSS Resident standard, but with the exception of the shallow soil sample collected from the wastewater treatment system lagoon holding basin, below VSS Non-Resident Standard.
6. Total lead, manganese and arsenic are present in on-Site groundwater at concentrations exceeding the VGES. Concentrations of these metals in groundwater may be elevated due to sample turbidity.
7. PAHs are present along the railway (DU-2) and railway spur to the Site (DU-1), as measured by the calculated B(a)P-TEQ 95% UCL, at concentrations that exceed the VSS Resident standard, but that are below the VSS Non-Resident standard.
8. Dioxins, PCBs and metals are present in the wastewater treatment system lagoon holding basin at concentrations that exceed the VSS Non-Resident standards. The vertical and horizontal extent of these exceedances are unknown.

An Evaluation of Corrective Action Alternatives (ECAA) should be prepared to assess remedial alternatives to prevent unacceptable exposure of contaminants to Site users. An ECAA will require the following additional assessment tasks:

1. Sampling of on-site groundwater for dissolved lead, manganese and arsenic in select on-Site groundwater monitoring wells.
2. Continued assessment, i.e. groundwater monitoring, of PFAS in groundwater.
3. Additional soil assessment to determine the vertical and horizontal extent of dioxin, PCB, and metals contamination related to the holding basin.
4. Assessment of soils to support soil management during construction activities associated with the proposed installation of a biomass heat plant, including potential underground biomass storage, and other Site improvements, as appropriate.

Upon completion of an ECAA and its approval by the VTDEC, a Corrective Action Plan (CAP) can be prepared.

6. References

Environmental Services of America, Inc., 1994. Environmental Site Investigation Report for Quebecor Printing Book Press, Putney Road, Brattleboro, Vermont. January 21.

LE Environmental, 2018. LE Environmental Phase I Environmental Site Assessment Report, Neenah Northeast LLC, December 12.

Rambol Environ, 2015. Phase I Environmental Site Assessment and Limited Environmental Compliance Review of Fibermark North America, Inc., Brattleboro, Vermont, June.

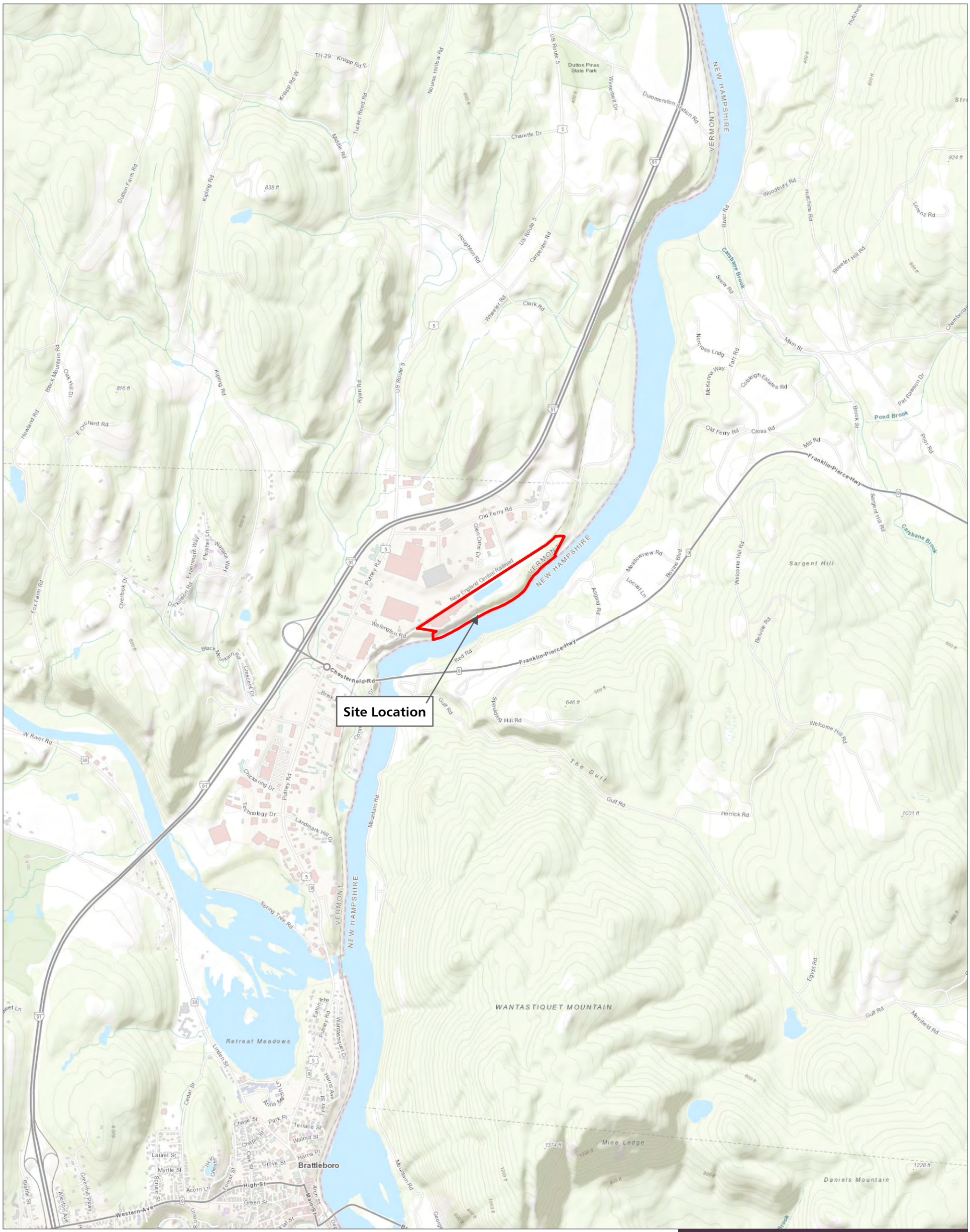
Weston & Sampson, 2018. Limited Baseline PFAS Sampling, December 2018, Tables 1 and 2.

Griffin International, Inc., 1990. Report on the Investigation of Subsurface Petroleum Contamination, Specialty Paperboard, Brattleboro, Vermont, July.

C.T. Male Associates, P.C., 1989. ALTA/ACSM Land Title Survey, Boise Cascade Corp. Facility. Sheets 1 and 2 of 2. May.

Appendix A: Figures

Figure 1: Site Location Map
Figure 2: Site Vicinity Map
Figure 3: Site Map
Figure 4: Soil Metals Results
Figure 5: Soil PCB and 2,3,7,8-TCDD Results
Figure 6: Groundwater Surface Contours
Figure 7: Groundwater Metals Results



LEGEND

Target Property Boundary

N

0 1,000 2,000

Feet

Figure 1 Site Location

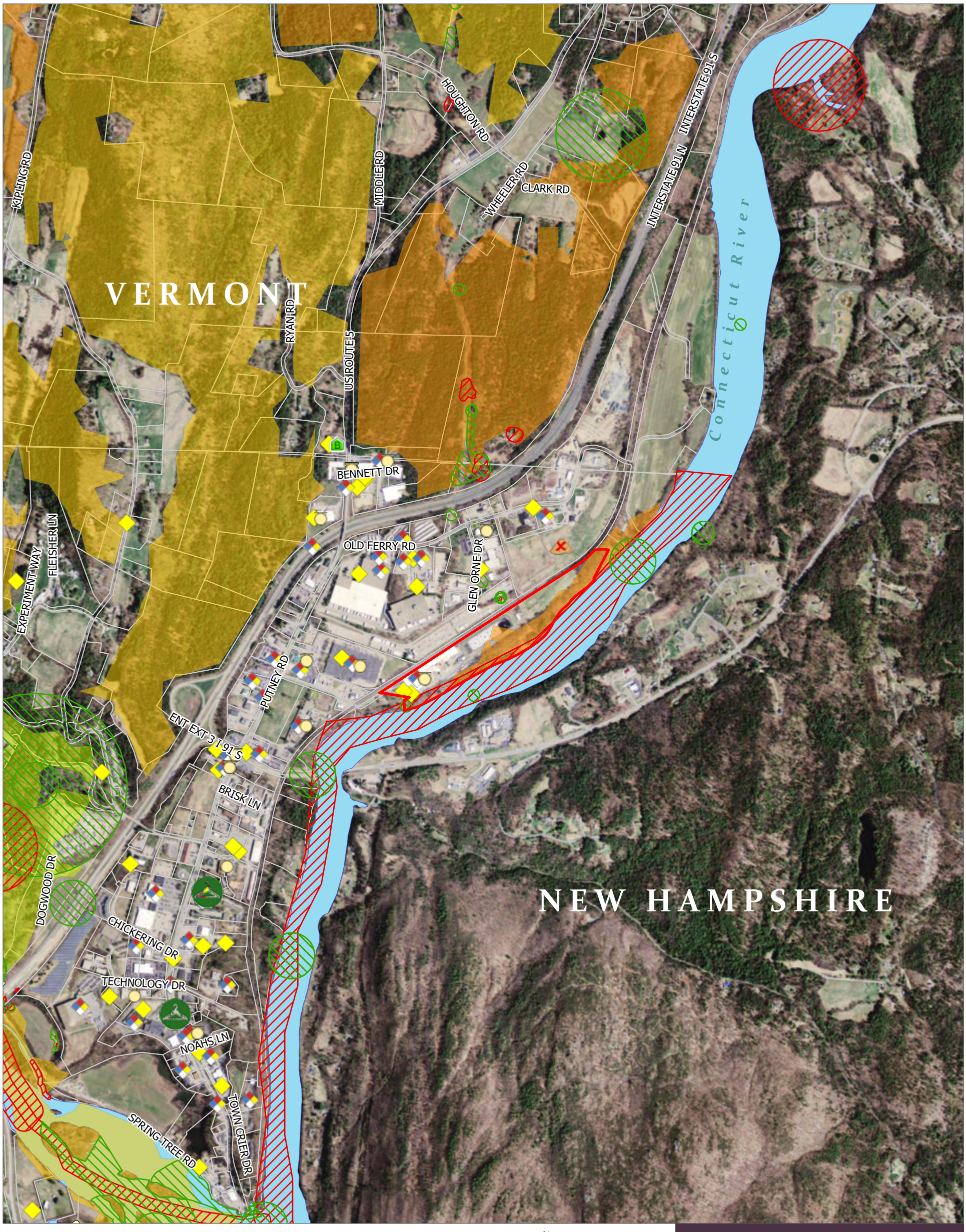
Long Falls Paperboard Phase II
Environmental Site Assessment

Prepared for
Vermont Department of Environmental
Conservation

STONE ENVIRONMENTAL

Source: Esri World Imagery

Path: O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\GIS\MapDocuments\PresentationsAndReports\19-015 Long Falls Paper Phase II ESA\19-015 Long Falls Paper Phase II ESA.aprx Site Location 11x17 Exported: 10/3/2019 3:48 PM by wrich



LEGEND

- Target Property Boundary
- Parcels
- Waterbody
- Underground Storage Tank (working)
- Brownfields
- Dry Cleaner
- Hazardous Waste Generators
- Hazardous Waste Site
- Landfill - CLOSED

Rare, Threatened, Endangered Species and Significant Natural Communities

- Threatened or Endangered
- Rare
- Significant Natural Communities

Habitat Blocks and Wildlife Corridors

- 6 - Higher Priority
- 4
- 3 - Lower Priority

N

0 650 1,300

Feet

Figure 2 Vicinity Map

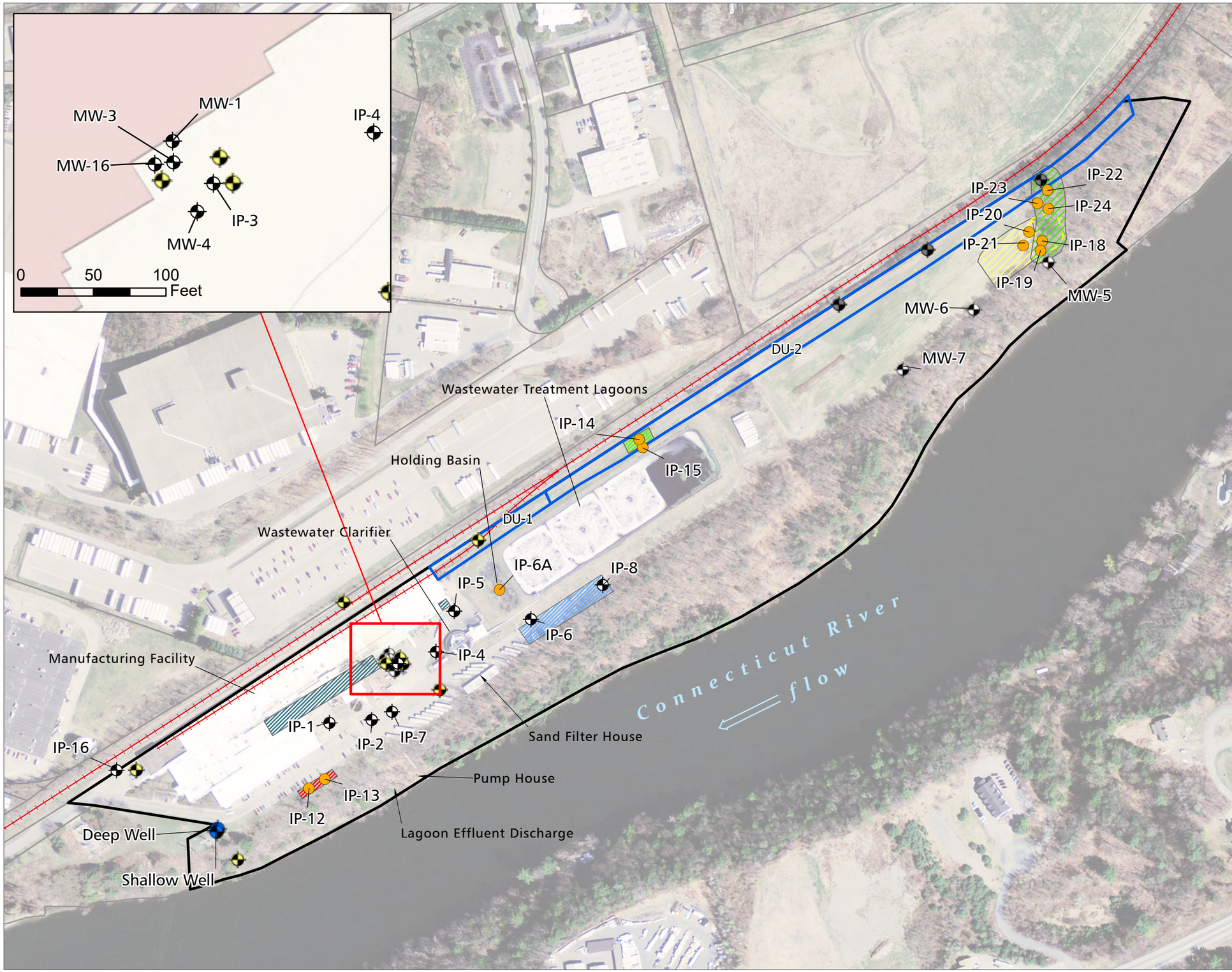
Long Falls Paperboard Phase II
Environmental Site Assessment

Prepared for
Vermont Department of Environmental Conservation

STONE ENVIRONMENTAL

Source: Imagery - Esri World Imagery; Parcels and Roads - VCGI; Environmental Features - VTANR

Path: O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\GIS\MapDocuments\PresentationsAndReports\19-015 Long Falls Paper Phase II ESA\19-015 Long Falls Paper Phase II ESA.aprx Vicinity Map Exported: 10/10/2019 12:24 PM by wrich



N

0 150 300

Feet

LEGEND

Sample Locations
- Groundwater
- Soil Boring

Prior Existing Well
- Former Groundwater Monitoring Well
- Windham SWMD Vapor Well
- Production Well

ISM Decision Unit

Site Features
- Outdoor Equipment Area
- Former "Active Fill Area" Observed During Phase II Investigation
- Former "Active Fill Area" as Reported from 1989 Investigation
- Active Leaching Bed
- Former Leaching Bed
- Basement Area
- Rail Line
- Target Property Boundary
- All Parcels

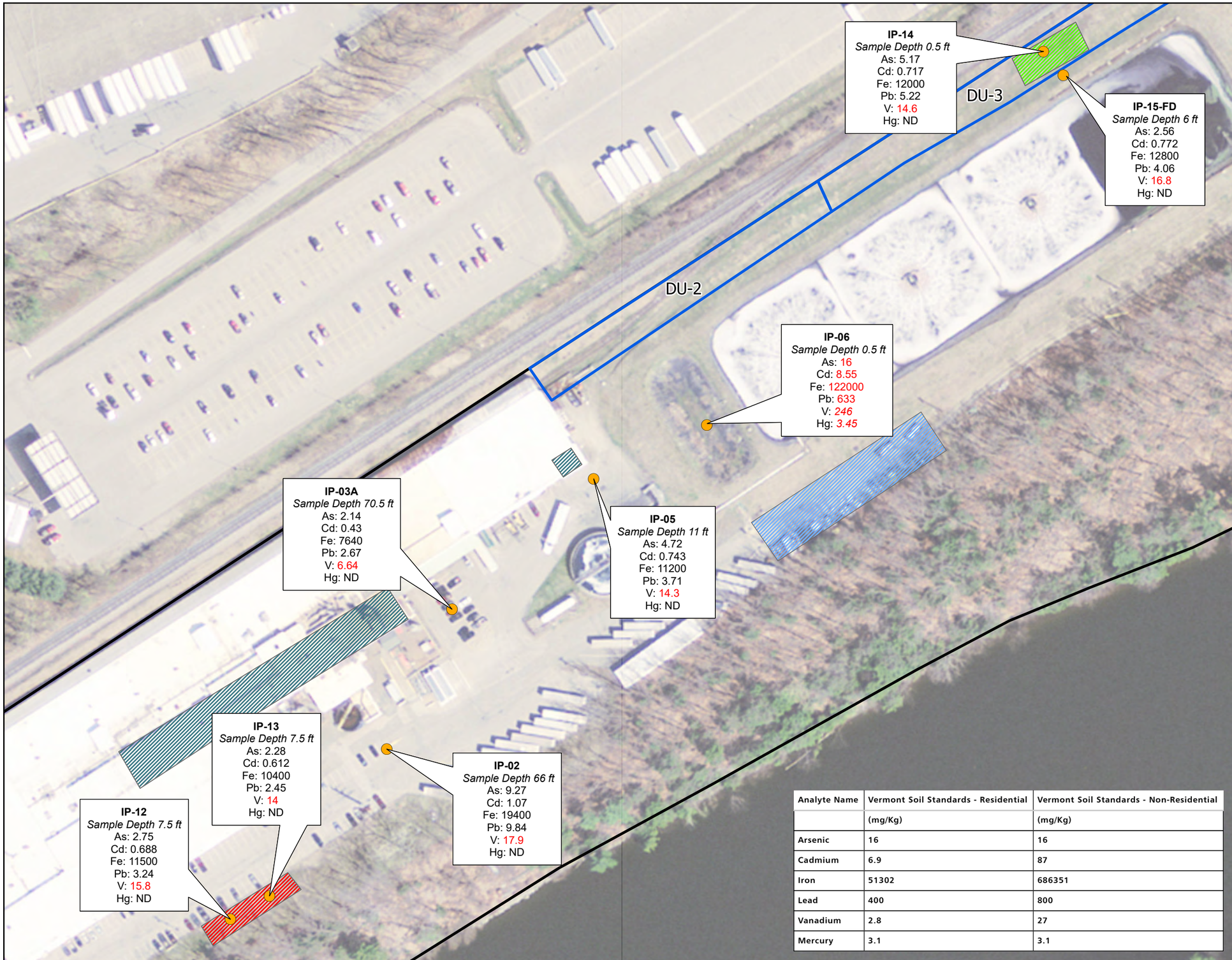
Source: Imagery - Esri World Imagery; Site Features and Well Locations - Stone Environmental; Parcels and Rail Lines - VCGI
Path: O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\GIS\MapDocuments\PresentationsAndReports\19-015 Long Falls Paper Phase II ESA\19-015 Long Falls Paper Phase II ESA.aprx Site Map Exported: 10/11/2019 2:01 PM

Figure 3 Site Map

Long Falls Paperboard
Phase II Environmental Site Assessment

Prepared For
Vermont Department of Environmental Conservation

STONE ENVIRONMENTAL



Analyte Name	Vermont Soil Standards - Residential	Vermont Soil Standards - Non-Residential
	(mg/Kg)	(mg/Kg)
Arsenic	16	16
Cadmium	6.9	87
Iron	51302	686351
Lead	400	800
Vanadium	2.8	27
Mercury	3.1	3.1

N

0 100 200
Feet

LEGEND

Soil Boring

Site Features

- Active Leaching Bed
- Former Leaching Bed
- Outdoor Equipment Area
- BasementArea
- ISM Decision Unit
- Target Property Boundary

All results in mg/Kg
ND = Non-Detect
Detections over Residential Enforcement Standards in RED
Detections over Non-Residential Enforcement Standards in *Italicized RED*
As = Arsenic
Cd = Cadmium
Fe = Iron
Pb = Lead
V = Vanadium
Hg = Mercury

Source: Imagery - Esri World Imagery; Sample Locations/Results and Site Features - Stone Environmental

Path: O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\GIS\MapDocuments\PresentationsAndReports\19-015 Long Falls Paper Phase II ESA\19-015 Long Falls Paper Phase II ESA.aprx Fig 4 Soil Metals
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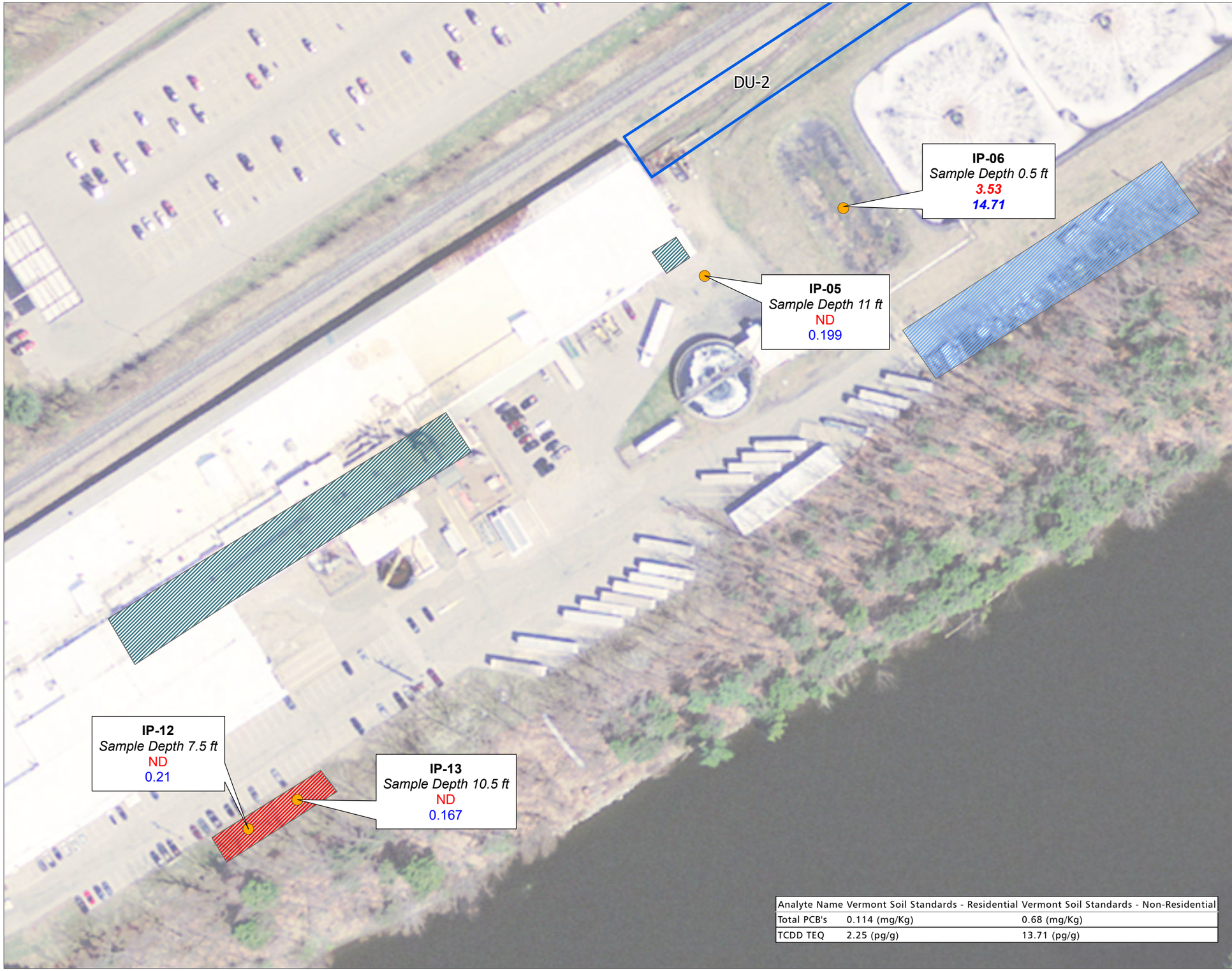
Figure 4 Soil Metals Results

Long Falls Paperboard Phase II
Environmental Site Assessment

Prepared For
Vermont Department of Environmental Conservation

STONE ENVIRONMENTAL



Analyte Name	Vermont Soil Standards - Residential	Vermont Soil Standards - Non-Residential
Total PCB's	0.114 (mg/Kg)	0.68 (mg/Kg)
TCDD TEQ	2.25 (pg/g)	13.71 (pg/g)

N

0 100 200
Feet

LEGEND

- Soil Boring
- ISM Decision Unit

Site Features

- Outdoor Equipment Area
- Active Leaching Bed
- Former Leaching Bed
- BasementArea

ND = Non-Detect
PCB Results (mg/Kg) in RED
TCDD TEQ Results (pg/g) in BLUE
Exceedance of Vermont Non-Residential Standard indicated in ***Bold Italics***

Source: Imagery - Esri World Imagery; Sample Locations and Site Features - Stone Environmental

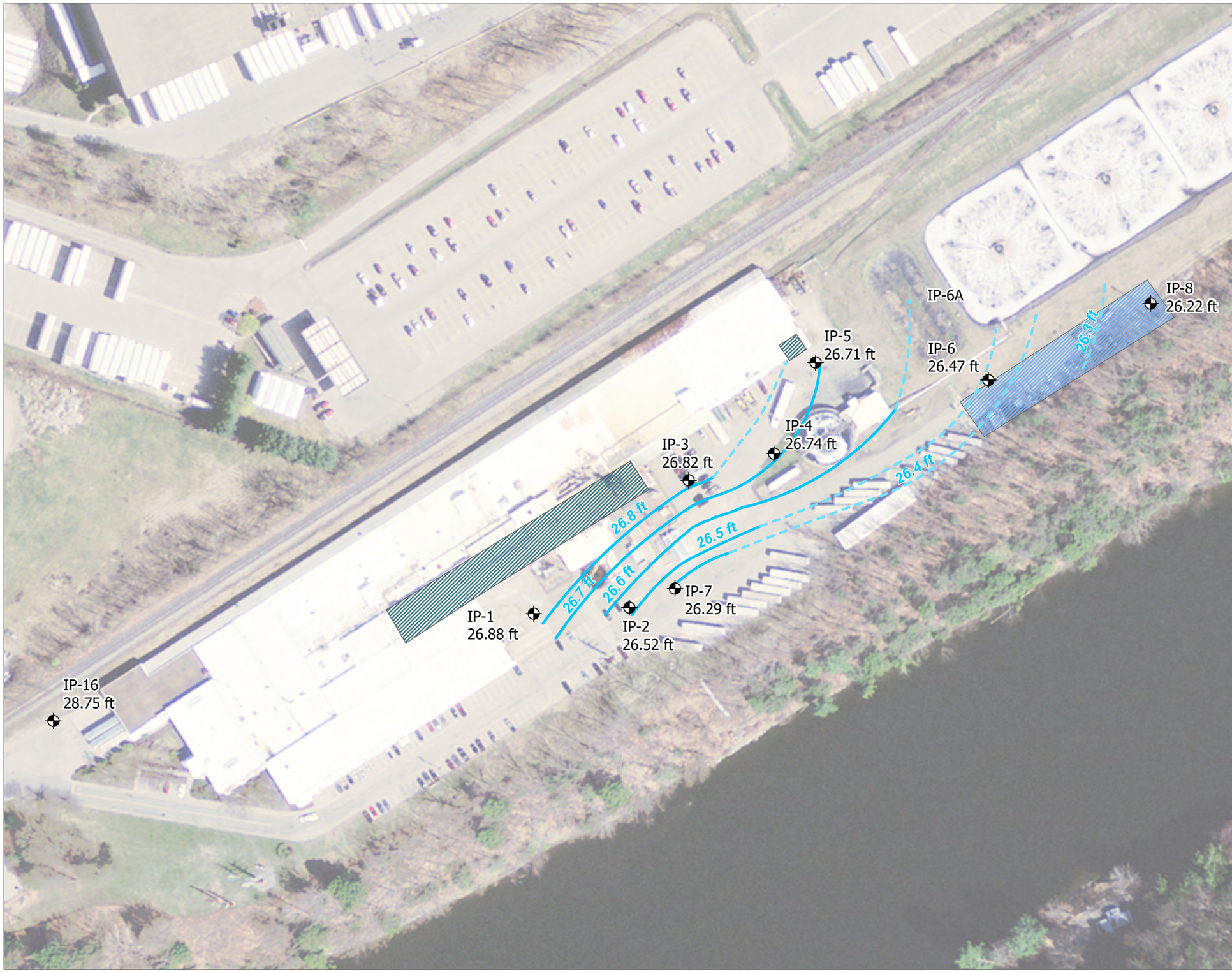
Path: O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\GIS\MapDocuments\PresentationsAndReports\19-015 Long Falls Paper Phase II ESA\19-015 Long Falls Paper Phase II ESA.aprx Figure 5 Soil PCBs Exported: 10/10/2019

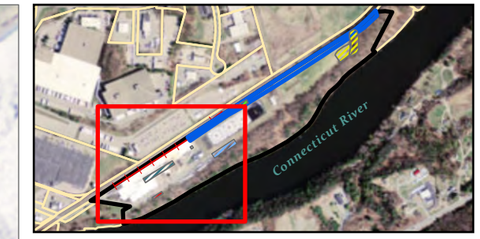
Figure 5 Soil PCB & 2,3,7,8 - TCDD TEQ Results

Long Falls Paperboard Phase II Environmental Site Assessment

Prepared For Vermont Department of Environmental Conservation

STONE ENVIRONMENTAL





N

0 110 220
Feet

LEGEND

- Groundwater Sample Location
- Groundwater Depth Contour
- Estimated Groundwater Depth Contour

Site Features

- Outdoor Equipment Area
- BasementArea

Source: Imagery - Esri World Imagery; Sample Locations and Groundwater Depths - Stone Environmental

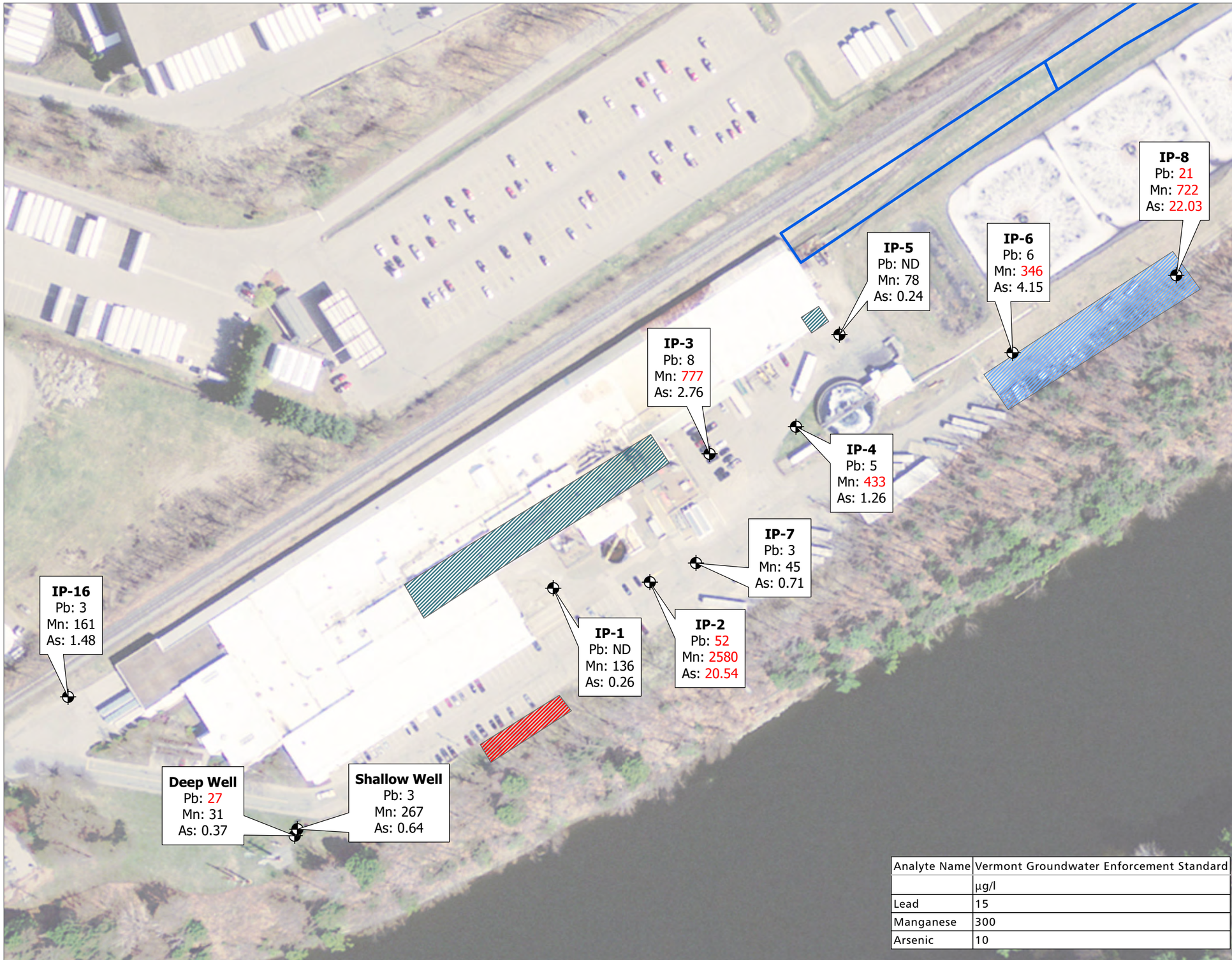
Path: O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\GIS\MapDocuments\PresentationsAndReports\19-015 Long Falls Paper Phase II ESA\19-015 Long Falls Paper Phase II ESA.aprx Fig 6 GW Contour Map Exported:

Figure 6 Groundwater Surface Contours

Long Falls Paperboard Phase II Environmental Site Assessment

Prepared For Vermont Department of Environmental Conservation

STONE ENVIRONMENTAL



Analyte Name	Vermont Groundwater Enforcement Standard
	µg/l
Lead	15
Manganese	300
Arsenic	10

N

0 100 200
Feet

LEGEND

- Groundwater Monitoring Well
- ISM Decision Unit

Site Features

- Outdoor Equipment Area
- Active Leaching Bed
- Former Leaching Bed
- BasementArea

All results in µg/l
ND = Non-Detect
Detections over Vermont Groundwater Enforcement Standard in RED
Pb = Lead
Mn = Manganese
As = Arsenic

Source: Imagery - Esri World Imagery; Site Features and Sample Locations/ Results - Stone Environmental
Path: O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\GIS\MapDocuments\PresentationsAndReports\19-015 Long Falls Paper Phase II ESA\19-015 Long Falls Paper Phase II ESA.aprx Figure 7 Groundwater Metals Exported: 10/10/2019 4:07 PM by wrich

Figure 7 Groundwater Metals Results

Long Falls Paperboard Phase II Environmental Site Assessment

Prepared For Vermont Department of Environmental Conservation

STONE ENVIRONMENTAL

Appendix B: Field Notes and Soil Boring Logs

Soil Boring Log
BORING NO. IP-1
Brattleboro, VT, Montpelier, Vermont

07/22/19, 8/20/19
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT: Drilled to refusal on 7/22, Continued 8/20

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin, L. Rosberg

SOURCE: Stone field notes, 8/20/19
LOG PREPARED BY: DTV 9/27/19
O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\Data\Boring Logs

STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		GRAVEL, very coarse grained, angular, well sorted, no odor, no staining, dry, Gravel fill	*Native Backfill*		
		Brown, SAND, fine grained, well sorted, no odor, no staining, dry, homogeneous			
-5		Brown, SILT, no odor, no staining, moist, homogeneous, Sandy silt coarsening downward to fine sand			0.0 @5.0'
		Light brown, SAND, fine to medium grained, well sorted, no odor, iron oxide staining, dry, laminated, Wet at 15 feet			
-10					0.0 @10.6'
					0.0 @11.5'
					0.0 @12.7'
-15		Light brown, SAND, medium grained, subrounded, some silt, no odor, no staining, wet			0.0 @15.5'
-20					
-25					
-30					

Soil Boring Log
BORING NO. IP-1
Brattleboro, VT, Montpelier, Vermont

07/22/19, 8/20/19
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT: Drilled to refusal on 7/22, Continued 8/20

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin, L. Rosberg

SOURCE: Stone field notes, 8/20/19
LOG PREPARED BY: DTV 9/27/19
O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\Data\Boring Logs

STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30					
			PVC Well Riser		
-35					
-40					
-45					
-50					
-55					
-60					

Soil Boring Log
BORING NO. IP-1
Brattleboro, VT, Montpelier, Vermont

07/22/19, 8/20/19
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT: Drilled to refusal on 7/22, Continued 8/20

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin, L. Rosberg

SOURCE: Stone field notes, 8/20/19
LOG PREPARED BY: DTV 9/27/19
O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\Data\Boring Logs

STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-60					
-65			*Bentonite* **2.00 PVC 0.01 Well Screen** *Sand Pack*		
-70		Light brown, SAND, fine grained, and silt, no odor, no staining, wet			0.1 @70.5' 0.1 @71.3'
-75					

Soil Boring Log
BORING NO. IP-2
Brattleboro, VT, Montpelier, Vermont

DATE DRILLED: 08/20/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/20/19-8/21/19
LOG PREPARED BY: DTV 9/27/19
O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\Data\Boring Logs

STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0					
-5		Dark brown, SAND, coarse grained, subrounded, poorly sorted, and gravel, with fine to medium sand, no odor, no staining, dry			0.2 @5.5' 0.0 @6.2'
		Light brownish tan with light brown, SAND, fine to medium grained, subrounded, well sorted, trace silt, no odor, no staining, dry, laminated			
-10		Dark brown and brown, SAND, coarse grained, angular, poorly sorted, with fine to medium sand, no odor, no staining, dry			0.3 @10.5' 0.1 @11.5'
-15		Tan and light brown, SAND, medium grained, subangular, well sorted, no odor, no staining, dry, laminated.			0.4 @15.3' 0.7 @16.1'
-20		Tan and light brown, SAND, medium grained, subangular, well sorted, no odor, no staining, dry, laminated.			0.5 @20.5' 0.7 @21.1'
-25		Tan and light brown, SAND, medium grained, subangular, well sorted, no odor, no staining, dry, laminated.			0.2 @25.5' 0.5 @26.4'
		Light brownish tan and light tan, SAND, fine to medium grained, subrounded, well sorted, no odor, no staining, dry, laminated			
-30					

Soil Boring Log
BORING NO. IP-2
Brattleboro, VT, Montpelier, Vermont

DATE DRILLED: 08/20/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/20/19-8/21/19
LOG PREPARED BY: DTV 9/27/19
O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\Data\Boring Logs

STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30		Light brown and tan, SAND, coarse to very coarse grained, subangular, well sorted, trace fine to medium sand, no odor, no staining, dry, laminated.	*Native Backfill*		0.0 @30.5' 0.0 @31.2'
		Light tannish brown, SAND, medium to coarse grained, subangular, poorly sorted, and gravel, no odor, no staining, dry	**PVC Well Riser**		
-35					0.0 @35.5'
-40		Dark brown and tan, SAND, coarse to very coarse grained, subangular, no odor, no staining, dry			0.0 @40.5' 0.1 @41.2'
		Dark tannish brown, SAND, medium to coarse grained, subrounded, well sorted, no odor, no staining, dry			
		Light brown and tan, GRAVEL, medium to coarse grained, angular, no odor, no staining, dry			
-45		Light brown and tan, GRAVEL, medium to coarse grained, angular, no odor, no staining, dry			0.0 @45.5'
		Light brown and tan, GRAVEL, medium to coarse grained, angular, no odor, no staining, dry			
-50					0.0 @50.3'
-55		Dark grayish brown, SAND, coarse to very coarse grained, subangular, poorly sorted, trace fine to medium sand, no odor, iron oxide staining, dry, Very light FeO staining on <2%			0.0 @55.6'
-60					

Soil Boring Log
BORING NO. IP-2
Brattleboro, VT, Montpelier, Vermont

DATE DRILLED: 08/20/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/20/19-8/21/19
LOG PREPARED BY: DTV 9/27/19
O:\PROJ-19\EAR\19-015 Long Falls Paper Phase II ESA\Data\Boring Logs

STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-60		Dark grayish brown, SAND, coarse to very coarse grained, subangular, poorly sorted, trace fine to medium sand, no odor, iron oxide staining, dry, Very light FeO staining on <2%	*Bentonite*		0.0 @60.5' 0.1 @61.2'
		Light brown, SAND, medium grained, subrounded, trace silt, no odor, no staining, dry			
-65		Light brown, SAND, medium grained, subrounded, trace silt, no odor, no staining, dry, Rusty staining at 65.6 and 66.3	**2.00 PVC 0.01 Well Screen**		0.6 @65.5' 0.3 @66.3'
		Light brown, SAND, coarse grained, subangular, with fine to medium sand, and silt, no odor, no staining, wet	*Sand Pack*		
-70		Light brown, SAND, coarse grained, subangular, poorly sorted, and fine gravel, trace coarse gravel, no odor, no staining, wet			0.7 @70.3'
-75					

Soil Boring Log
BORING NO. IP-03a
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 08/22/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT: 75.0

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/22/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0					
-5					
-10					
-15		Dark brown, SAND, medium to coarse grained, subrounded, poorly sorted, trace silt, trace gravel, no odor, no staining, dry			0.1 @15.5' 0.2 @16.2'
		Light brown and tan, SAND, medium grained, subangular, trace silt, trace gravel, no odor, no staining, dry			
-20		Light brown and light reddish brown, SAND, medium to coarse grained, subangular, trace silt, no odor, no staining, dry, laminated			0.3 @20.5' 0.4 @21.2'
-25		Light brown and light reddish brown, SAND, medium to coarse grained, subangular, trace silt, no odor, no staining, dry, laminated			0.4 @25.5' 0.6 @26.3'
-30					

Soil Boring Log
BORING NO. IP-03a
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 08/22/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT: 75.0

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/22/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30		Light brown and light reddish brown, SAND, medium to coarse grained, subangular, trace silt, no odor, no staining, dry, laminated	*Native Backfill*		0.6 @30.5' 0.5 @31.1'
		Light brown and light reddish brown, SAND, medium to coarse grained, subangular, trace silt, no odor, no staining, dry, laminated	**PVC Well Riser**		
-35					0.6 @35.5' 0.7 @36.4'
-40		Light brown and light reddish brown, SAND, medium to coarse grained, subangular, trace silt, no odor, no staining, dry, laminated			0.4 @40.5' 0.7 @41.1'
		Light brown and tan, SAND, fine to medium grained, subrounded, trace coarse sand, no odor, no staining, dry			
-45		Light brown to brown, SAND, medium to coarse grained, angular, trace silt, no odor, no staining, dry			0.5 @45.5' 0.7 @46.3'
		Light tannish brown with reddish brown, SAND, fine to medium grained, angular, trace silt, no odor, no staining, dry			
-50		Dark brown and tan, SAND, medium to coarse grained, angular, with fine gravel, no odor, no staining, dry			0.5 @50.5' 0.5 @51.3'
		Dark brown and tan, SAND, medium to coarse grained, angular, with fine gravel, no odor, no staining, dry			
-55					0.4 @55.5' 0.6 @56.3'
-60					

Soil Boring Log
BORING NO. IP-03a
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 08/22/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT: 75.0

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/22/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-60		Dark brown and tan, SAND, medium to coarse grained, angular, with fine gravel, no odor, no staining, dry	*Bentonite*		0.3 @60.5' 0.3 @61.1'
		Dark brown and tan, SAND, coarse to very coarse grained, angular, some fine to medium sand, no odor, no staining, dry			
-65		Dark brown and tan, SAND, medium to coarse grained, angular, some fine sand, no odor, no staining, dry			0.4 @65.5' 0.4 @66.3'
		Dark brown and tan, SAND, medium to coarse grained, angular, some fine sand, no odor, no staining, dry	**2.00 PVC 0.01 Well Screen**	▼	
-70		Dark brown, SAND, very coarse grained, angular, trace silt, no odor, no staining, wet	*Sand Pack*		0.0 @70.5' 0.2 @71.2'
-75					

Soil Boring Log
BORING NO. IP-04
161 Wellington Rd. Brattleboro, VT

DATE DRILLED: 08/16/2019
DRILLING METHOD: 4-1/4" Hollow stem auger
DRILLING CONTRACTOR: DrillX
LOGGED BY: D. Voisin
DRILLER: Chris Hogan
COMMENT: Drilled to 65 ft bgs with center plug.

SOURCE: Stone field notes 8/16/19
LOG PREPARED BY: DTV 9/27/19
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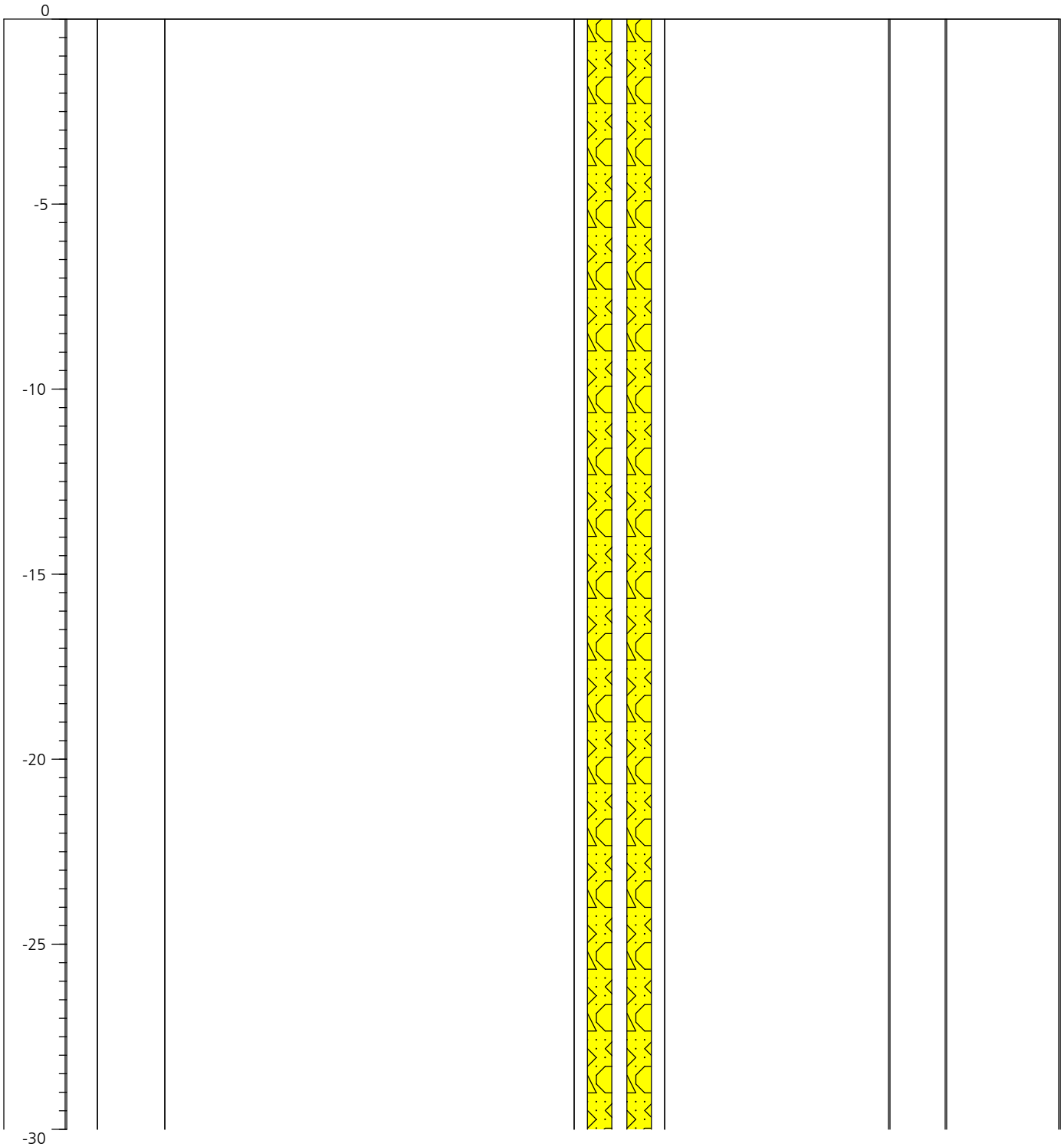
STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)



Soil Boring Log
BORING NO. IP-04
161 Wellington Rd. Brattleboro, VT

DATE DRILLED: 08/16/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT: Drilled to 65 ft bgs with center plug.

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/16/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30			*Native Backfill*		
			PVC Well Riser		
-35					
-40					
-45					
-50					
-55					
-60					

Soil Boring Log
BORING NO. IP-04
161 Wellington Rd. Brattleboro, VT

DATE DRILLED: 08/16/2019
DRILLING METHOD: 4-1/4" Hollow stem auger
DRILLING CONTRACTOR: DrillX
LOGGED BY: D. Voisin
DRILLER: Chris Hogan
COMMENT: Drilled to 65 ft bgs with center plug.

SOURCE: Stone field notes 8/16/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-60					
			Bentonite		
-65		Light brown and tan, SAND, fine to medium grained, subrounded, trace silt, dry, Fine, medium, and coarse sand. Cross bedding evident.			0.4 @65.5' 0.7 @66.5'
		Light brown and tan, SAND, fine to medium grained, subrounded, trace silt, no odor, no staining, dry, laminated, Darker laminae between 67.5 and 68.1			1.2 @67.5' 1.1 @68.5'
			Sand Pack		
-70		Light brown, SAND, fine to medium grained, subrounded, trace silt, no odor, no staining, wet, laminated, F,m,c sand with dark brown banding at 70.95, 71.2, and 71.4	**2.00 PVC 0.01 Well Screen**		0.6 @70.5' 0.4 @71.3'
-75					

Soil Boring Log
BORING NO. IP-05
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 08/14/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes, 8/14/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0					
-5		Brown, SAND, coarse grained, some fine gravel, no odor, no staining, dry, Slough			0.5 @6.0'
		Light brown, SAND, fine to medium grained, no odor, no staining, dry			
-10		Light brown, SAND, medium grained, with gravel, no odor, no staining, dry			0.3 @10.5'
		Light brown, SAND, fine to medium grained, trace silt, with fine to medium sand, no odor, no staining, dry, laminated			0.3 @12.5'
-15		Light brown, SAND, fine to medium grained, trace silt, with fine to medium sand, no odor, no staining, dry, laminated			
		Light brown, SAND, coarse grained, and gravel, no odor, no staining, dry			0.3 @16.0'
		Brown, SAND, coarse grained, some fine gravel, no odor, no staining, dry, Slough			
-20		Light brown, SAND, fine grained, and silt, and silt, no odor, no staining, dry, varved, ~3mm silt layers with 10 mm fine sand			0.2 @20.5'
		Light brown, SAND, fine grained, and silt, and silt, no odor, no staining, dry, varved			0.3 @21.5'
		Light brown, SAND, fine grained, and silt, and silt, no odor, no staining, dry, varved			
-25					0.2 @25.5'
					0.2 @26.5'
-30					

Soil Boring Log
BORING NO. IP-05
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 08/14/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes, 8/14/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30		Light brown, SAND, fine grained, and silt, and silt, no odor, no staining, dry, varved	*Native Backfill*		0.2 @30.5'
		Light brown, SAND, fine grained, and silt, and silt, no odor, no staining, dry, varved	**PVC Well Riser**		0.2 @31.5'
-35		Dark tan to light brown, SAND, medium to coarse grained, with silt, no odor, no staining, dry to moist, stratified			0.2 @35.5' 0.2 @36.1'
		Light brown, SAND, fine grained, and silt, and silt, no odor, no staining, dry, varved			
-40		Light brown, SAND, fine grained, and silt, and silt, no odor, no staining, dry, varved			0.2 @40.5'
		Light brown, GRAVEL, coarse grained, poorly sorted, and medium to coarse sand, no odor, no staining, dry			0.6 @41.5'
-45		Light brown with brown, SAND, fine grained, with sandy silt, no odor, no staining, moist			0.2 @45.5' 0.3 @46.2'
		Brown, SILT, moist, mottled, Slight rusty mottling			
-50		Light brown and tan, SAND, medium to coarse grained, poorly sorted, and fine sand, with fine gravel, no odor, no staining, dry			0.1 @50.5' 0.0 @51.2'
		Light brown and tan, SAND, medium to coarse grained, poorly sorted, and fine sand, with fine gravel, no odor, no staining, dry			
-55		Light brown, SAND, fine grained, trace silt, no odor, no staining, dry			0.5 @55.5' 0.8 @56.1'
		Light brown and tan, SAND, fine to medium grained, with silt, no odor, no staining, moist, stratified, Prominent biotite throughout. Occasional silt stringers among stratified sand			
-60					

Soil Boring Log
BORING NO. IP-05
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 08/14/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes, 8/14/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-60			*Bentonite*		0.7 @60.5' 1.0 @61.1'
-65		Light brown and tan, SAND, fine to medium grained, with silt, no odor, no staining, moist, stratified, Prominent biotite throughout. Occasional silt stringers among stratified sand Light tannish brown, SAND, fine grained, no odor, no staining, moist	**2.00 PVC 0.04 Well Screen** *Sand Pack*		0.5 @65.5' 0.6 @66.1'
-70		SAND, wet, fine to medium sand, brown.			0.6 @70.5' 0.8 @71.5'
-75					

Soil Boring Log
BORING NO. IP-06
161 Wellington Road. Brattleboro VT

DATE DRILLED: 08/15/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 08/15/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0			*Native Backfill*		
-5		Light brown, SAND, fine grained, no odor, no staining, moist			0.5 @5.5' 0.4 @6.5'
-10		Light brown, SAND, fine grained, trace silt, no odor, no staining, moist			0.7 @10.5' 1.0 @11.5'
		Light brown with brown, SAND, fine grained, with sandy silt, no odor, no staining, laminated, Interbedded with brown mottling.			
-15					0.9 @15.5'
-20		Light brown, SAND, coarse grained, subangular, poorly sorted, no odor, no staining, dry			1.0 @20.3'
		Dark brown, SAND, coarse grained, subangular, and gravel, with fine to medium sand, no odor, no staining, dry			
-25		Light gray, SAND, coarse grained, subrounded, and gravel, no odor, no staining, dry			0.8 @25.4'
		Dark brown, SAND, coarse grained, subrounded, and gravel, with fine to medium sand, no odor, no staining, dry			
-30					

Soil Boring Log
BORING NO. IP-06
161 Wellington Road. Brattleboro VT

DATE DRILLED: 08/15/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 08/15/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30		Light brownish tan, SAND, medium to coarse grained, subrounded, no odor, no staining, dry			0.7 @30.4'
		Light brown to tan, SAND, medium and coarse grained, dry			
		Light brown to tan, GRAVEL, coarse grained, subrounded, with fine to medium sand, no odor, no staining, dry			
-35		Light brown to tan, GRAVEL, coarse grained, subrounded, with fine to medium sand, no odor, no staining, dry			0.8 @35.2'
-40		Light brown to tan, GRAVEL, coarse grained, subrounded, with fine to medium sand, no odor, no staining, dry			0.8 @40.5'
		Light brown to tan, GRAVEL, coarse grained, subrounded, with fine to medium sand, no odor, no staining, dry			
-45					0.8 @46.1'
-50		Light brown, SAND, fine grained, trace silt, no odor, no staining, dry			0.6 @50.5'
		Light brown, SAND, fine grained, no odor, no staining			0.6 @51.5'
-55		Light brown and light gray, SAND, coarse grained, and gravel, with fine to medium sand, no odor, no staining, dry			0.6 @55.5'
		Brown and dark brown, SAND, coarse grained, trace fine gravel, with fine to medium sand, no odor, no staining, dry			
-60					

Soil Boring Log
BORING NO. IP-06
161 Wellington Road. Brattleboro VT

DATE DRILLED: 08/15/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 08/15/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-60		Light brown and light gray, SAND, coarse grained, and gravel, with fine to medium sand, no odor, no staining, dry			0.7 @60.3' 0.6 @61.2'
		Brown and dark brown, SAND, coarse grained, trace fine gravel, with fine to medium sand, no odor, no staining, dry			
-65		Light brown, SAND, fine to medium grained, no odor, no staining, dry	*Bentonite*		0.6 @65.5' 0.9 @66.5'
		Light brown and gray, SAND, coarse grained, trace fine gravel, with fine to medium sand, no odor, no staining, dry	*Sand Pack*		
-70		Brown, SAND, medium to coarse grained, trace fine gravel, no odor, no staining, dry	**PVC Well Riser**		0.7 @70.5' 1.0 @71.5'
		Light brownish tan, SAND, fine to medium grained, with silty sand, no odor, no staining, dry, Silty sand stringer at 71.6			
-75		Light brown and light gray, SAND, coarse grained, and coarse gravel, with fine to medium sand, no odor, no staining, wet			0.8 @75.6'

Soil Boring Log
BORING NO. IP-07
161 Wellington Rd. Brattleboro, VT

DATE DRILLED: 08/21/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Field boring log
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0					
-5		Dark brown, SAND, coarse grained, with fine to medium sand, and silt, no odor, no staining, dry, Slough			0.4 @5.5'
		Light brownish tan, SAND, fine to medium grained, no odor, no staining, dry			
-10		Light tannish brown, SAND, coarse grained, angular, with fine to medium sand, trace silt, no odor, no staining, dry			0.4 @10.5'
-15		Light brown and tan, SAND, medium grained, subangular, trace fine sand, no odor, no staining, dry, laminated			0.7 @15.5' 1.0 @16.1'
-20		Light brown and tan, SAND, medium grained, subangular, trace fine sand, no odor, no staining, dry, laminated			0.9 @20.5' 0.9 @21.2'
-25		Light brown and tan, SAND, medium grained, subangular, trace fine sand, no odor, no staining, dry, laminated			0.4 @25.5' 0.6 @26.5'
		Tannish brown and light reddish tan, SAND, coarse grained, subangular, poorly sorted, with fine to medium sand, and silt, no odor, no staining, dry			
-30					

Soil Boring Log
BORING NO. IP-07
161 Wellington Rd. Brattleboro, VT

DATE DRILLED: 08/21/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Field boring log
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30		Tannish brown and light reddish tan, SAND, coarse grained, subangular, poorly sorted, with fine to medium sand, and silt, no odor, no staining, dry	*Native Backfill*		0.5 @30.5' 0.6 @31.2'
		Light brown and tan, SAND, fine to medium grained, trace sandy silt, no odor, no staining, dry	**PVC Well Riser**		
		Light brownish tan, GRAVEL, fine to medium grained, angular, poorly sorted, and coarse sand, no odor, no staining, dry			
-35		Light brownish tan, SAND, fine grained, no odor, no staining, dry			0.6 @35.5' 0.7 @36.1'
		Light brown and gray, SAND, coarse grained, with gravel, and fine to medium sand, no odor, no staining, dry			
-40		Light brown and gray, SAND, coarse grained, with gravel, and fine to medium sand, no odor, no staining, dry			0.4 @40.5' 0.6 @41.0'
-45		Light brown and gray, SAND, coarse grained, with gravel, and fine to medium sand, no odor, no staining, dry, Dark brown band at 45.7			0.5 @45.5' 0.7 @46.1'
		Light brownish gray and, SAND, coarse grained, with gravel, and fine to medium sand, no odor, no staining, dry			
-50					0.4 @50.5'
-55		Light brownish gray and, SAND, coarse grained, with gravel, and fine to medium sand, no odor, no staining, dry			0.6 @55.5' 0.6 @56.1'
		Dark brown and tan, SAND, coarse to very coarse grained, angular, poorly sorted, no odor, no staining, dry			
-60					

Soil Boring Log
BORING NO. IP-07
161 Wellington Rd. Brattleboro, VT

DATE DRILLED: 08/21/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Field boring log
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-60					0.4 @60.5' 0.4 @61.1'
			Bentonite		
-65		Dark brown and gray, GRAVEL, with fine to coarse sand, trace silt, no odor, no staining, dry to moist, mottled, <5% rusty mottling.			0.7 @65.5' 0.7 @66.2'
		Dark brownish gray, SAND, coarse to very coarse grained, little gravel, trace silt, no odor, no staining, wet	**2.00 PVC 0.01 Well Screen** *Sand Pack*		
-70					0.5 @71.0'
-75					

Soil Boring Log
BORING NO. IP-08
161 Wellington Rd. Brattleboro, VT,

DATE DRILLED: 08/15/2019
DRILLING METHOD: 4-1/4" Hollow stem auger
DRILLING CONTRACTOR: DrillX
LOGGED BY: D. Voisin
DRILLER: Chris Hogan
COMMENT: Drilled to 65 ft with center plug before sampling.

SOURCE: Stone field notes, 8/15/19
LOG PREPARED BY: DTV 9/27/19
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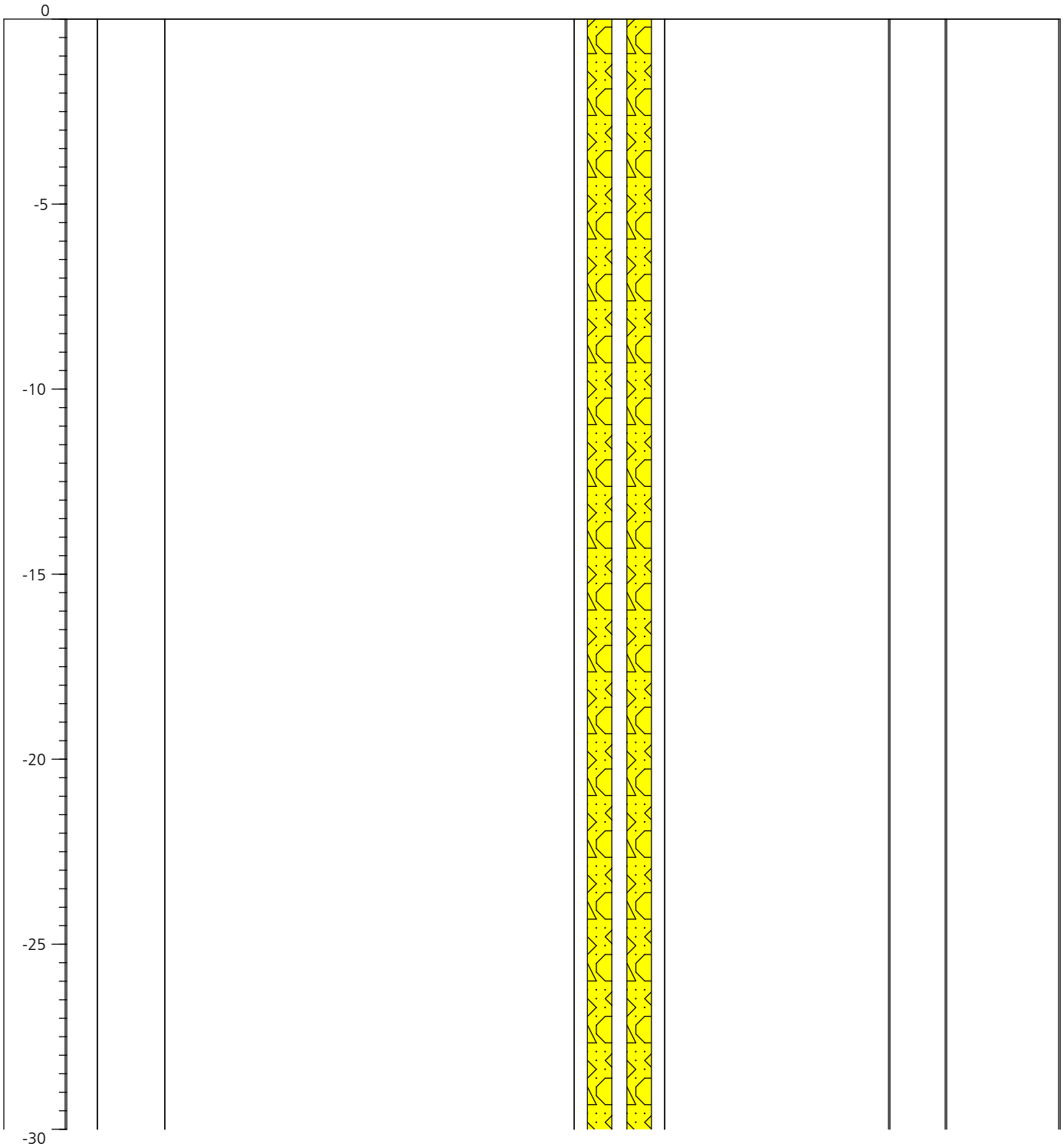
STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)



Soil Boring Log
BORING NO. IP-08
161 Wellington Rd. Brattleboro, VT,

DATE DRILLED: 08/15/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT: Drilled to 65 ft with center plug before sampling.

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes, 8/15/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30					
			Native Backfill		
-35			**PVC Well Riser**		
-40					
-45					
-50					
-55					
-60					

Soil Boring Log
BORING NO. IP-08
161 Wellington Rd. Brattleboro, VT,

DATE DRILLED: 08/15/2019
DRILLING METHOD: 4-1/4" Hollow stem auger
DRILLING CONTRACTOR: DrillX
LOGGED BY: D. Voisin
DRILLER: Chris Hogan
COMMENT: Drilled to 65 ft with center plug before sampling.

SOURCE: Stone field notes, 8/15/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-60					
-65		Light brownish gray and dark gray, SAND, medium to coarse grained, rounded, poorly sorted, some fine to coarse sand, no odor, no staining, dry, Gravel is very broken up from drilling.			0.2 @66.5'
		Dark brown, SAND, coarse grained, subrounded, poorly sorted, with medium to coarse sand, with silt, no odor, no staining, moist, Slough	*Bentonite*		
-70		Light tannish gray, SAND, medium to coarse grained, angular, well sorted, little coarse sand, no odor, no staining, dry, Hornblende and mica throughout			0.8 @70.5' 0.1 @71.2'
		SAND, coarse grained, angular, poorly sorted, and gravel, with fine to medium sand, no odor, no staining, wet	**2.00 PVC 0.01 Well Screen**		
-75			*Sand Pack*		0.6 @75.5' 0.5 @76.2'
-80		Light brownish gray, SAND, medium grained, subrounded, and fine to coarse sand, no odor, no staining, wet			0.5 @80.5' 0.8 @81.2'
		Light brownish gray, GRAVEL, coarse grained, angular, and coarse sand, with fine to medium sand, no odor, no staining, wet, Rusty mottling at 10%			

Soil Boring Log
BORING NO. IP-12
161 Wellington Road, Brattleboro, VT

DATE DRILLED: 07/22/2019
DRILLING METHOD: Direct Push - Macro Core
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Stone field notes, 7/22/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Brown, SAND, fine grained, well sorted, no odor, no staining, moist, homogeneous	**Not Applicable**		0.0 @1.0'
		White, GRAVEL, very coarse grained, angular, well sorted, no odor, no staining, dry, homogeneous			
		Light brown, SAND, fine grained, well sorted, trace silt, no odor, iron oxide staining, moist, homogeneous			
-5		Grayish brown, GRAVEL, coarse to very coarse grained, subangular, poorly sorted, no odor, no staining, moist, Poorly sorted sand and gravel			0.0 @5.5'
					0.0 @6.5'
		Brown, SAND, fine grained, well sorted, trace silt, no odor, no staining, moist, homogeneous, Collected voc metals and svoc sample from bottom 1.5 feet of core			0.0 @7.5'
					0.0 @8.5'
-10		Dark grayish brown, sandy GRAVEL, coarse to very coarse grained, subangular, poorly sorted, no odor, no staining			
-15		Grayish brown, SAND, very fine grained, well sorted, no odor, no staining, moist, homogeneous			0.0 @15.5'
		Light grayish brown, sandy GRAVEL, coarse to very coarse grained, subangular, poorly sorted, no odor, no staining, moist, Poorly sorted gravel with silt and sand			0.0 @16.5'
					0.0 @17.5'
					0.0 @18.5'
					0.0 @19.5'
-20					

Soil Boring Log
BORING NO. IP-13
161 Wellington Rd. Brattleboro, VT

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Field boring log
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Dark brown, silty SAND, very fine to fine grained, well sorted, no odor, no staining, moist, homogeneous			0.0 @0.5'
		Light gray, GRAVEL, very coarse grained, angular, well sorted, no odor, no staining, homogeneous			0.0 @1.5'
		Brown, SAND, very fine to fine grained, well sorted, no odor, no staining, moist, homogeneous			
-5					0.0 @5.5'
					0.0 @6.5'
					0.0 @7.5'
-10			**Not Applicable**		
		Reddish brown, GRAVEL, coarse to very coarse grained, subangular, well sorted, no odor, no staining, moist, homogeneous, Coarsening downward to very coarse gravel by 12 feet			0.0 @10.5'
					0.0 @11.5'
					0.0 @12.5'
-15					
					0.0 @15.8'
					0.0 @17.0'
-20					
					0.0 @20.5'
					@21.5'
-25					
					0.0 @25.5'
					0.0 @26.5'
-30					

Soil Boring Log
BORING NO. IP-13
161 Wellington Rd. Brattleboro, VT

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Field boring log
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30					0.0 @30.5'
		Brown, SAND, medium grained, well sorted, no odor, no staining, moist, homogeneous, Well sorted medium sand			0.0 @31.5'
-35					0.0 @35.6'
		Reddish brown, GRAVEL, coarse to very coarse grained, well sorted, no odor, no staining, moist, homogeneous, Coarse sand coarsening downward to coarse sand and gravel			0.0 @36.7'
					0.0 @37.8'
-40			**Not Applicable**		0.0 @40.5'
					0.0 @41.5'
-45					
-50					
-55					

Soil Boring Log
BORING NO. IP-15
Brattleboro, VT, Montpelier, Vermont

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Field boring log
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Light brown, SAND, very fine to fine grained, well sorted, no odor, no staining, moist, homogeneous, Silty fine sand grading to fine sand at 5.5 feet	**Not Applicable**		0.0 @0.5' 0.0 @1.5' 0.0 @2.5' 0.0 @5.8' 0.0 @6.9' 0.0 @8.2'
-5					
-10					

Soil Boring Log
BORING NO. IP-16
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 08/19/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/19/19
LOG PREPARED BY:DTV 9/27/19
19015

STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Black, Asphalt	*Native Backfill*		
		Light brown, GRAVEL, coarse to very coarse grained, subangular, no odor, no staining, dry, homogeneous			0.0 @1.0'
					0.0 @2.0'
		Light brown, SAND, fine to medium grained, well sorted, no odor, no staining, moist, homogeneous			0.0 @3.0'
-5		Pale gray, COBBLES, very coarse grained, angular, poorly sorted, no odor, no staining, dry			
		Light brown, COBBLES, coarse to very coarse grained, angular, poorly sorted, some coarse gravel, no odor, no staining, dry			
-10		Light brown, SAND, medium to coarse grained, subangular, well sorted, little coarse gravel, no odor, no staining, dry, homogeneous, Medium to coarse sand with some pebbles			0.0 @10.8' 0.0 @11.0' 0.0 @11.5'
					0.0 @12.5'
-15		Brown, SAND, coarse to very coarse grained, subangular, well sorted, with coarse gravel, no odor, no staining, dry, stratified, Medium sand coarsening downward to coarse sand and gravel			0.0 @16.0'
					0.0 @17.0'
		Brown, SAND, coarse to very coarse grained, subangular, well sorted, with coarse gravel, no odor, no staining, dry, stratified, Medium sand coarsening downward to coarse sand and gravel			0.0 @18.0'
-20		Brown, SAND, medium to coarse grained, subangular, well sorted, trace gravel, no odor, no staining, stratified, Medium sand coarsening downward			
		Dark brown, sandy GRAVEL, coarse to very coarse grained, subangular, poorly sorted, no odor, no staining, moist, Poorly sorted gravel with some silt			
-25		Dark brown, sandy GRAVEL, coarse to very coarse grained, subangular, poorly sorted, no odor, no staining, moist, Poorly sorted gravel with some silt			0.0 @25.5' 0.0 @26.0'
					0.0 @27.0'
-30					

Soil Boring Log
BORING NO. IP-16
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 08/19/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/19/19
LOG PREPARED BY:DTV 9/27/19
19015

STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-30		Light brown and light gray, SAND, coarse grained, angular, poorly sorted, and gravel, no odor, no staining, dry	**PVC Well Riser**		0.1 @30.8'
		SAND, medium to coarse grained, subangular, no odor, no staining, dry			
-35		Dark brown, SAND, coarse to very coarse grained, subrounded, with fine to medium sand, no odor, no staining, moist, Slough			0.2 @35.5' 0.5 @36.1'
		Dark brownish gray, GRAVEL, coarse grained, angular, with silty sand, no odor, no staining, dry			
-40		Light reddish brown with tan, SAND, fine to medium grained, subrounded, with silt, no odor, no staining, dry			0.3 @40.2' 0.6 @41.1'
		Light brown and light gray, SAND, medium to coarse grained, and gravel, no odor, no staining, dry			
-45		Light brown, gravelly SAND, coarse grained, subrounded, little silt, some gravel, no odor, no staining, dry			0.7 @45.4'
		Light brownish gray, SAND, coarse grained, subangular, with gravel, trace silt, no odor, no staining, dry			
-50		Light gray and light brown, SAND, coarse to very coarse grained, subrounded, with gravel, no odor, no staining, dry			0.3 @50.5' 0.6 @51.2'
		Light brown and light gray, SAND, coarse to very coarse grained, subangular, and gravel, no odor, no staining, dry			
-55					0.4 @55.5'
-60					

Soil Boring Log
BORING NO. IP-16
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 08/19/2019
DRILLING CONTRACTOR: DrillX
DRILLER: Chris Hogan
COMMENT:

DRILLING METHOD: 4-1/4" Hollow stem auger
LOGGED BY: D. Voisin

SOURCE: Stone field notes 8/19/19
LOG PREPARED BY:DTV 9/27/19
19015

STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
-60		Light brown and light gray, SAND, coarse to very coarse grained, subangular, and gravel, no odor, no staining, dry	*Bentonite*		0.3 @60.5' 0.7 @61.2'
		Light brown and tan, SAND, coarse to very coarse grained, subangular, no odor, no staining, dry	*Sand Pack*		
-65			**2.00 PVC 0.01 Well Screen**		0.5 @65.5' 0.3 @66.2'
-70		Light brown, SAND, coarse to very coarse grained, subrounded, little gravel, trace silt, no odor, no staining, wet			0.2 @70.5' 0.1 @71.2'
-75					

Soil Boring Log
BORING NO. IP-18
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Stone field notes
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Brown, SAND, fine grained, well sorted, no odor, no staining, moist, laminated, Well sorted sand	**Not Applicable**		0.0 @0.8' 0.0 @1.6' 0.0 @2.7' 0.0 @5.6' 0.0 @6.2' 0.0 @7.2' 0.0 @8.3'
-5					
-10					

Soil Boring Log
BORING NO. IP-19
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Stone field notes, 7/23/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Very dark brown, SILT, no odor, no staining, moist, Organic loamy sand	**Not Applicable**		0.0 @0.5'
		Brown, GRAVEL, coarse to very coarse grained, angular, poorly sorted, no odor, no staining, blocky, Poorly sorted sand and gravel			0.0 @1.5'
-5		Light brown, SAND, very fine to fine grained, well sorted, no odor, iron oxide staining, moist, Iron staining in silt lenses between 5.5 and 7 feet			0.0 @5.7'
					0.0 @7.0'
					0.0 @8.2'
-10					

Soil Boring Log
BORING NO. IP-20
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern ANALYTICAL
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT: Edge of wooded area west of IP-18

SOURCE: Stone field notes, 7/23/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Light brown, gravelly SAND, medium to coarse grained, subangular, poorly sorted, no odor, no staining, moist, blocky, Loamy pebbly sand	**Not Applicable**		0.0 @1.0' 0.0 @2.0'
		SAND, medium grained, well sorted, no odor, no staining, moist, Well sorted sand			
-5		Gray, SILT, trace fine sand, some coarse gravel, no odor, no staining, moist, lensed			0.0 @5.5'
		Brown, SAND, fine to medium grained, well sorted, no odor, no staining, moist, lensed			0.0 @6.5' 0.0 @7.5'
-10					

Soil Boring Log
BORING NO. IP-21
Brattleboro, VT, Montpelier, Vermont

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Field boring log
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Brown, gravelly SAND, medium to coarse grained, poorly sorted, no odor, no staining, moist, blocky, Pebbly Fine sand with silt lenses	**Not Applicable**		0.0 @1.0' 0.0 @2.0' 0.0 @2.9'
-5		Dark brown, SILT, no odor, no staining, moist, blocky			0.0 @5.8'
		Light brown, SAND, very fine to fine grained, well sorted, trace silt, no odor, no staining, moist, blocky			0.0 @7.0' 0.0 @7.9'
-10					

Soil Boring Log
BORING NO. IP-22
161 Wellington Rd., Brattleboro, VT

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Field boring log
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Dark brown, SILT, no odor, no staining, moist	Not Applicable		0.0 @0.5'
		Concrete rubble			
-5		Concrete rubble and stone			0.0 @5.5'
		Dark brown to black, SILT, no odor, no staining, moist, Organic rich loamy silt			0.0 @6.5'
		Light grayish brown, SAND, very fine to fine grained, well sorted, no odor, no staining, moist, blocky, Silty fine sand			0.0 @7.5'
-10					

Soil Boring Log
BORING NO. IP-23
Brattleboro, VT

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Stone field notes, 7/23/19
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Dark brown, COBBLES, very coarse grained, angular, poorly sorted, no odor, no staining, dry	**Not Applicable**		0.0 @1.0'
		Light brown, SAND, well sorted, no odor, no staining, moist, stratified			
		Very dark brown, SAND, fine grained, well sorted, some construction debris, no odor, no staining, moist, Some concrete rubble			
-5		SAND, very fine to fine grained, well sorted, no odor, no staining, moist, stratified			0.0 @5.6' 0.0 @6.5' 0.0 @7.6'
-10					

Soil Boring Log
BORING NO. IP-24
161 Wellington, Rd. Brattleboro, VT

DATE DRILLED: 07/23/2019
DRILLING METHOD: Direct Push - Dual Tube
DRILLING CONTRACTOR: Eastern Analytical
LOGGED BY: L. Rosberg
DRILLER: Brian Law
COMMENT:

SOURCE: Field boring log
LOG PREPARED BY: DTV 9/27/19
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STONE ENVIRONMENTAL

DEPTH (Feet)	RECOVERY	LITHOLOGY / SOIL DESCRIPTION	WELL CONSTRUCTION *AND BACKFILL MATERIAL*	Water Depth (ft)	PID (ppm v/v)
0		Very dark brown to black, SILT, trace fine gravel, no odor, no staining, moist	**Not Applicable**		0.0 @0.5'
		Brown, SAND, fine to medium grained, well sorted, no odor, no staining, moist, blocky, Asphalt rubble at 1.2 to 1.8 feet			0.0 @1.5' 0.0 @2.4'
-5		Concrete rubble			
		Light brown, SAND, very fine to fine grained, well sorted, no odor, no staining, moist			0.0 @5.4' 0.0 @6.5' 0.0 @7.5'
-10					

2 7/22/19 Location: Brattleboro, VT
Proj. Name / ID: Lowe Falls Paperboard / 19-015

07:30 Lee Rosberg (LSR) on-site. Signed in and met w/ Gabby.

08:00 Reviewed IP's / dig safe markings. Marked alternative locs. For IP-4, 7, and 2
Eastern Analytical (EA) on-site. Brian Law and Josh

09:00 Completed safe work permit / reviewed HASP
Tyler - Vermont Underground Locators (VUL) on-site. Reviewed IP's, begin utility loc. @ IP-16

09:15 Alpha Analytical courier delivered sample bottles off-site @ 09:25; EA off-load rig + prep tooling

10:00 Shawn Donovan on-site
10:25 No recovery in 10-15' and 15-20' intervals in IP-16, likely pushing cobbles in front of cutting shoe. Off-set ~10' east.
11:05 IP-16 → No recovery from 30-35'

SLR 7/22/19

Scale: 1 square = _____

7/22/19 Loc. Brattleboro, VT
Lowe Falls Paperboard 19-015

11:15 No recovery from 35-40' IP-16, likely pushing rock in front of drive shoe. Pulled tooling

11:55 Moved to IP-1 and began drilling

12:15 Sudden hard refusal @ IP-1 @ 16 ft bgs. VUL cleared new loc. ~43' south: IP-1A

12:45 Rate of penetration refusal @ 16' @ IP-1A.

13:00 Called Dave Abrahamson to discuss drilling challenges. Shawn Donovan off-site.

13:30 Opened well boxes

Well ID	Depth (ft btoc)
MW-3	72' - dry
MW-4	83' - DTW ~80'
MW-16	68' ~1' of No. 6 oil

14:00 Began advancing IP-3, VUL off-site
14:30 IP-3 Rate of penetration refusal @ 29 ft bgs w/in coarse sand.

SLR 7/22/19

Scale: 1 square = _____

7/22/19 Long Falls Paperboard 19-015

14:40 Called Dave Abrahamson. Will move to IP-12 and IP-13 and reassess drilling technique for deeper borings / gw monitoring points.

15:30 Moved to IP-12.

Collected following samples

ID	Depth (ft)	Time	Analysis
IP-12-7.5	7.5	16:00	VOC - 8260
IP-12-7.5	7.5	16:00	SVOC - 8270
IP-12-11.0	11.0	16:05	Dioxin/Furan
IP-12-7.5	7.5	16:00	PCBs
IP-12-11.0	11.0	16:05	PFAS
IP-12-7.5	7.5	16:00	Metals

16:30 Could not advance past 20' @ IP-12 w/MCS due to hole collapse.

16:55 Tidied work areas and moved drill rig/support truck to parking area. LSR/EA off-site

Scale: 1 square = _____ SJR 7/22/19

7/23/19 Long Falls Paperboard 19-015

06:45 LSR on-site. Completed safe work permit.

07:00 Eastern Analytical on-site, begin setup @ IP-13 w/ DT225.

07:30 Begin drilling @ IP-13.

IP-13 Sample Summary

ID	Depth (ft)	Time	Analysis
IP-13-7.5	7.5	07:45	VOCs
IP-13-7.5	7.5	07:45	Metals
IP-13-7.5	7.5	07:45	SVOCs
IP-13-10.5	10.5	07:55	Dioxin/Furan
IP-13-10.5	10.5	07:55	PCBs
IP-13-13.0	13.0	08:05	PFAs

08:50 End of soil boring @ IP-13 @ 45 ft bgs. EA out of 2.25" rod. Slow rate of penetration but rods still advancing

09:00 Eric Swaich (ES) on-site

09:15 Checked ES in at visitor entrance. Requested gate east of lagoons be unlocked to access IP-15 and IPs 18-21.

Scale: 1 square = _____ SJR 7/23/19

Rite in the Rain

IP-15 sample summary

Sample ID	Depth (ft bgs)	Time	Analysis
IP-15-8.0	8.0	09:55	VOCs
IP-15-8.0-FD	8.0	09:55	VOCs
IP-15-7.0	7.0	1012	SVOCs
IP-15-7.0	7.0	1012	SVOCs
IP-15-6.0	6.0	1021	TOTAL METALS
IP-15-6.0-FD	6.0	1021	TOTAL METALS

10:20 Collected VOC, SVOC, and Metals samples from IP-14. Removed sod w/ shovel and collected surface soil from 0.5 ft bgs. (IP-14-0.5)

11:30 Completed IP-18 near plastic pipe, concrete, and asphalt spread on ground surface. Soils consist of sand w/ no indication of contamination. No soil samples collected.

11:55 Completed IP-19, no soil samples collected. Asphalt and concrete on ground surface.

SJR 7/23/19

12:00 Begin IP-20, loc. west of IP-18 near edge of field. No soil samples collected.

12:25 End IP-21, loc. west of IP-19 near edge of field. No soil samples collected.

12:45 Marked out three additional soil boring locations near asphalt + concrete fill (IP-22, 23, and 24). EA moving rig to IP-22. Marked locs. w/ grade stakes

13:50 Completed IP-22, 23, and 24. Concrete and asphalt rubble observed but no indication of other contamination. No soil samples collected. EA moving rig to main facility. No other shallow soil borings to be completed. Will backfill soil borings completed on 7/22.

14:10 located "Sartomer" drum

14:20 Excavated on east, west, and south side of drum. Concrete underlying organic humus and duff at about 6" bgs. Concrete in drum, encasing north side. Concrete rubble

in woods next to drum. PID readings on east, west, and south side of drum at ~6" all 0.0 ppm/v

15:00 SJR 7/23/19
~~13:00~~ (E) Assessed equip. area for staining. Several areas of staining observed on asphalt. Asphalt underlying equipment storage area is competent. Staining extends to gravel east of asphalt at one location. Excavated to 0.5 ft bgs w/shovel. Soils consist of coarse gravel and crushed stone. Staining extends to 2" bgs. PID@ 1" = 0.0 ppmv. PID@ 6" = 0.0 ppmv. No samples collected.

15:15 EA filled in all IP's drilled on 7/22 w/ sand to 5' bgs, bentonite to 1' bgs, and sand to GS. EA off-site.

1530 COLLECT "IP-25" (LAGOON SLUDGE). SOLIDS ARE ACTIVELY BEING DISCHARGED VIA AN AUGER FROM THE CLARIFIER. PILE IS "FRESH" FROM TODAY.

SJR 7/23/19

Scale: 1 square = _____

16:35 Began purging "Shallow" well spigot through hose into floor drain.

16:45 Began purging "Deep Well" @ spigot @ bldg. entry. Purged through hose to discharge in driveway

16:55 Removed hose from shallow well spigot and collected water supply sample "Shallow Well" for VOCs, SVOCs, PFAS, and Metals analysis

17:15 Removed hose from deep well spigot and collected water supply sample "Deep Well" for VOC, SVOC, PFAS, and Metals Analysis

17:35 LSR + ES off-site

SJR 7/23/19

Scale: 1 square = _____

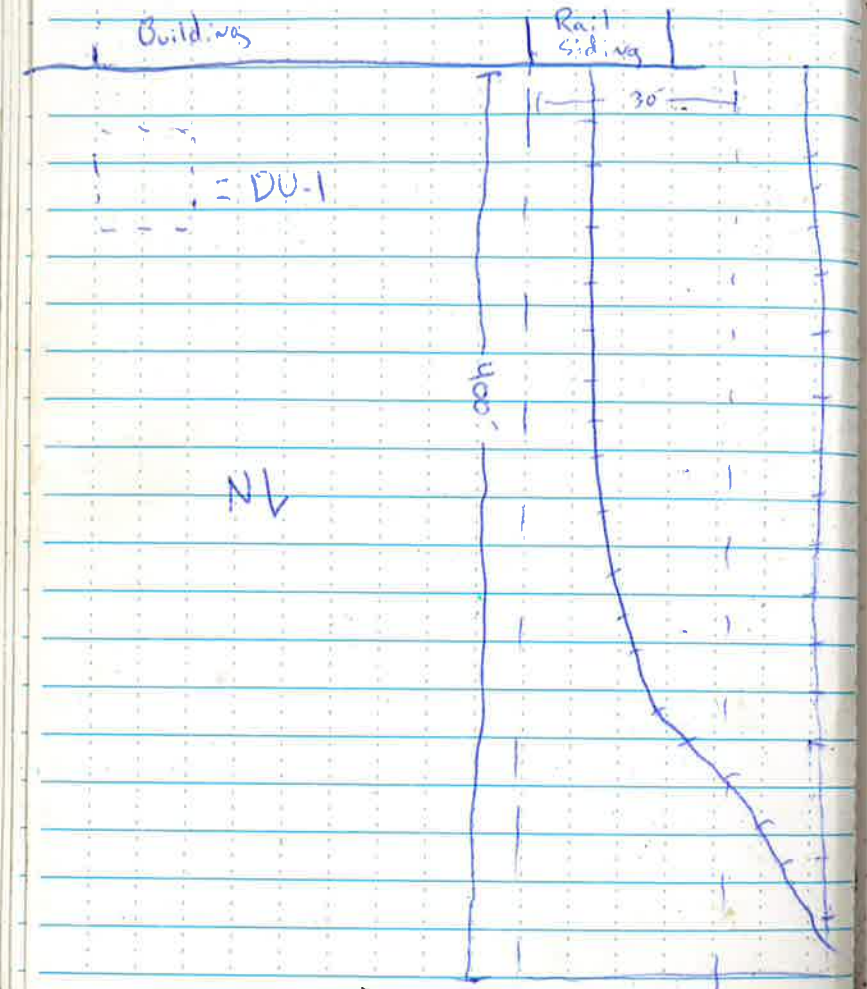
Rite in the Rain

7/24/19 Long Falls Paperboard 19-015

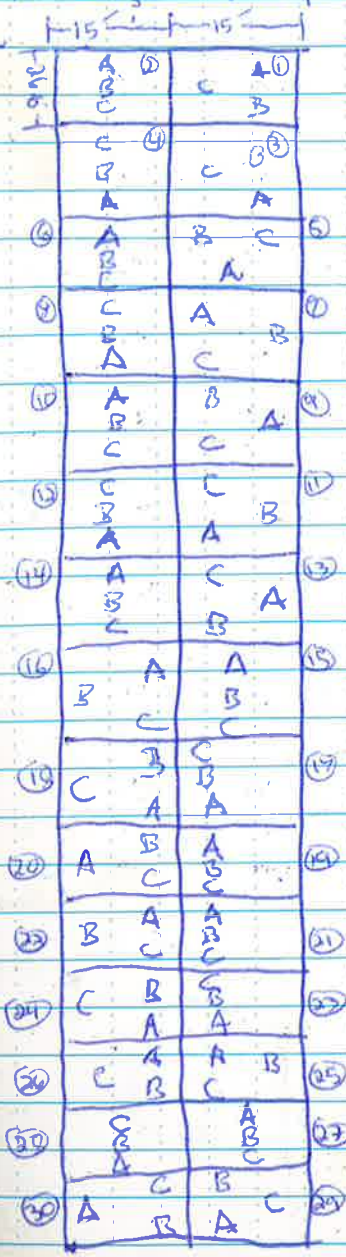
07:00 LSR + ES on-site. Completed safe work permit.

07:30 decontaminated shovel and step probe. began layout of DU-1 grid.

08:00 began sampling DU-1 w/step probe



Scale: 1 square = _____ BR 7/24/19



Scale: 1 square = _____ BR 7/24/19

Rite in the Rain

DU-1 Soil description

Increment/ Replicate	Color, texture, moisture
1/A, B, and C	Dark brown loamy silt + FS, moist
2/A, B, and C	
3/A, B, and C	
4/A, B, and C	
5/A, B, and C	
6/A, B, and C	
7/A, B, and C	
8/A, B, and C	
9/A, B, and C	
10/A, B, and C	
11/A, B, and C	
12/A, B, and C	
13/A, B, and C	
14/A, B, and C	
15/A, B, and C	
16/A, B, and C	
17/A, B, and C	
18/A, B, and C	
19/A, B, and C	
20/A, B, and C	
21/A, B, and C	
22/A, B, and C	

Scale: 1 square = _____ SR 7/24/19

DU-1 Soil description continued

each replicate consists of 20g measured w/field balance.

Increment/ Replicate	Color, texture, moisture
23/A, B, and C	Dark brown, loamy silt+FS, moist
24/A, B, and C	
25/A, B, and C	
26/A, B, and C	
27/A, B, and C	
28/A, B, and C	
29/A, B, and C	
30/A, B, and C	

10:25 Began subsampling procedure for DU1

Sample ID	Time	Analysis
		~~Hg~~ (E)
DU1-A	10:35	Herbicides and PAHs
DU1-B	10:40	
DU1-C	10:45	

Retrieved extra soil in case of sample breakage, or other scenario that would require additional volume.

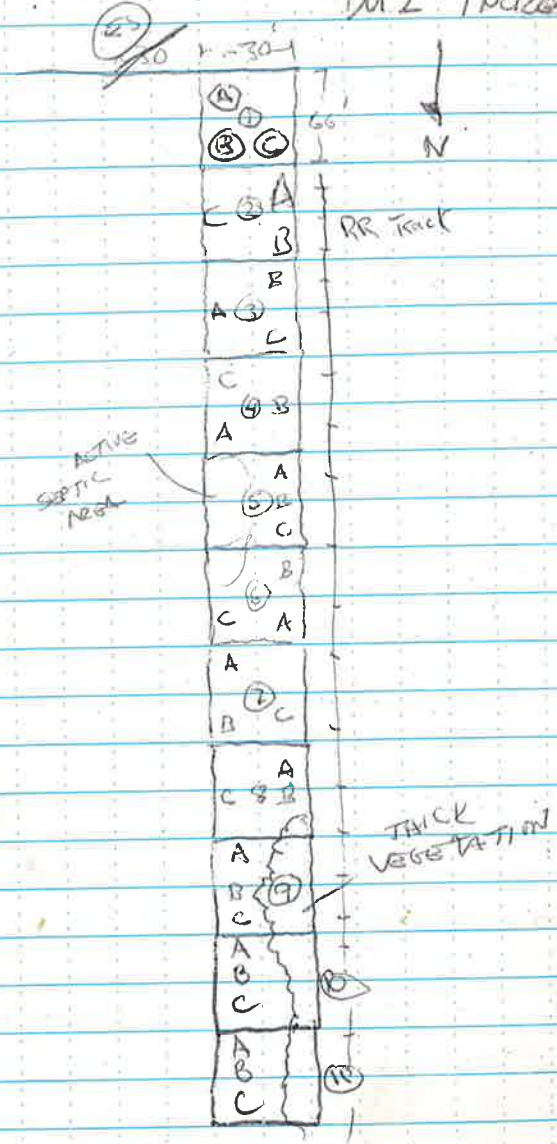
Scale: 1 square = _____ SR 7/24/19

Rite in the Rain

7/24/19 LongFalls Paperboard 19-015

11:00 begin DU2 sampling

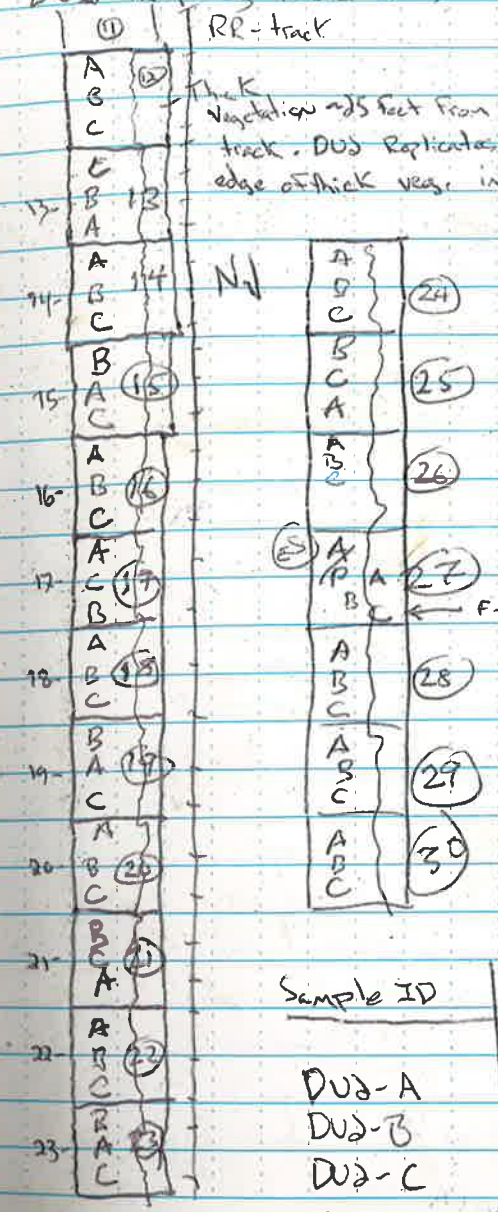
DU2 INCREMENTS



Scale: 1 square = _____ SJR 7/24/19

7/24/19 LongFalls Paperboard 19-015

DU2 Sampling increments continued



All DU2 soil Brown-dark brown loamy Silts, moist

Sample ID	Time
DU2-A	13:39
DU2-B	1352
DU2-C	13:41

Scale: 1 square = _____ SJR 7/24/19

Rite in the Rain

14:00 Completed ISM sampling. Retained DU1 and DU2 soil for archive. Recorded loc. of IP-14, 15, and 18-24 w/ GPS.

14:10 Called Alpha Analytical. ETA of courier is 15:00-16:00.

14:30 Relinquished samples to Alpha Analytical courier.

15:00 Maintenance personell indicated the Northern maint. shop floor drain discharges to the septic system. Water backs up into floor drain when septic is backed up.
Two catch basins east of maintenance area only have one pipe, oriented N-S

15:12 Dumped ~1L of red dye down maint. floor drain while flushing w/hose @ ~1gal/min
15:20 No dye observed in three catch basins, clarifier, or basement trenches/sumps
15:27 Discharged ~1.5L of green dye into maint. shop floor drain while flushing w/water @ ~1gal/min.

Scale: 1 square = _____ SJR 7/24/19

15:37 No green dye observed @ clarifier or catch basins.

15:55 Investigated two 55-gal drums NW of shipping dock. Locked curb-stop w/curb stop wrench present. Both drums empty, one labeled "Main water". Drums likely present to mark + protect curb stop from mowing. No odors or soil staining

16:15 LTR + ES off-site

SJR 7/24/19

Scale: 1 square = _____

Rite in the Rain

Location 161 Wellington Rd Date 8/14/18

Project / Client Long Falls Paper and Board Battlebordt

DN + LBR on site at 0740, after getting ice
LJR on site @ 0800, reviewed locations
Met w/ Gebby Construction (JFP)
reviewed H&S plan, safety training
Inspected areas w/ Gebby

DrillX on site (Chris lead driller) + Joe (helper)
@ 0845

Reviewed IP-6 location w/ DrillX.
need to get OK from National Grid
to be w/in 15 ft of location

Set up on IP-5
began drilling at 0950

logging every 2' for 5' interval
HSA, w/ 4 1/4 Augers 1.5" diameter split spoon
x 2' long

Began setting well @ 1405
Well set from 65-75 w/ 2.5' of
sand pack and 3 feet of bentonite chips
hydrated.

Rite in the Rain

Location 161 Wellington Rd Bellevue Date 8/10/19

Project / Client 19-015 LFP

Begin Developing well @ 1532 using Waterra w/ 5/8 by 1/2" HDPE tubing

Depth of Well = 75.6' TOC
Depth to water prior to Development = 68.8' TOC

7.5 min for 5 gallons = 0.66 gpm

Ended at 16:10 for 38 mins = 25 gallons

Pack up off site by 1645

Location 161 Wellington Rd Date 8/10/19

Project / Client 19-015 LFP

DN + LGR on-site at 0750, met Gabby of LEP, signed in

Drill X on-site @ 0810
Picked up soil remaining around IP5
Moved IP6 slightly N+W to accomodate Power lines.

Setup on IP-6 @ 0828
Drilled to ~80 ft w/ HSA, split spoons every five feet.
Shyan Ronovan onsite b/w 1030-1145
Well set b/w 79.4 and 69.4
Sand pack to 67.4, well seal to 64.9

⊠ @ 75.25

Begin developing well @ 1445. Purged 18 gallons until clear

Set up on IP-08 @ 1500.
Drilled w/ center plug to 65, took split spoon @ 65-67 (Dry) pulled back 5 ft + re-drill
Day off site @ 1700

Rite in the Rain

Location LFP Phase II ESA Date 8/16/19

Project / Client 161 Wellington Rd Brattleboro, VT

0730 DN + LBR on site partly cloudy ~65°F
DrillX on site - Resume drilling @ IP-08
Met w/ Safety officer regarding IP-04
- Taking delivery of propane today would need to shut down, if on IP-4.
- We will move to another location after IP-08
- Calibrated PID w/ 100ppm iso, Bump = 99.4 ✓
Finished Drilling & setting MW on IP-08 @ 1020

Started Developing well at ~~1050~~ 1053 DN 8/16/19

Total = 81.20
∇ = 74.38
Rate = 0.9 gal/min

Moving Rig @ 1050 to IP-04, Auger to 65, run sample
Stopped developing well at 1125, Purged 28.8 gallons

Location LFP Date 8/16/19

Project / Client

1350 Drilled to 65 ft bgs, sampled 65-67 and 67-69, both dry

Hanging augers at ~~7~~ 65.0 for weekend not enough materials here to set wells.

Bump checked PID = 96.5 ppm → OK.

Setting pads on IP6 & IP8, will saw cut IP-5 next week.

off site @ ~1500

Rite in the Rain

Location 161 Wellington Rd, Gatlinburg Date 8/15/15

Project / Client 15-015 LFP Phase II ISA

DN c LBR onsite at LFP at 0745 after getting ice cooler

resumed drilling at IP-4

Calibrated + zeroed PID.

Started developing well at 1035

IP-64	IP-16 @ 15:50
Total = 74.43	Total = 74.16
Σ = 69.14	Σ = 67.95
Rate = 0.83 gallons/min	Rate: 1 gpm
	End: 16:15

Stopped developing well at 1055. Purged 16.6 gallons. Σ at end of purge 69.14.

Moved to IP-16, see boring logs

Finished developing well at 1630

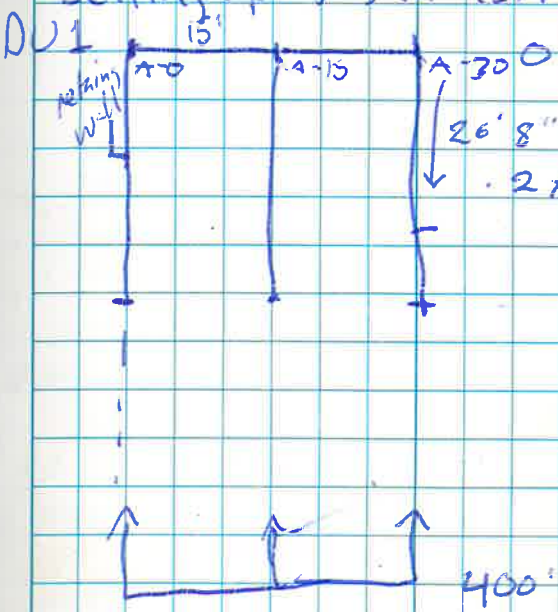
tiddied up off site at 1700

Location 161 Wellington Rd Date 8/14/15

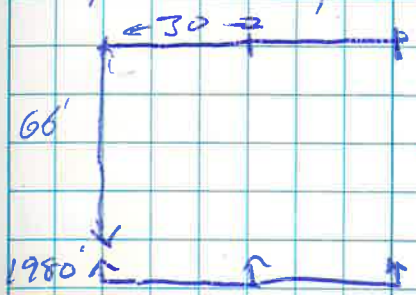
Project / Client 15-015 LFP Phase II ISA

Setting up DU's for ISM re-do

DU1



Setup DU #2, starting at NE end of DU1



Marked each intersection w/ tape/paint

Location 161 Wellington Rd Brattleboro Date 8/20/19
Project / Client LFP Phase II ESA 19-015

PM + LBR on site at 0700, sunny ~75°F

Setup on IP-1 - see sampling location
Auger to 70' bgs

Zeroed + calibrated PID w/ 100 ppm isobutylene
Bump check = 99.8 ppm ✓

Finished setting well @ 1100
DN 8/20/19

Began developing well @ ~~1102~~ 1119

Total depth = 74.05
Z = 69.29
Rate 0.66 gal/min

Stopped developing well @ 1309
Total volume purged = 73.3 gallons

Moved over to IP-02, drilled and sampled to 62 ft.

End of day

Location 161 Wellington Rd. Brattleboro Date 8/20/19
Project / Client LFP Phase II ESA 19-015

DN onsite @ 655. LBR procuring water and ice. Rainy ~65°F. Threat of Thunderstorms, especially later

Continued Drilling at IP-02

Calibrated and zeroed PID
post cal bump = 99.2 ✓

0800
Finished drilling to 75 ft, setting well from 65-75

0837 - Stopped drilling; thunder + lightning

0930 resumed drilling, finished well
Started to develop IP-02, could not get to bottom of well. Sand pack and an interface probe. Think it unscrewed at bottom joint. Will attempt to re-thread and tremmie out sand.

1038
Setup on IP-07 Drilled + sampled to 75'
Completed well from 65-75'
Sand pack = 75-63
Bentonite = 63-61

Rite in the Rain

Location 161 Wellington Rd Brattleboro Date 8/21/19

Project / Client 19-015 VTDEC

Finished well at 1330

Began develop; well ~1345 (see below)

1430

Returned to IP-02, attempted to remove fresh water in to well to lift out sand. Could not get return on tremmie. Attempted w/ ~150 gallons of water - all went back into formation.

Tripped tremmie and removed well screen intervals did not come back

Back fill well w/ Bentonite and move forward to reset well.

IP07

Total depth = 74.36 Start time = 1344

Σ = 67.24 End = 1406

gallons = 8.46 gallons

rate = 0.38 gpm

1536: Began drilling new IP-02,

Set to 65-75 ft. Sand to 63 Bentonite to 61

pulled ~20' out. End of Day

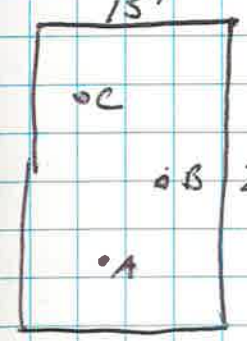
Location 161 Wellington Rd Date 8/21/19

Project / Client 19-015

1545

DN + LGR Began collecting DU-1

Each increment was set up thusly:



Completed collection using 3 dedicated push poles (A, B, C) and dedicated pans.

Where RR ballast was present holes were dug through the ballast using a spade.

Samples were collected using table spoons. Samples were weighed from each replicate take ~20g.

Samples were generated from 30 squares set into the pan and weighed for 70g. before placing in sample jars.

Samples were collected at 1815

DU-1-A, DU-1-B, DU-1-C

for Herbicide and PAH analysis

End of Day

Rite in the Rain

Location 161 Wellington Rd, Bethlehem Date 8/22/19
Project / Client 19-015 VTDEC LFP

0700 DN + LBR onsite @ Long Falls Rd
overcast, muggy, ~70°F

Drillers left to fill holes, augers left overnight
resumed tripping augers

Calibrated PID and zeroed
post calibration check = 100.5 ppm ✓

Developing IP-02A, Total depth = 74.30
Began @ 0925 ∇ = 67.08
End @ Flow Rate: 0.625 gpm
Total volume:

Set up on IP-3A
Began drilling ~830 see boring logs
End drilling @ 11:00, set well 65-75
Sand pack 75-63
Bent. 63-61
Native 61-0

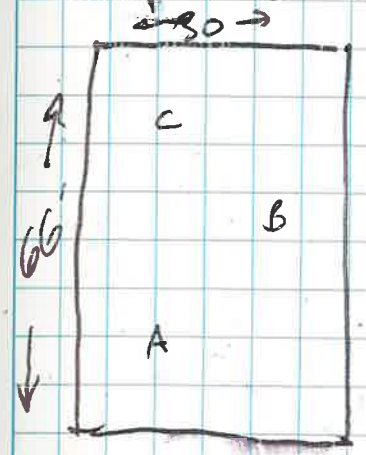
Collected sample IP-3A-70.5 @ 1055
Began developing IP-3A @ 1316 Total Depth = 74.15
Check value not setting right ∇ = 68.00
pulled tubing, cleaned out, restarted at 1323
Ended at 1400 after ~15 gallons 0.6 gpm

Location 161 Wellington Rd Date 8/22/19
Project / Client 19-015 VTDEC LFP

0820 Began sampling DU-2

Replicate

Setup was same as DU-1, therefore



3 intervals were set within a line due to vegetation

Samples collected at ~~14~~ 13:00

Location 161 Wellington Rd Date 8/28/19

Project / Client Long Falls Remedial Phase II RA 19-015

DN + LBR on-site ~830 after getting ice + supplies

"Collected" trip blank at 0800

Set up on IP-16

Collected EBlank at 0944

Calibrating YSIs

	16 B103580		18 D100309	
pH 4	4.0	4.13	4.0	4.02
pH 7	7.0	7.11	7.0	7.0
sp. C.	447	450.5	447	452
DO sat	98.2	89.2	99.5	78.2
DO zero	0.0%	2.0	0%	3.3%
ORP	233mV	228.5	233.6	216.0
	Exp	Act.	Exp	Act

18D100309: Sp C. wavering at times; looking somewhat wonky.

See forms for Notes on well sampling

Location 161 Wellington Rd Date 8/29/19

Project / Client Long Falls Remedial 19-015

DN Set up on IP-01

All equip either dedicated or decontaminated of PFAS

free water Water contained in drums onsite

Wells sampled:	time
IP-16	1147
IP-01	1312
IP-02	1440
IP-07	
IP-03	1600
IP-05	1816
IP-05-FD	1810

Collected Field Blank at 1331

Offsite at 20:00 after taking chips + deconing equipment.

Rite in the Rain

OBSERVATIONS AND REMARKS

Project Name/Description: Long Falls Phase II ESA	STONE ENVIRONMENTAL 535 Stone Cutters Way / Montpelier / VT / 05602 / USA 802.229.4541 / info@stone-env.com / www.stone-env.com
SEI Project #: 19-015	Client/Sponsor: VT DEC

0745 DTC on-site to sample remaining GW monitoring wells + sludge pile. weather: 70s, P. Cloudy, chance of afternoon T-storm.

Site contact (Gabby C.) not present. Sign in to main office.
0825 Gabby C. on-site, sign in w/ corporate HASP, and locate wells.

0915 rinse bladder pump w/ PFAS free water & collect E.Blank - 083019. Begin sampling IP-08 → collected FB first (1055)

1100 collect IP-08. Check DO calibration on YSI → 0.0 %
set up on MW IP-06 and begin purging.

In between wells cleaned bladder pump w/ DI rinse → alconox rinse → DI rinse → PFAS free rinse & change bladder.

1320 Begin purging IP-04. Cannot get sample to surface. Inspected air line, no evident hole. changed bladder in case of pin hole leak. still cannot get bladder to pump. Replaced white "collar" on bladder tube and switched controller, eventually got set up working. Decomed set-up.

1450 Resumed purging.

1510 Alpha courier on-site. collected sludge pile sample @ 1520 (SPLP / TOP Assay). Courier off-site for fuel / food, will wait for final GW sample.

Repack coolers → 1x PFAS only, 4x GW samples only 3x VOC TBs present. Filled 1 cooler w/ only SVOC samples and no TB included.

1620 Alpha off-site. DTC decons equipment, post-cal EQD checks and clean up.

1715 DTC off-site

Signed: Daniel J. [illegible] Date: 8/30/19

5 squares = 1 inch

STONE ENVIRONMENTAL INC

MONITORING WELL SAMPLING FORM

Project Name:	LFP Phase II ESA	Comments:
SEI Project Number:	19-015	
Client:	VTDEC	
Project Manager:	D. Abrahamson	

WELL ID	IP-01		Equipment ID / SN
Sample Date	8/29/19	Pump:	SOL # 1574
SOP/SSP #'s Followed	SEI SOP 6.34.1	Water Level Indicator:	
Sampling Method	Bladder Pump ✓ Peri Pump ____ Impeller Pump__ Bailer ____ Other ____	Water Quality Sonde:	
Sampling Personnel	PN LBR	Turbidity Meter:	
Weather	Sunny ~ 75°F	Other:	

Calculate Purge Volumes

Time of water level measurement (military): Depth of Pump/Intake: _____ feet Measuring Point Description: Well Screen Length:

Total Well Depth (btoc)	Depth to Water (btoc)	Height of Water Column		One Well Volume
75.06 feet	69.05 feet	= _____ feet	X 0.155 liters/feet (1-inch well) X 0.347 liters/feet (1.5-inch well) X 0.617 liters/feet (2-inch well)	= _____ liters

Time purging began (military):	3 X One Well Volume	liters
Time purging ended (military):	5 X One Well Volume	liters

Water Level (ft btoc)	Cumulative Vol. Purged (mL)	Time (Military)	Flow Rate (mL/min)	Temp (ºC) (± 3%)	ORP (mV) (± 10 mV)	pH (su) (± 0.1 su)	DO (mg/L) (± 10% or 3 consecutive readings < 0.5 mg/L))	Conductivity (µS) (± 3%)	Turbidity (NTU) (± 10% or 3 consecutive readings <5 NTU)
69.05	1000	1222		16.5	137	6.97	10.01	1329	60
69.05	1750	1226		16.5	148.9	6.92	9.96	1342	41
69.06	2750	1232		16.4	156	6.89	9.93	1358	25.9
69.05	4000	1240		16.4	162	6.88	9.92	1380	22.8
69.05	35500	1249		16.2	145.2	6.91	9.84	1383	14.6
69.05	7000	1259		16.4	138	6.88	9.85	1392	~~16.3~~ 16.3
69.07	8000	1303		16.4	126	6.88	9.84	1406	16.8
69.05	9000	1309		16.3	145.9	6.87	9.84	1407	25.3

Total Vol. Removed: _____ Liters (√) ___Meters Calibrated (√) ___Min. 3 Well Vol. Purged (√) ____Parameters Stable for 3 consecutive measurements

Sample Identification	Time Collected (Military)	Container)	Sampled By (Initials)	Preservation	Analysis	Additional Comments
IP-01	13:12	2x ~~1~~250	for PFAs	Trizma		Turbidity not equilibrated
		3x40 for	VOC	HCl		
		2x250	1,4 Dioxane	None		
		2 x 1L	SVOCs	None		
		1 x ~~2~~250	Metals	HNO3		
		1 x 250	CN	NaOH		

Sampling Personnel Signature _____ Date 8/29/19

STONE ENVIRONMENTAL INC

MONITORING WELL SAMPLING FORM

Project Name:	Long Falls Paper
SEI Project Number:	19-015
Client:	VT DEC
Project Manager:	D. Abrahamson

Comments: 1325 Flow stopped, checked bladder and rinsed valve, resume at 1340
1415 valve blocked.

			Equipment ID / SN
WELL ID	IP-02		
Sample Date	8/29/19	Pump:	1895
SOP/SSP #'s Followed	SEI SOP 6.34.1	Water Level Indicator:	22169
Sampling Method	Bladder Pump ✓ Peri Pump ____ Impeller Pump__ Bailer ____ Other _____	Water Quality Sonde:	18D100309
Sampling Personnel	LBR DTV	Turbidity Meter:	
Weather	75 Partly cloudy	Other:	

Calculate Purge Volumes

Time of water level measurement (military): 1257 Depth of Pump/Intake: _____ feet Measuring Point Description: Well Screen Length:

Total Well Depth (btoc)	Depth to Water (btoc)	Height of Water Column		One Well Volume
74.3 feet	67.0 feet	= 7.3 feet	X 0.155 liters/feet (1-inch well) X 0.347 liters/feet (1.5-inch well) X 0.617 liters/feet (2-inch well) ✓	= 4.5 liters

Time purging began (military):	1300	3 X One Well Volume	liters
Time purging ended (military):	1420	5 X One Well Volume	liters

Water Level (ft btoc)	Cumulative Vol. Purged (mL)	Time (Military)	Flow Rate (mL/min)	Temp (ºC) (± 3%)	ORP (mV) (± 10 mV)	pH (su) (± 0.1 su)	DO (mg/L) (± 10% or 3 consecutive readings < 0.5 mg/L))	Conductivity (µS) (± 3%)	Turbidity (NTU) (± 10% or 3 consecutive readings <5 NTU)
66.98	1000	1304	200	16.5	108.0	6.81	8.70	852	309
66.98	2000	1310	200	16.4	124.0	6.66	8.14	857	164
66.98	3000	1315	200	16.2	136.2	6.62	8.14	860	121
66.98	4000	1320	2000	16.3	146.1	6.60	8.05	862	94.
66.98	5000	1344	—	20.2	181.1	6.61	8.24	871	168
66.98	6000	1349	200	17.0	132.9	6.58	6.82	869	134
66.98	7000	1355	200	16.5	146.1	6.59	6.54	875	178
66.98	8000	1400	200	16.5	155.2	6.58	6.38	871	183
66.98	9000	1406	200	16.1	163.5	6.58	6.42	868	171
66.98	10000	1412	200	16.5	163.1	6.58	6.28	870	164

Total Vol. Removed: _____ Liters (V) ✓ Meters Calibrated (V) ___ Min. 3 Well Vol. Purged (V) ____ Parameters Stable for 3 consecutive measurements

Sample Identification	Time Collected (Military)	Container)	Sampled By (Initials)	Preservation	Analysis	Additional Comments
IP-02	1440		LBR			

Sampling Personnel Signature L. Rajnak Date 8/29/19

STONE ENVIRONMENTAL INC

MONITORING WELL SAMPLING FORM

Project Name:	LFP Pharell EA	Comments:
SEI Project Number:	15-015	
Client:	VT DEC	
Project Manager:	D. Ab-chemson	

			Equipment ID / SN
WELL ID	IP-03		
Sample Date	8/22/19	Pump:	Ser. # 151A
SOP/SSP #'s Followed	SEI SOP 6.34.1	Water Level Indicator:	SEI 106
Sampling Method	Bladder Pump ✓ Peri Pump ___ Impeller Pump___ Bailer ___ Other ___	Water Quality Sonde:	YSI
Sampling Personnel		Turbidity Meter:	Intermi
Weather		Other:	

Calculate Purge Volumes

Time of water level measurement (military): Depth of Pump/Intake: _____ feet Measuring Point Description: Well Screen Length:

Total Well Depth (btoc) 6 feet - Depth to Water (btoc) 6794 feet = Height of Water Column _____ feet X 0.155 liters/feet (1-inch well) X 0.347 liters/feet (1.5-inch well) X 0.617 liters/feet (2-inch well) = One Well Volume _____ liters

Time purging began (military):	3 X One Well Volume	liters
Time purging ended (military):	5 X One Well Volume	liters

Water Level (ft btoc)	Cumulative Vol. Purged (mL)	Time (Military)	Flow Rate (mL/min)	Temp (ºC) (± 3%)	ORP (mV) (± 10 mV)	pH (su) (± 0.1 su)	DO (mg/L) (± 10% or 3 consecutive readings < 0.5 mg/L))	Conductivity (µS) (± 3%)	Turbidity (NTU) (± 10% or 3 consecutive readings <5 NTU)
6795	1400	1459		19.1	218	5.99	7.67	155.9	65
6793	2000	1504		18.9	227	5.96	7.58	160	96
6793	3000	1510		18.9	232	5.97	7.54	161	113
6795	4000	1517		18.7	236	5.96	7.67	158	117
6795	4900	1523		18.3	240	5.96	7.69	158	133
6795	6000	1532		18.1	217	5.97	7.58	157	148
6795	7000	1545		18.9	246	5.96	7.69	153	194
6795	8000	1554		18.7	247	5.95	7.72	154	53
6795	8700	1559		18.8	246	5.95	7.68	155	80
NTU is wonky - water is super clear and turb = high.									

Total Vol. Removed: _____ Liters (V) ___Meters Calibrated (V) ___Min. 3 Well Vol. Purged (V) ___Parameters Stable for 3 consecutive measurements

Sample Identification	Time Collected (Military)	Container)	Sampled By (Initials)	Preservation	Analysis	Additional Comments
IP-03	1600	3x40m		HCl	8260	Turb. not equilibrated
	↓	2x 1L 250ml		—	8270 SIM D	excl. SVOCs
		2x 1L		—	8270	
		2x 250		Trizma	PFAS	
		1x 250		NaOH	~~Na~~ CN	
		1x 250		HNO3	metals	

Sampling Personnel Signature _____ Date 8/29/19

STONE ENVIRONMENTAL INC

MONITORING WELL SAMPLING FORM

Project Name:	Long Falls
SEI Project Number:	19-015
Client:	DEC
Project Manager:	DAA

Comments: 1325 No sample up well; Pulled pump from well, no apparent issue, changed bladder & restarted 13c/s. repair bladder and controller, restart @ 1450 Alpha on-site @ 1510, overflow (into bucket) & missed readings to collect sludge sample

WELL ID	IP-04		Equipment ID / SN
Sample Date	8/30/19	Pump:	6524
SOP/SSP #'s Followed	SEI SOP 6.34.1	Water Level Indicator:	SEI 103
Sampling Method	Bladder Pump ✓ Peri Pump ___ Impeller Pump___ Bailer ___ Other ___	Water Quality Sonde:	5409
Sampling Personnel	DTC	Turbidity Meter:	5409
Weather	80s, P. Cloudy	Other:	

Calculate Purge Volumes

Time of water level measurement (military): 1300 Depth of Pump/Intake: 74 feet Measuring Point Description: TOC Well Screen Length:

Total Well Depth (btoc) 76.0 feet − Depth to Water (btoc) 69.12 feet = Height of Water Column 6.88 feet X 0.155 liters/feet (1-inch well) X 0.347 liters/feet (1.5-inch well) X 0.617 liters/feet (2-inch well) = One Well Volume 4.2 liters

Time purging began (military): ~~1320~~ 1450 | 3 X One Well Volume 12.6 liters

Time purging ended (military): 1540 | 5 X One Well Volume 21.0 liters

Water Level (ft btoc)	Cumulative Vol. Purged (mL)	Time (Military)	Flow Rate (mL/min)	Temp (ºC) (± 3%)	ORP (mV) (± 10 mV)	pH (su) (± 0.1 su)	DO (mg/L) (± 10% or 3 consecutive readings < 0.5 mg/L))	Conductivity (µS) (± 3%)	Turbidity (NTU) (± 10% or 3 consecutive readings <5 NTU)
69.20	300	1455	NA	15.8	148.5	6.19	9.72	1612	927
69.25	1300	1500	200	15.3	174.8	5.95	9.57	1629	350
NC	1900	1505	120	15.7	187.7	5.92	9.53	1634	104
NC	overflow	1515	NA	14.8	199.5	5.92	9.66	1623	40
NC	~3900	1520	NA	14.6	209.8	5.92	9.31	1629	24
NC	4700	1525	160	14.5	215.5	5.90	9.65	1616	45
NC	5600	1530	160	14.4	217.1	5.92	9.73	1611	40
NC	6500	1535	180	14.3	218.2	5.92	9.74	1608	38
16.40	7300	1540	160	14.2	219.7	5.92	9.80	1614	41

Total Vol. Removed: 8.0 Liters (V) ✓ Meters Calibrated (V) ___ Min. 3 Well Vol. Purged (V) ✓ Parameters Stable for 3 consecutive measurements

Sample Identification	Time Collected (Military)	Container)	Sampled By (Initials)	Preservation	Analysis	Additional Comments
IP-04	1950	See COC	DTC	See COC	See COC	

Sampling Personnel Signature Daniel J. [illegible] Date 8/30/19

STONE ENVIRONMENTAL INC

MONITORING WELL SAMPLING FORM

Project Name:	LFP Phase II ESA	Comments:
SEI Project Number:	19-015	
Client:	VTDEC	
Project Manager:	D. Abrahamson	

WELL ID	IP-05		Equipment ID / SN
Sample Date	8/29/19	Pump:	
SOP/SSP #'s Followed	SEI SOP 6.34.1	Water Level Indicator:	
Sampling Method	Bladder Pump ✓ Peri Pump ____ Impeller Pump__ Bailer ___ Other	Water Quality Sonde:	
Sampling Personnel	DN CBR	Turbidity Meter:	
Weather	Sunny ~75°	Other:	

Calculate Purge Volumes

Time of water level measurement (military): 17:00 Depth of Pump/Intake: 73' feet Measuring Point Description: TOC Well Screen Length: 10'

Total Well Depth (btoc) 75.28 feet Depth to Water (btoc) 68.83 feet Height of Water Column = _____ feet

X 0.155 liters/feet (1-inch well)
X 0.347 liters/feet (1.5-inch well)
X 0.617 liters/feet (2-inch well)

One Well Volume = _____ liters

Time purging began (military):	3 X One Well Volume	liters
Time purging ended (military):	5 X One Well Volume	liters

Water Level (ft btoc)	Cumulative Vol. Purged (mL)	Time (Military)	Flow Rate (mL/min)	Temp (ºC) (± 3%)	ORP (mV) (± 10 mV)	pH (su) (± 0.1 su)	DO (mg/L) (± 10% or 3 consecutive readings < 0.5 mg/L))	Conductivity (µS) (± 3%)	Turbidity (NTU) (± 10% or 3 consecutive readings <5 NTU)
68.76	850	1714		15.8	273	6.13	9.85	128.3	101
68.76	1850	1725		15.1	289	6.07	9.77	137.6	86
68.78	3000	1732		14.7	295	6.12	~~9.78~~ 9.78	147	39
68.78	4000	1742		15.0	297	6.11	9.62	144	29
68.78	500	1750		15.0	253	6.12	9.67	148.6	21.2
68.78	6000	1800		14.7	275	6.13	9.65	150.7	21.0
68.78	7000	1807		14.7	~~290~~ 288	6.12	9.55	148	22
					DN 8/29/19				

Total Vol. Removed: _____ Liters (V) ___Meters Calibrated (V) ___Min. 3 Well Vol. Purged (V) ___Parameters Stable for 3 consecutive measurements

Sample Identification	Time Collected (Military)	Container)	Sampled By (Initials)	Preservation	Analysis	Additional Comments
	See next page					Collected at 1810 w/ FD

Sampling Personnel Signature _____ Date 8/29/19

STONE ENVIRONMENTAL INC

MONITORING WELL SAMPLING FORM

Project Name:	Long Falls	Comments:
SEI Project Number:	19-015	
Client:	DEC	
Project Manager:	DAA	

			Equipment ID / SN
WELL ID	IP-06		
Sample Date	8/30/19	Pump:	5771
SOP/SSP #'s Followed	SEI SOP 6.34.1	Water Level Indicator:	SEI 106
Sampling Method	Bladder Pump ✓ Peri Pump ___ Impeller Pump___ Bailer ___ Other ___	Water Quality Sonde:	5409
Sampling Personnel	DTC	Turbidity Meter:	5409
Weather	~80, Clear	Other:	

Calculate Purge Volumes

Time of water level measurement (military): 1130 Depth of Pump/Intake: 79 feet Measuring Point Description: TOC Well Screen Length:

Total Well Depth (btoc) 81.0 feet - Depth to Water (btoc) 75.35 feet = Height of Water Column 5.65 feet X 0.155 liters/feet (1-inch well) X 0.347 liters/feet (1.5-inch well) X 0.617 liters/feet (2-inch well) = One Well Volume 3.4 liters

Time purging began (military):	1145	3 X One Well Volume	10.2 liters
Time purging ended (military):	1241	5 X One Well Volume	17.0 liters

Water Level (ft btoc)	Cumulative Vol. Purged (mL)	Time (Military)	Flow Rate (mL/min)	Temp (ºC) (± 3%)	ORP (mV) (± 10 mV)	pH (su) (± 0.1 su)	DO (mg/L) (± 10% or 3 consecutive readings < 0.5 mg/L))	Conductivity (µS) (± 3%)	Turbidity (NTU) (± 10% or 3 consecutive readings <5 NTU)
75.48	300	1150	NA	15.4	138.4	6.37	6.34	939	970
75.46	1100	1155	160	14.7	158.0	6.30	6.30	942	1200
75.45	2000	1200	180	14.6	174.7	6.23	6.01	973	1300
75.45	2800	1205	160	14.3	183.9	6.19	6.06	998	1000
75.42	3700	1210	180	14.0	195.1	6.18	6.20	1007	257
75.42	4600	1215	180	13.9	201.2	6.17	5.90	1026	140
75.40	5300	1220	160	14.1	206.1	6.16	5.96	1038	75
75.40	6200	1225	180	14.1	209.2	6.15	6.12	1039	48
75.40	7000	1230	180	14.1	211.4	6.15	6.18	1042	50
75.40	7800	1235	160	14.1	213.6	6.14	6.20	1043	50
75.40	8600	1240	160	14.2	215.0	6.13	6.21	1052	47

Total Vol. Removed: 9 Liters (V) ✓ Meters Calibrated (V) ___ Min. 3 Well Vol. Purged (V) ✓ Parameters Stable for 3 consecutive measurements

Sample Identification	Time Collected (Military)	Container)	Sampled By (Initials)	Preservation	Analysis	Additional Comments
IP-06	1250	See COC	DTC	See COC	See COC	

Sampling Personnel Signature Daniel T. [illegible] Date 8/30/19

STONE ENVIRONMENTAL INC

MONITORING WELL SAMPLING FORM

Project Name:	Long Falls Paper	Comments:
SEI Project Number:	19-015	
Client:	VT DEC	
Project Manager:	D. Abrahamson	

WELL ID	IP-07		Equipment ID / SN
Sample Date	8/29/2019	Pump:	1895
SOP/SSP #'s Followed	SEI SOP 6.34.1	Water Level Indicator:	22169
Sampling Method	Bladder Pump ✓ Peri Pump ____ Impeller Pump__ Bailer ____ Other ____	Water Quality Sonde:	18D100309
Sampling Personnel	LBR	Turbidity Meter:	
Weather	80 Sunny	Other:	

Calculate Purge Volumes

Time of water level measurement (military): Depth of Pump/Intake: _____ feet Measuring Point Description: Well Screen Length:

Total Well Depth (btoc)	Depth to Water (btoc)	Height of Water Column		One Well Volume
73.92 feet	66.85 feet	= _____ feet	X 0.155 liters/feet (1-inch well) X 0.347 liters/feet (1.5-inch well) X 0.617 liters/feet (2-inch well)	= _____ liters

Time purging began (military):	1557	3 X One Well Volume	liters
Time purging ended (military):	1655	5 X One Well Volume	liters

Water Level (ft btoc)	Cumulative Vol. Purged (mL)	Time (Military)	Flow Rate (mL/min)	Temp (ºC) (± 3%)	ORP (mV) (± 10 mV)	pH (su) (± 0.1 su)	DO (mg/L) (± 10% or 3 consecutive readings < 0.5 mg/L))	Conductivity (µS) (± 3%)	Turbidity (NTU) (± 10% or 3 consecutive readings <5 NTU)
66.81	1000	1602	200	15.4	148.3	6.57	6.62	927	244
66.81	2000	1604	200	15.2	181.2	6.54	6.25	928	38
66.81	3000	1611	200	15.3	204.2	6.53	6.23	930	28
66.81	4000	1616	200	15.0	225.8	6.52	6.28	929	21
66.81	5000	1621	200	14.9	241.8	6.52	6.37	928	17
66.81	6000	1626	200	14.9	251.8	6.52	6.40	930	17
66.81	7000	1631	200	14.8	190.9	6.51	6.36	931	43
66.81	8000	1635	200	14.7	244.4	6.51	6.38	927	15
66.81	9000	1639	200	14.8	262.1	6.50	6.36	928	19
66.81	10000	1644	200	14.8	273.1	6.51	6.34	929	10
66.81	11000	1649	200	14.7	279.8	6.49	6.32	927	12
66.81	12000	1653	200	14.9	283.0	6.50	6.29	929	12
	12500								

Total Vol. Removed: _____ Liters (√) ___Meters Calibrated (√) ___Min. 3 Well Vol. Purged (√) ___Parameters Stable for 3 consecutive measurements

Sample Identification	Time Collected (Military)	Container)	Sampled By (Initials)	Preservation	Analysis	Additional Comments
IP-07 ↓			LBR			VOCs

Sampling Personnel Signature L. Rajnak Date 8/29/2019

STONE ENVIRONMENTAL INC

MONITORING WELL SAMPLING FORM

Project Name:	Long Falls
SEI Project Number:	19-015
Client:	DEC
Project Manager:	DAA

Comments: Having trouble getting water to flow out of flow through cell, started raising/lower pump during fill cycle to unseat valve, turbidity began to ↑

			Equipment ID / SN
WELL ID	IP-08		
Sample Date	8/30/19	Pump:	SE 5771
SOP/SSP #'s Followed	SEI SOP 6.34.1	Water Level Indicator:	SE7 706
Sampling Method	Bladder Pump ✓ Peri Pump ___ Impeller Pump___ Bailer ___ Other ___	Water Quality Sonde:	5409
Sampling Personnel	DTC	Turbidity Meter:	5409
Weather	70s, Clear	Other:	

Calculate Purge Volumes

Time of water level measurement (military): 0930 Depth of Pump/Intake: 79 feet Measuring Point Description: Well Screen Length:

Total Well Depth (btoc) 82.7 feet − Depth to Water (btoc) 74.5 feet = Height of Water Column 8.2 feet X 0.155 liters/feet (1-inch well) X 0.347 liters/feet (1.5-inch well) X 0.617 liters/feet (2-inch well) = One Well Volume 5.0 liters

Time purging began (military):	0940	3 X One Well Volume	15.0 liters
Time purging ended (military):	1051	5 X One Well Volume	25.0 liters

Water Level (ft btoc)	Cumulative Vol. Purged (mL)	Time (Military)	Flow Rate (mL/min)	Temp (ºC) (± 3%)	ORP (mV) (± 10 mV)	pH (su) (± 0.1 su)	DO (mg/L) (± 10% or 3 consecutive readings < 0.5 mg/L))	Conductivity (µS) (± 3%)	Turbidity (NTU) (± 10% or 3 consecutive readings <5 NTU)
74.60	Cell	0950	NA	14.1	77.9	6.32	11.10	778	1400
74.60	600	0955	120	13.6	128.9	6.05	8.96	785	940
74.60	1000	1000	80	14.2	145.3	6.04	8.97	781	500
74.60	1200	1005	40	14.1	160.4	6.02	9.02	777	478
74.60	1200	1010	NA	14.5	172.6	6.01	9.01	779	468
74.60	1400	1015	40	13.8	187.9	6.01	9.22	783	467
74.60	2000	1020	120	12.5	114.5	6.05	8.94	731	575
74.60	2500	1025	100	13.1	126.8	6.04	9.00	753	1200
74.60	3100	1030	120	13.1	129.2	6.10	9.20	783	1500
74.60	3600	1035	100	13.3	129.9	6.09	8.99	769	1708
74.60	4100	1040	100	12.7	137.2	6.01	8.96	769	~~1300~~ 1372
74.60	4800	1045	140	12.6	137.4	6.00	8.87	772	1358
74.60	5500	1050	140	12.5	142.4	6.01	8.90	778	1296

Total Vol. Removed: 5.5 Liters (✓) ✓ Meters Calibrated (✓) ___ Min. 3 Well Vol. Purged (✓) ✓ Parameters Stable for 3 consecutive measurements

Sample Identification	Time Collected (Military)	Container)	Sampled By (Initials)	Preservation	Analysis	Additional Comments
EBlank-083019	0915	2x 250	DTC	Tri-zma	~~PFAS~~ See	C.O.C.
IP-08	1100	See COC	DTC	See COC	See COC	
FB-083019	1055	2x 250	DTC	Tri-zma	PFAS	

Sampling Personnel Signature Daniel T. [illegible] Date 08/30/19

(D)(E) DTC 8/30/19

STONE ENVIRONMENTAL INC

MONITORING WELL SAMPLING FORM

Project Name:	IP-015	Comments: Turbidity not set on display initially
SEI Project Number:	Long Falls Paper	
Client:	VTDEC	
Project Manager:	D. Anderson	

			Equipment ID / SN
WELL ID	IP-016		
Sample Date	8/29/19	Pump:	1895
SOP/SSP #'s Followed	SEI SOP 6.34.1	Water Level Indicator:	22169
Sampling Method	Bladder Pump ✓ Peri Pump ___ Impeller Pump___ Bailer ___ Other ___	Water Quality Sonde:	~~5865~~ 18D100309
Sampling Personnel	LBR DN	Turbidity Meter:	
Weather	Sunny 75	Other:	

Calculate Purge Volumes

Time of water level measurement (military): 1035 Depth of Pump/Intake: _____ feet Measuring Point Description: Well Screen Length:

Total Well Depth (btoc) 74.21 feet - Depth to Water (btoc) 67.93 feet = 6.28 feet

X 0.155 liters/feet (1-inch well)
X 0.347 liters/feet (1.5-inch well)
X 0.617 liters/feet (2-inch well) ✓

One Well Volume = 3.87 liters

Time purging began (military): 1042 | 3 X One Well Volume | liters

Time purging ended (military): | 5 X One Well Volume | liters

Water Level (ft btoc)	Cumulative Vol. Purged (mL)	Time (Military)	Flow Rate (mL/min)	Temp (ºC) (± 3%)	ORP (mV) (± 10 mV)	pH (su) (± 0.1 su)	DO (mg/L) (± 10% or 3 consecutive readings < 0.5 mg/L))	Conductivity (µS) (± 3%)	Turbidity (NTU) (± 10% or 3 consecutive readings <5 NTU)
67.93	1100	1047	180	15.3	211.5	6.38	6.75	1759	
67.93	2100	1052	250	14.4	225.1	6.25	6.57	1785	
67.93	3100	1057	250	14.3	231.8	6.21	6.53	1799	
67.93	4100	1103	250	14.8	239.2	6.19	6.49	1824	
67.93	5100	1108	~~250~~ 200	14.1	243.9	6.19	6.40	1820	
67.93	6100	1113	200	14.2	248.3	6.18	6.34	1820	39.9
67.93	7100	1117	200	14.1	249.6	6.18	6.45	1810	33.3
67.93	8100	1122	200	14.2	249.5	6.21	6.44	1808	21.6
67.93	9100	1127	200	14.1	253.5	6.19	6.43	1804	24.3
67.93	10100	1132	200	14.2	257.9	6.14	6.45	1800	23.8
	10700								

Total Vol. Removed: 10.1 Liters (√) ___Meters Calibrated (√) ___Min. 3 Well Vol. Purged (√) ___Parameters Stable for 3 consecutive measurements

Sample Identification	Time Collected (Military)	Container)	Sampled By (Initials)	Preservation	Analysis	Additional Comments
IP-16	1147	3x40mL VOA	LBR	HCl	VOCs	
IP-16	1147	2x250mL A	LBR	none	1,4 Dioxane	
IP-16	1147	2x poly	LBR	HNO3 NAOH	Metals TCN	

Sampling Personnel Signature L. Raynak Date 8/29/19

Appendix C: Analytical Summary Tables

Table C-1
Soil METALS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-02-66		IP-3A-70.5		IP-05-11.0		IP-06-0.5		IP-06-0.5-FD	
Sample Date	**CAS#**					**8/21/2019**	**Q**	**8/22/2019**	**Q**	**8/14/2019**	**Q**	**8/15/2019**	**Q**	**8/15/2019**	**Q**
		(mg/kg)	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**										
Aluminum, Total	7429-90-5	72507	941748	77000	1100000	**7250**		**2790**		**5560**		**14200**		**13200**	
Antimony, Total	7440-36-0	26	319	31	470	**1.09**	J	**0.548**	J	4.27	U	**13.8**		**4.64**	J
Arsenic, Total	7440-38-2	16	16	0.68	3	**9.27**		**2.14**		**4.72**		**16**		**6.81**	
Barium, Total	7440-39-3	11247	127382	15000	220000	**26.9**		**23.3**		**20.2**		**156**		**143**	
Beryllium, Total	7440-41-7	35	289	160	2300	**0.174**	J	**0.046**	J	**0.154**	J	**0.284**	J	**0.152**	J
Cadmium, Total	7440-43-9	6.9	87	NE	NE	**1.07**		**0.43**	J	**0.743**	J	**8.55**		**3.66**	
Calcium, Total	7440-70-2	NE	NE	NE	NE	**872**		**530**		**1280**		**1810**		**675**	
Chromium, Total	7440-47-3	NE	NE	NE	NE	**15.4**		**5.83**		**12**		**311**		**140**	
Cobalt, Total	7440-48-4	22	291	23	350	**10.3**		**5.44**		**5.66**		**5.76**		**2.82**	
Copper, Total	7440-50-8	10407	139231	3100	47000	**19.5**		**8.66**		**9.35**		**413**		**360**	
Iron, Total	7439-89-6	51302	686351	55000	820000	**19400**		**7640**		**11200**		**122000**		**47100**	
Lead, Total	7439-92-1	400	800	400	800	**9.84**		**2.67**	J	**3.71**	J	**633**		**555**	
Magnesium, Total	7439-95-4	NE	NE	NE	NE	**3750**		**1640**		**2550**		**1620**		**1080**	
Manganese, Total	7439-96-5	1118	11350	1800	NE	**268**		**361**		**258**		**171**		**70.2**	
Nickel, Total	7440-02-0	940	9707	1500	22000	**22**		**12.5**		**12.3**		**157**		**83.5**	
Potassium, Total	9/7/7440	NE	NE	NE	NE	**823**		**379**		**648**		**336**	J	**265**	J
Selenium, Total	7782-49-2	366	4900	390	5800	1.66	U	1.83	U	1.71	U	**1.08**	J	**0.621**	J
Silver, Total	7440-22-4	237	2483	390	5800	0.829	U	0.914	U	0.854	U	**0.811**	J	**0.71**	J
Sodium, Total	7440-23-5	NE	NE	NE	NE	**79.5**	J	**17**	J	**122**	J	**35.6**	J	**19.9**	J
Thallium, Total	7440-28-0	NE	NE	0.78	12	0.261/1.66	U	0.288/1.83	U	0.269/1.71	U	0.426/2.70	U	0.399/2.54	U
Vanadium, Total	7440-62-2	2.8	27	390	5800	**17.9**		**6.64**		**14.3**		***246***		***243***	
Zinc, Total	7440-66-6	21986	294150	23000	350000	**43.9**		**15.9**		**25.4**		**112**		**50.7**	
Mercury, Total	7439-97-6	3.1	3.1	11	46	0.066	U	0.075	U	0.069	U	***3.45***		**3.04**	
Cyanide, Total	57-12-5	NE	NE	23	150	0.96	U	1.1	U	1.1	U	**10**		**6.7**	

Table C-1
Soil METALS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-12-7.5		IP-13-7.5		IP-14-0.5		IP-15-6.0		IP-15-6.0-FD	
Sample Date	**CAS#**					**7/22/2019**	**Q**	**7/23/2019**	**Q**	**7/23/2019**	**Q**	**7/23/2019**	**Q**	**7/23/2019**	**Q**
		(mg/kg)	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**										
Aluminum, Total	7429-90-5	72507	941748	77000	1100000	**6340**		**5410**		**5400**		**7100**		**8380**	
Antimony, Total	7440-36-0	26	319	31	470	4.47	U	**0.393**	J	**0.412**	J	**0.402**	J	**0.445**	J
Arsenic, Total	7440-38-2	16	16	0.68	3	**2.75**		**2.28**		**5.17**		**2.53**		**2.56**	
Barium, Total	7440-39-3	11247	127382	15000	220000	**18.1**		**24.2**		**23.9**		**16.8**		**23**	
Beryllium, Total	7440-41-7	35	289	160	2300	**0.224**	J	**0.247**	J	**0.19**	J	**0.228**	J	**0.263**	J
Cadmium, Total	7440-43-9	6.9	87	NE	NE	**0.688**	J	**0.612**	J	**0.717**	J	**0.7**	J	**0.772**	J
Calcium, Total	7440-70-2	NE	NE	NE	NE	**728**		**876**		**330**		**880**		**871**	
Chromium, Total	7440-47-3	NE	NE	NE	NE	**12.2**		**9.79**		**8.43**		**10.3**		**11**	
Cobalt, Total	7440-48-4	22	291	23	350	**7.08**		**5.86**		**7.27**		**6.46**		**7.41**	
Copper, Total	7440-50-8	10407	139231	3100	47000	**12.8**		**11.8**		**20.9**		**15.7**		**18**	
Iron, Total	7439-89-6	51302	686351	55000	820000	**11500**		**10400**		**12000**		**11500**		**12800**	
Lead, Total	7439-92-1	400	800	400	800	**3.24**	J	**2.45**	J	**5.22**		**3.6**	J	**4.06**	J
Magnesium, Total	7439-95-4	NE	NE	NE	NE	**2810**		**2670**		**2360**		**2880**		**3140**	
Manganese, Total	7439-96-5	1118	11350	1800	NE	**300**		**203**		**211**		**287**		**338**	
Nickel, Total	7440-02-0	940	9707	1500	22000	**12.9**		**11.6**		**14.4**		**12.7**		**14.4**	
Potassium, Total	9/7/7440	NE	NE	NE	NE	**898**		**812**		**746**		**867**		**870**	
Selenium, Total	7782-49-2	366	4900	390	5800	**0.572**	J	**0.567**	J	**0.799**	J	**0.682**	J	**0.636**	J
Silver, Total	7440-22-4	237	2483	390	5800	0.894	U	0.914	U	0.824	U	0.875	U	0.908	U
Sodium, Total	7440-23-5	NE	NE	NE	NE	**46.7**	J	**41.8**	J	**19.4**	J	**32.8**	J	**39**	J
Thallium, Total	7440-28-0	NE	NE	0.78	12	0.282/1.79	U	0.288/1.83	U	0.260/1.65	U	0.276/1.75	U	0.286/1.82	U
Vanadium, Total	7440-62-2	2.8	27	390	5800	**15.8**		**14**		**14.6**		**15.3**		**16.8**	
Zinc, Total	7440-66-6	21986	294150	23000	350000	**24.2**		**23**		**32.6**		**26**		**38.2**	
Mercury, Total	7439-97-6	3.1	3.1	11	46	0.073	U	0.075	U	0.069	U	0.072	U	0.077	U
Cyanide, Total	57-12-5	NE	NE	23	150	1.1	U	1.1	U	1	U	1.1	U	1.2	U

Key:
VSS - Vermont Soil Standards, Appendix A Soil Standardsof Investigation and Remediation of Contaminated Properties Rule, July 6, 2019.
EPA RSL - United States Environmental Protection Agency Regional Screening Levels for residential and industrial properties, May 15, 2019
VSSs and RSLs in gray color font are for reference only; regulatory standards for comparison are in regular font.
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated
value/value- if the reported quantitation limit exceeds the applicable regulatory criteria then the method detection/reported quantitation limit are presented.

Table C-2
Soil VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-02-66		IP-3A-70.5		IP-05-11.0		IP-06-0.5		IP-06-0.5-FD		IP-07-66.5	
Sample Date	CAS#					8/21/2019	Q	8/22/2019	Q	8/14/2019	Q	8/15/2019	Q	8/15/2019	Q	8/21/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
1,1,1,2-Tetrachloroethane	630-20-6	1.3	8	2	8.8	0.00037	U	0.00037	U	0.00041	U	0.0015	U	0.0016	U	0.0004	U
1,1,1-Trichloroethane	71-55-6	NE	NE	8100	36000	0.00037	U	0.00037	U	0.00041	U	0.0015	U	0.0016	U	0.0004	U
1,1,2,2-Tetrachloroethane	79-34-5	NE	NE	0.6	2.7	0.00037	U	0.00037	U	0.00041	U	0.0015	U	0.0016	U	0.0004	U
1,1,2-Trichloroethane	79-00-5	NE	NE	1.1	5	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
1,1-Dichloroethane	75-34-3	2.1	13	3.6	16	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
1,1-Dichloroethene	75-35-4	NE	NE	230	1000	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
1,1-Dichloropropene	563-58-6	NE	NE	NE	NE	0.00037	U	0.00037	U	0.00041	U	0.0015	U	0.0016	U	0.0004	U
1,2,3-Trichlorobenzene	87-61-6	NE	NE	63	930	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
1,2,3-Trichloropropane	96-18-4	0.00311	0.07	0.0051	0.11	0.0015	U	0.0015	U	0.0016	U	0.00038/0.006	U	0.00041/0.0064	U	0.0016	U
1,2,4-Trichlorobenzene	120-82-1	NE	NE	24	110	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
1,2,4-Trimethylbenzene	95-63-6	144	177	300	1800	0.0015	U	0.0015	U	0.0016	U	**0.0013**	J	0.0064	U	0.0016	U
1,2-Dibromo-3-chloropropane	96-12-8	0.01	0.06	0.0053	0.064	0.0022	U	0.0022	U	0.0025	U	0.0091	U	0.0096	U	0.0024	U
1,2-Dibromoethane	106-93-4	0.02	0.14	0.036	0.16	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
1,2-Dichlorobenzene	95-50-1	NE	NE	1800	9300	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
1,2-Dichloroethane	107-06-2	0.29	1.7	0.46	2	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
1,2-Dichloroethene, Total	540-59-0	NE	NE	NE	NE	0.00075	U	0.00075	U	**0.00048**	J	**0.0019**	J	**0.0032**	J	0.00081	U
1,2-Dichloropropane	78-87-5	1.5	9.1	2.5	11	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
1,3,5-Trimethylbenzene	108-67-8	144	177	270	1500	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
1,3-Dichlorobenzene	541-73-1	NE	NE	NE	NE	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
1,3-Dichloropropane	142-28-9	NE	NE	1600	23000	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
1,3-Dichloropropene, Total	542-75-6	NE	NE	1.8	8.2	0.00037	U	0.00037	U	0.00041	U	**0.0018**	J	0.0016	U	0.0004	U
1,4-Dichlorobenzene	106-46-7	NE	NE	2.6	11	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
1,4-Dichlorobutane	110-56-5	NE	NE	NE	NE	0.0075	U	0.0075	U	0.0082	U	0.03	U	0.032	U	0.0081	U
2,2-Dichloropropane	594-20-7	NE	NE	NE	NE	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
2-Butanone	78-93-3	16952	26991	27000	190000	0.0075	U	0.0075	U	0.0082	U	0.03	U	0.032	U	0.0081	U
2-Hexanone	591-78-6	NE	NE	200	1300	0.0075	U	0.0075	U	0.0082	U	0.03	U	0.032	U	0.0081	U
4-Methyl-2-pentanone	108-10-1	NE	NE	33000	140000	0.0075	U	0.0075	U	0.0082	U	0.03	U	0.032	U	0.0081	U
Acetone	67-64-1	40609	100028	61000	670000	**0.0038**	J	**0.0036**	J	0.0082	U	**0.21**		**0.14**		0.0081	U
Acrylonitrile	107-13-1	NE	NE	0.25	1.1	0.003	U	0.003	U	0.0033	U	0.012	U	0.013	U	0.0032	U
Benzene	71-43-2	0.7	4.2	1.2	5.1	0.00037	U	0.00037	U	0.00041	U	0.0015	U	0.0016	U	0.0004	U
Bromobenzene	108-86-1	NE	NE	290	1800	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
Bromochloromethane	74-97-5	193	597	150	630	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
Bromodichloromethane	75-27-4	NE	NE	0.29	1.3	0.00037	U	0.00037	U	0.00041	U	0.0015	U	0.0016	U	0.0004	U
Bromoform	75-25-2	NE	NE	19	86	0.003	U	0.003	U	0.0033	U	0.012	U	0.013	U	0.0032	U

Table C-2
Soil VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-02-66		IP-3A-70.5		IP-05-11.0		IP-06-0.5		IP-06-0.5-FD		IP-07-66.5	
Sample Date	CAS#					8/21/2019	Q	8/22/2019	Q	8/14/2019	Q	8/15/2019	Q	8/15/2019	Q	8/21/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
Bromomethane	74-83-9	NE	NE	6.8	30	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
Carbon disulfide	75-15-0	608	662	770	3500	0.0075	U	0.0075	U	0.0082	U	0.03	U	0.032	U	0.0081	U
Carbon tetrachloride	56-23-5	0.37	2.2	0.65	2.9	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
Chlorobenzene	108-90-7	414	726	280	1300	0.00037	U	0.00037	U	0.00041	U	0.0015	U	0.0016	U	0.0004	U
Chloroethane	75-00-3	NE	NE	14000	57000	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
Chloroform	67-66-3	NE	NE	0.32	1.4	**0.00046**	J	**0.00049**	J	**0.00041**	J	**0.0013**	J	**0.004**	J	**0.00026**	J
Chloromethane	74-87-3	NE	NE	110	460	0.003	U	0.003	U	0.0033	U	0.012	U	0.013	U	0.0032	U
cis-1,2-Dichloroethene	156-59-2	140	1814	160	2300	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
cis-1,3-Dichloropropene	10061-01-5	NE	NE	NE	NE	0.00037	U	0.00037	U	0.00041	U	0.0015	U	0.0016	U	0.0004	U
Dibromochloromethane	124-48-1	NE	NE	8.3	39	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
Dibromomethane	74-95-3	NE	NE	24	99	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
Dichlorodifluoromethane	75-71-8	NE	NE	87	370	0.0075	U	0.0075	U	0.0082	U	0.03	U	0.032	U	0.0081	U
Ethyl ether	60-29-7	NE	NE	16000	230000	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
Ethyl methacrylate	97-63-2	NE	NE	1800	7600	0.0075	U	0.0075	U	0.0082	U	0.03	U	0.032	U	0.0081	U
Ethylbenzene	100-41-4	3.7	22	5.8	25	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
Hexachlorobutadiene	87-68-3	NE	NE	1.2	5.3	0.003	U	0.003	U	0.0033	U	0.012	U	0.013	U	0.0032	U
Isopropylbenzene	98-82-8	256	264	1900	9900	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
Methyl tert butyl ether	1634-04-4	649	4464	47	210	**0.00015**	J	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
Methylene chloride	75-09-2	NE	NE	57	1000	0.0037	U	0.0037	U	0.0041	U	0.012	U	0.016	U	0.004	U
Naphthalene	91-20-3	2.7	16	3.8	17	0.003	U	0.003	U	0.0033	U	0.012	U	0.013	U	0.0032	U
n-Butylbenzene	104-51-8	3504	51100	3900	58000	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
n-Propylbenzene	103-65-1	253	261	3800	24000	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
o-Chlorotoluene	95-49-8	NE	NE	1600	23000	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
o-Xylene	95-47-6	NE	NE	650	2800	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
p/m-Xylene	179601-23-1	NE	NE	NE	NE	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
p-Chlorotoluene	106-43-4	NE	NE	1600	23000	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
p-Isopropyltoluene	99-87-6	NE	NE	NE	NE	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
sec-Butylbenzene	135-98-8	7009	102200	7800	120000	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
Styrene	100-42-5	NE	NE	6000	35000	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
tert-Butylbenzene	98-06-6	7009	102200	7800	120000	0.0015	U	0.0015	U	0.0016	U	0.006	U	0.0064	U	0.0016	U
Tetrachloroethene	127-18-4	2.4	14	24	100	0.00037	U	**0.00029**	J	0.00041	U	0.0015	U	0.0016	U	0.0004	U
Tetrahydrofuran	109-99-9	NE	NE	18000	94000	0.003	U	**0.0015**	J	0.0033	U	0.012	U	0.013	U	0.0032	U
Toluene	108-88-3	706	798	4900	47000	0.00075	U	0.00075	U	**0.00045**	J	0.003	U	0.0032	U	0.00081	U
Total Trimethylbenzene	25551-13-7	144	177	NE	NE	0.0015	U	0.0015	U	0.0016	U	**0.0013**	J	0.0064	U	0.0016	U
Total Xylene	1330-20-7	252	257	580	2500	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
trans-1,2-Dichloroethene	156-60-5	1402	18137	1600	23000	0.0011	U	0.0011	U	**0.00048**	J	**0.0018**	J	**0.0032**	J	0.0012	U
trans-1,3-Dichloropropene	10061-02-6	NE	NE	NE	NE	0.00075	U	0.00075	U	0.00082	U	0.003	U	0.0032	U	0.00081	U
trans-1,4-Dichloro-2-butene	110-57-6	NE	NE	0.0074	0.032	0.0037	U	0.0037	U	0.0041	U	0.0043/0.015	U	0.0045/0.016	U	0.004	U
Trichloroethene	79-01-6	0.68	6.5	0.94	6	0.00037	U	0.00037	U	0.00041	U	0.0015	U	0.0016	U	0.0004	U
Trichlorofluoromethane	75-69-4	NE	NE	23000	350000	0.003	U	0.003	U	0.0033	U	0.012	U	0.013	U	0.0032	U
Vinyl acetate	108-05-4	NE	NE	910	3800	0.0075	U	0.0075	U	0.0082	U	0.03	U	0.032	U	0.0081	U
Vinyl chloride	75-01-4	0.1	0.59	0.059	1.7	0.00075	U	0.00075	U	0.00082	U	0.0037	U	0.0032	U	0.00081	U
Xylenes, Total	1330-20-7	252	257	580	2500	0.00075	U	0.00075	U	0.0016	U	0.003	U	0.0064	U	0.00081	U

Table C-2
Soil VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-07-71		IP-12-7.5		IP-13-7.5		IP-14-0.5		IP-15-8.0		IP-15-8.0-FD	
Sample Date	CAS#					8/21/2019	Q	7/22/2019	Q	7/23/2019	Q	7/23/2019	Q	7/23/2019	Q	7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
1,1,1,2-Tetrachloroethane	630-20-6	1.3	8	2	8.8	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
1,1,1-Trichloroethane	71-55-6	NE	NE	8100	36000	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
1,1,2,2-Tetrachloroethane	79-34-5	NE	NE	0.6	2.7	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
1,1,2-Trichloroethane	79-00-5	NE	NE	1.1	5	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
1,1-Dichloroethane	75-34-3	2.1	13	3.6	16	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
1,1-Dichloroethene	75-35-4	NE	NE	230	1000	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
1,1-Dichloropropene	563-58-6	NE	NE	NE	NE	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
1,2,3-Trichlorobenzene	87-61-6	NE	NE	63	930	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
1,2,3-Trichloropropane	96-18-4	0.00311	0.07	0.0051	0.11	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
1,2,4-Trichlorobenzene	120-82-1	NE	NE	24	110	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
1,2,4-Trimethylbenzene	95-63-6	144	177	300	1800	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
1,2-Dibromo-3-chloropropane	96-12-8	0.01	0.06	0.0053	0.064	0.0023	U	0.0023	U	0.0032	U	0.0026	U	0.0026	U	0.0026	U
1,2-Dibromoethane	106-93-4	0.02	0.14	0.036	0.16	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
1,2-Dichlorobenzene	95-50-1	NE	NE	1800	9300	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
1,2-Dichloroethane	107-06-2	0.29	1.7	0.46	2	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
1,2-Dichloroethene, Total	540-59-0	NE	NE	NE	NE	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
1,2-Dichloropropane	78-87-5	1.5	9.1	2.5	11	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
1,3,5-Trimethylbenzene	108-67-8	144	177	270	1500	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
1,3-Dichlorobenzene	541-73-1	NE	NE	NE	NE	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
1,3-Dichloropropane	142-28-9	NE	NE	1600	23000	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
1,3-Dichloropropene, Total	542-75-6	NE	NE	1.8	8.2	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
1,4-Dichlorobenzene	106-46-7	NE	NE	2.6	11	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
1,4-Dichlorobutane	110-56-5	NE	NE	NE	NE	0.0076	U	0.0076	U	0.011	U	0.0087	U	0.0086	U	0.0088	U
2,2-Dichloropropane	594-20-7	NE	NE	NE	NE	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
2-Butanone	78-93-3	16952	26991	27000	190000	0.0076	U	0.0076	U	0.011	U	0.0087	U	0.0086	U	0.0088	U
2-Hexanone	591-78-6	NE	NE	200	1300	0.0076	U	0.0076	U	0.011	U	0.0087	U	0.0086	U	0.0088	U
4-Methyl-2-pentanone	108-10-1	NE	NE	33000	140000	0.0076	U	0.0076	U	0.011	U	0.0087	U	0.0086	U	0.0088	U
Acetone	67-64-1	40609	100028	61000	670000	0.0076	U	**0.005**	J	0.011	U	**0.0069**	J	**0.014**		0.0088	U
Acrylonitrile	107-13-1	NE	NE	0.25	1.1	0.003	U	0.0031	U	0.0043	U	0.0035	U	0.0034	U	0.0035	U
Benzene	71-43-2	0.7	4.2	1.2	5.1	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
Bromobenzene	108-86-1	NE	NE	290	1800	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
Bromochloromethane	74-97-5	193	597	150	630	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
Bromodichloromethane	75-27-4	NE	NE	0.29	1.3	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
Bromoform	75-25-2	NE	NE	19	86	0.003	U	0.0031	U	0.0043	U	0.0035	U	0.0034	U	0.0035	U
Bromomethane	74-83-9	NE	NE	6.8	30	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
Carbon disulfide	75-15-0	608	662	770	3500	0.0076	U	0.0076	U	0.011	U	0.0087	U	0.0086	U	0.0088	U
Carbon tetrachloride	56-23-5	0.37	2.2	0.65	2.9	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
Chlorobenzene	108-90-7	414	726	280	1300	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
Chloroethane	75-00-3	NE	NE	14000	57000	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
Chloroform	67-66-3	NE	NE	0.32	1.4	**0.00088**	J	0.0011	U	0.0016	U	0.0013	U	0.0013	U	0.0013	U
Chloromethane	74-87-3	NE	NE	110	460	0.003	U	0.0031	U	0.0043	U	0.0035	U	0.0034	U	0.0035	U
cis-1,2-Dichloroethene	156-59-2	140	1814	160	2300	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
cis-1,3-Dichloropropene	10061-01-5	NE	NE	NE	NE	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U

Table C-2
Soil VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-07-71		IP-12-7.5		IP-13-7.5		IP-14-0.5		IP-15-8.0		IP-15-8.0-FD	
Sample Date	CAS#					8/21/2019	Q	7/22/2019	Q	7/23/2019	Q	7/23/2019	Q	7/23/2019	Q	7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
Dibromochloromethane	124-48-1	NE	NE	8.3	39	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
Dibromomethane	74-95-3	NE	NE	24	99	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
Dichlorodifluoromethane	75-71-8	NE	NE	87	370	0.0076	U	0.0076	U	0.011	U	0.0087	U	0.0086	U	0.0088	U
Ethyl ether	60-29-7	NE	NE	16000	230000	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
Ethyl methacrylate	97-63-2	NE	NE	1800	7600	0.0076	U	0.0076	U	0.011	U	0.0087	U	0.0086	U	0.0088	U
Ethylbenzene	100-41-4	3.7	22	5.8	25	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
Hexachlorobutadiene	87-68-3	NE	NE	1.2	5.3	0.003	U	0.0031	U	0.0043	U	0.0035	U	0.0034	U	0.0035	U
Isopropylbenzene	98-82-8	256	264	1900	9900	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
Methyl tert butyl ether	1634-04-4	649	4464	47	210	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
Methylene chloride	75-09-2	NE	NE	57	1000	0.0038	U	0.0038	U	0.0054	U	0.0043	U	0.0043	U	0.0044	U
Naphthalene	91-20-3	2.7	16	3.8	17	0.003	U	0.0031	U	0.0043	U	0.0035	U	0.0034	U	0.0035	U
n-Butylbenzene	104-51-8	3504	51100	3900	58000	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
n-Propylbenzene	103-65-1	253	261	3800	24000	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
o-Chlorotoluene	95-49-8	NE	NE	1600	23000	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
o-Xylene	95-47-6	NE	NE	650	2800	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
p/m-Xylene	179601-23-1	NE	NE	NE	NE	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
p-Chlorotoluene	106-43-4	NE	NE	1600	23000	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
p-Isopropyltoluene	99-87-6	NE	NE	NE	NE	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
sec-Butylbenzene	135-98-8	7009	102200	7800	120000	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
Styrene	100-42-5	NE	NE	6000	35000	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
tert-Butylbenzene	98-06-6	7009	102200	7800	120000	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
Tetrachloroethene	127-18-4	2.4	14	24	100	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
Tetrahydrofuran	109-99-9	NE	NE	18000	94000	0.003	U	0.0031	U	0.0043	U	0.0035	U	0.0034	U	0.0035	U
Toluene	108-88-3	706	798	4900	47000	0.00076	U	0.00076	U	**0.00059**	J	0.00087	U	**0.0005**	J	**0.00056**	J
Total Trimethylbenzene	25551-13-7	144	177	NE	NE	0.0015	U	0.0015	U	0.0022	U	0.0017	U	0.0017	U	0.0018	U
Total Xylene	1330-20-7	252	257	580	2500	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
trans-1,2-Dichloroethene	156-60-5	1402	18137	1600	23000	0.0011	U	0.0011	U	0.0016	U	0.0013	U	0.0013	U	0.0013	U
trans-1,3-Dichloropropene	10061-02-6	NE	NE	NE	NE	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
trans-1,4-Dichloro-2-butene	110-57-6	NE	NE	0.0074	0.032	0.0038	U	0.0038	U	0.0054	U	0.0043	U	0.0043	U	0.0044	U
Trichloroethene	79-01-6	0.68	6.5	0.94	6	0.00038	U	0.00038	U	0.00054	U	0.00043	U	0.00043	U	0.00044	U
Trichlorofluoromethane	75-69-4	NE	NE	23000	350000	0.003	U	0.0031	U	0.0043	U	0.0035	U	0.0034	U	0.0035	U
Vinyl acetate	108-05-4	NE	NE	910	3800	0.0076	U	0.0076	U	0.011	U	0.0087	U	0.0086	U	0.0088	U
Vinyl chloride	75-01-4	0.1	0.59	0.059	1.7	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U
Xylenes, Total	1330-20-7	252	257	580	2500	0.00076	U	0.00076	U	0.0011	U	0.00087	U	0.00086	U	0.00088	U

Key:
VSS - Vermont Soil Standards, Appendix A Soil Standardsof Investigation and Remediation of Contaminated Properties Rule, July 6, 2019.
EPA RSL - United States Environmental Protection Agency Regional Screening Levels for residential and industrial properties, May 15, 2019
VSSs and RSLs in gray color font are for reference only; regulatory standards for comparison are in regular font.
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
Total Trimethyl benzenes - Cumulative sum of all TMB isomers
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated
value/value- if the reported quantitation limit exceeds the applicable regulatory criteria then the method detection/reported quantitation limit are presented.

Table C-3
Soil SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	DU-1-A		DU-1-B		DU-1-C		DU-2-A		DU-2-B		DU-2-C	
Sample Date	CAS#					8/21/2019	Q	8/21/2019	Q	8/21/2019	Q	8/22/2019	Q	8/22/2019	Q	8/22/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
1,2,4-Trichlorobenzene	120-82-1	NE	NE	24	110	NS		NS		NS		NS		NS		NS	
1,2-Dichlorobenzene	95-50-1	NE	NE	1800	9300	NS		NS		NS		NS		NS		NS	
1,3-Dichlorobenzene	541-73-1	NE	NE	NE	NE	NS		NS		NS		NS		NS		NS	
1,4-Dichlorobenzene	106-46-7	NE	NE	2.6	11	NS		NS		NS		NS		NS		NS	
1-Methylnaphthalene	90-12-0	NE	NE	18	73	0.55	U	0.6	U	0.57	U	0.53	U	0.52	U	0.51	U
2,4,5-Trichlorophenol	95-95-4	NE	NE	6300	82000	NS		NS		NS		NS		NS		NS	
2,4,6-Trichlorophenol	88-06-2	NE	NE	49	210	NS		NS		NS		NS		NS		NS	
2,4-Dichlorophenol	120-83-2	NE	NE	190	2500	NS		NS		NS		NS		NS		NS	
2,4-Dimethylphenol	105-67-9	NE	NE	1300	16000	NS		NS		NS		NS		NS		NS	
2,4-Dinitrophenol	51-28-5	NE	NE	130	1600	NS		NS		NS		NS		NS		NS	
2,4-Dinitrotoluene	121-14-2	NE	NE	1.7	7.4	NS		NS		NS		NS		NS		NS	
2,6-Dinitrotoluene	606-20-2	NE	NE	0.36	1.5	NS		NS		NS		NS		NS		NS	
2-Chloronaphthalene	91-58-7	NE	NE	4800	60000	0.55	U	0.6	U	0.57	U	0.53	U	0.52	U	0.51	U
2-Chlorophenol	95-57-8	NE	NE	390	5800	NS		NS		NS		NS		NS		NS	
2-Methylnaphthalene	91-57-6	NE	NE	240	3000	0.66	U	0.72	U	0.68	U	0.64	U	0.62	U	0.61	U
2-Methylphenol	95-48-7	NE	NE	3200	41000	NS		NS		NS		NS		NS		NS	
2-Nitroaniline	88-74-4	NE	NE	630	8000	NS		NS		NS		NS		NS		NS	
2-Nitrophenol	88-75-5	NE	NE	NE	NE	NS		NS		NS		NS		NS		NS	
3,3'-Dichlorobenzidine	91-94-1	NE	NE	1.2	5.1	NS		NS		NS		NS		NS		NS	
3-Methylphenol/4-Methylphenol	108-39-4/106-44-5	NE	NE	NE	NE	NS		NS		NS		NS		NS		NS	
3-Nitroaniline	99-09-2	NE	NE	NE	NE	NS		NS		NS		NS		NS		NS	
4,6-Dinitro-o-cresol	534-52-1	NE	NE	5.1	66	NS		NS		NS		NS		NS		NS	
4-Bromophenyl phenyl ether	101-55-3	NE	NE	NE	NE	NS		NS		NS		NS		NS		NS	
4-Chloroaniline	106-47-8	NE	NE	2.7	11	NS		NS		NS		NS		NS		NS	
4-Chlorophenyl phenyl ether	7005-72-3	NE	NE	NE	NE	NS		NS		NS		NS		NS		NS	
4-Nitroaniline	100-01-6	NE	NE	27	110	NS		NS		NS		NS		NS		NS	
4-Nitrophenol	100-02-7	NE	NE	NE	NE	NS		NS		NS		NS		NS		NS	
Acenaphthene	83-32-9	NE	NE	3600	45000	0.44	U	0.48	U	0.46	U	0.42	U	0.42	U	0.41	U
Acenaphthylene	208-96-8	NE	NE	NE	NE	0.44	U	**0.1**	J	0.46	U	0.42	U	0.42	U	0.41	U
Aniline	62-53-3	NE	NE	95	400	NS		NS		NS		NS		NS		NS	
Anthracene	120-12-7	NE	NE	18000	230000	0.33	U	**0.13**	J	**0.54**		0.32	U	0.31	U	0.31	U
Azobenzene	103-33-3	NE	NE	5.6	26	NS		NS		NS		NS		NS		NS	
B(a)P-TEQ	50-32-8	0.07	1.54	0.11	2.1	**0.126**	J	**0.590**	J	**0.351**	J	**0.122**	J	0.106	U	0.101	U

Table C-3
Soil SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	DU-1-A		DU-1-B		DU-1-C		DU-2-A		DU-2-B		DU-2-C	
Sample Date	CAS#					8/21/2019	Q	8/21/2019	Q	8/21/2019	Q	8/22/2019	Q	8/22/2019	Q	8/22/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
Benzidine	92-87-5	NE	NE	0.00053	0.01	NS		NS		NS		NS		NS		NS	
Benzo(a)anthracene	56-55-3	NE	NE	1.1	21	**0.079**	J	**0.45**		**0.29**	J	**0.088**	J	0.31	U	0.31	U
Benzo(a)pyrene	50-32-8	0.07	1.54	0.11	2.1	0.13/0.44	U	**0.31**	J	**0.18**	J	0.13/0.42	U	0.13/0.42	U	0.12/0.41	U
Benzo(b)fluoranthene	205-99-2	NE	NE	1.1	21	**0.17**	J	**1.2**		**0.86**		**0.13**	J	0.31	U	0.31	U
Benzo(ghi)perylene	191-24-2	NE	NE	NE	NE	0.44	U	**0.29**	J	**0.17**	J	0.42	U	0.42	U	0.41	U
Benzo(k)fluoranthene	207-08-9	NE	NE	11	210	0.33	U	**0.3**	J	**0.25**	J	0.32	U	0.31	U	0.31	U
Benzoic Acid	65-85-0	NE	NE	250000	3300000	NS		NS		NS		NS		NS		NS	
Benzyl Alcohol	100-51-6	NE	NE	6300	82000	NS		NS		NS		NS		NS		NS	
Biphenyl	92-52-4	NE	NE	47	200	NS		NS		NS		NS		NS		NS	
Bis(2-chloroethoxy)methane	111-91-1	NE	NE	190	2500	NS		NS		NS		NS		NS		NS	
Bis(2-chloroethyl)ether	111-44-4	NE	NE	0.23	1	NS		NS		NS		NS		NS		NS	
Bis(2-chloroisopropyl)ether	108-60-1	2804	36274	3100	47000	NS		NS		NS		NS		NS		NS	
Bis(2-ethylhexyl)phthalate	117-81-7	20	120	39	160	NS		NS		NS		NS		NS		NS	
Butyl benzyl phthalate	85-68-7	NE	NE	290	1200	NS		NS		NS		NS		NS		NS	
Carbazole	86-74-8	NE	NE	NE	NE	NS		NS		NS		NS		NS		NS	
Chrysene	218-01-9	NE	NE	110	2100	**0.11**	J	**0.87**		**0.92**		**0.094**	J	0.31	U	0.31	U
Dibenzo(a,h)anthracene	53-70-3	NE	NE	0.11	2.1	0.064/0.33	U	**0.079**	J	0.066/0.34	U	0.061/0.32	U	0.060/0.31	U	0.059/0.31	U
Dibenzofuran	132-64-9	NE	NE	73	1000	NS		NS		NS		NS		NS		NS	
Diethyl phthalate	84-66-2	NE	NE	51000	660000	NS		NS		NS		NS		NS		NS	
Dimethyl phthalate	131-11-3	NE	NE	NE	NE	NS		NS		NS		NS		NS		NS	
Di-n-butylphthalate	84-74-2	NE	NE	6300	82000	NS		NS		NS		NS		NS		NS	
Di-n-octylphthalate	117-84-0	NE	NE	630	8200	NS		NS		NS		NS		NS		NS	
Fluoranthene	206-44-0	2301	26371	2400	30000	**0.22**	J	**1.4**		**3**		**0.14**	J	**0.089**	J	0.31	U
Fluorene	86-73-7	2301	26371	2400	30000	0.55	U	0.6	U	0.57	U	0.53	U	0.52	U	0.51	U
Hexachlorobenzene	118-74-1	0.13	0.69	0.21	0.96	NS		NS		NS		NS		NS		NS	
Hexachlorobutadiene	87-68-3	NE	NE	1.2	5.3	NS		NS		NS		NS		NS		NS	
Hexachlorocyclopentadiene	77-47-4	NE	NE	1.8	7.5	NS		NS		NS		NS		NS		NS	
Hexachloroethane	67-72-1	NE	NE	1.8	8	NS		NS		NS		NS		NS		NS	
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	1.1	21	0.44	U	**0.32**	J	**0.2**	J	0.42	U	0.42	U	0.41	U
Isophorone	78-59-1	NE	NE	570	2400	NS		NS		NS		NS		NS		NS	
Naphthalene	91-20-3	2.7	16	3.8	17	0.55	U	0.6	U	0.57	U	0.53	U	0.52	U	0.51	U
NDPA/DPA	86-30-6	NE	NE	110	470	NS		NS		NS		NS		NS		NS	
Nitrobenzene	98-95-3	NE	NE	5.1	22	NS		NS		NS		NS		NS		NS	
n-Nitrosodimethylamine	62-75-9	NE	NE	0.002	0.034	NS		NS		NS		NS		NS		NS	
n-Nitrosodi-n-propylamine	621-64-7	NE	NE	0.078	0.33	NS		NS		NS		NS		NS		NS	
p-Chloro-m-cresol	59-50-7	NE	NE	6300	82000	NS		NS		NS		NS		NS		NS	
Pentachlorophenol	87-86-5	0.48	2.9	1	4	NS		NS		NS		NS		NS		NS	
Phenanthrene	85-01-8	NE	NE	NE	NE	0.33	U	**0.21**	J	**0.55**		0.32	U	0.31	U	0.31	U
Phenol	108-95-2	NE	NE	19000	250000	NS		NS		NS		NS		NS		NS	
Pyrene	129-00-0	NE	NE	1800	23000	**0.2**	J	**1.4**		**2.2**		**0.13**	J	**0.078**	J	0.31	U
Pyridine	110-86-1	NE	NE	78	1200	NS		NS		NS		NS		NS		NS	

Table C-3
Soil SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-02-66		IP-3A-70.5		IP-05-11.0		IP-06-0.5		IP-06-0.5-FD		IP-07-66.5	
Sample Date	CAS#					8/21/2019	Q	8/22/2019	Q	8/14/2019	Q	8/15/2019	Q	8/15/2019	Q	8/21/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
1,2,4-Trichlorobenzene	120-82-1	NE	NE	24	110	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
1,2-Dichlorobenzene	95-50-1	NE	NE	1800	9300	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
1,3-Dichlorobenzene	541-73-1	NE	NE	NE	NE	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
1,4-Dichlorobenzene	106-46-7	NE	NE	2.6	11	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
1-Methylnaphthalene	90-12-0	NE	NE	18	73	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
2,4,5-Trichlorophenol	95-95-4	NE	NE	6300	82000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
2,4,6-Trichlorophenol	88-06-2	NE	NE	49	210	0.1	U	0.12	U	0.11	U	0.17	U	0.45	U	0.1	U
2,4-Dichlorophenol	120-83-2	NE	NE	190	2500	0.16	U	0.18	U	0.16	U	0.25	U	0.67	U	0.16	U
2,4-Dimethylphenol	105-67-9	NE	NE	1300	16000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
2,4-Dinitrophenol	51-28-5	NE	NE	130	1600	0.84	U	0.94	U	0.85	U	1.4	U	3.6	U	0.83	U
2,4-Dinitrotoluene	121-14-2	NE	NE	1.7	7.4	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
2,6-Dinitrotoluene	606-20-2	NE	NE	0.36	1.5	0.17	U	0.2	U	0.18	U	0.28	U	0.13/0.75	U	0.17	U
2-Chloronaphthalene	91-58-7	NE	NE	4800	60000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
2-Chlorophenol	95-57-8	NE	NE	390	5800	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
2-Methylnaphthalene	91-57-6	NE	NE	240	3000	0.21	U	0.24	U	0.21	U	0.34	U	0.9	U	0.21	U
2-Methylphenol	95-48-7	NE	NE	3200	41000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
2-Nitroaniline	88-74-4	NE	NE	630	8000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
2-Nitrophenol	88-75-5	NE	NE	NE	NE	0.38	U	0.42	U	0.38	U	0.61	U	1.6	U	0.37	U
3,3'-Dichlorobenzidine	91-94-1	NE	NE	1.2	5.1	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
3-Methylphenol/4-Methylphenol	108-39-4/106-44-5	NE	NE	NE	NE	0.25	U	0.28	U	0.26	U	0.4	U	1.1	U	0.25	U
3-Nitroaniline	99-09-2	NE	NE	NE	NE	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
4,6-Dinitro-o-cresol	534-52-1	NE	NE	5.1	66	0.45	U	0.51	U	0.46	U	0.73	U	1.9	U	0.45	U
4-Bromophenyl phenyl ether	101-55-3	NE	NE	NE	NE	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
4-Chloroaniline	106-47-8	NE	NE	2.7	11	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
4-Chlorophenyl phenyl ether	7005-72-3	NE	NE	NE	NE	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
4-Nitroaniline	100-01-6	NE	NE	27	110	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
4-Nitrophenol	100-02-7	NE	NE	NE	NE	0.24	U	0.28	U	0.25	U	0.39	U	1	U	0.24	U
Acenaphthene	83-32-9	NE	NE	3600	45000	0.14	U	0.16	U	0.14	U	0.22	U	0.6	U	0.14	U
Acenaphthylene	208-96-8	NE	NE	NE	NE	0.14	U	0.16	U	0.14	U	0.22	U	0.6	U	0.14	U
Aniline	62-53-3	NE	NE	95	400	0.21	U	0.24	U	0.21	U	0.34	U	0.9	U	0.21	U
Anthracene	120-12-7	NE	NE	18000	230000	0.1	U	0.12	U	0.11	U	0.17	U	0.45	U	0.1	U
Azobenzene	103-33-3	NE	NE	5.6	26	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
B(a)P-TEQ	50-32-8	0.07	1.54	0.11	2.1	0.035	U	0.040	U	0.035	U	**0.066**	J	0.149	U	0.035	U
Benzidine	92-87-5	NE	NE	0.00053	0.01	0.19/0.57	U	0.21/0.65	U	0.19/0.58	U	0.30/0.93	U	0.81/2.5	U	0.19/0.57	U
Benzo(a)anthracene	56-55-3	NE	NE	1.1	21	0.1	U	0.12	U	0.11	U	**0.045**	J	0.45	U	0.1	U
Benzo(a)pyrene	50-32-8	0.07	1.54	0.11	2.1	0.042/0.14	U	0.048/0.16	U	0.043/0.14	U	0.069/0.22	U	0.18/0.60	U	0.042/0.14	U
Benzo(b)fluoranthene	205-99-2	NE	NE	1.1	21	0.1	U	0.12	U	0.11	U	**0.064**	J	0.45	U	0.1	U

Table C-3
Soil SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-02-66		IP-3A-70.5		IP-05-11.0		IP-06-0.5		IP-06-0.5-FD		IP-07-66.5	
Sample Date	CAS#					8/21/2019	Q	8/22/2019	Q	8/14/2019	Q	8/15/2019	Q	8/15/2019	Q	8/21/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
Benzo(ghi)perylene	191-24-2	NE	NE	NE	NE	0.14	U	0.16	U	0.14	U	**0.062**	J	0.6	U	0.14	U
Benzo(k)fluoranthene	207-08-9	NE	NE	11	210	0.1	U	0.12	U	0.11	U	0.17	U	0.45	U	0.1	U
Benzoic Acid	65-85-0	NE	NE	250000	3300000	0.56	U	0.64	U	0.58	U	**0.36**	J	2.4	U	0.56	U
Benzyl Alcohol	100-51-6	NE	NE	6300	82000	0.17	U	0.2	U	0.18	U	**0.16**	J	**0.24**	J	0.17	U
Biphenyl	92-52-4	NE	NE	47	200	0.4	U	0.45	U	0.4	U	0.64	U	1.7	U	0.39	U
Bis(2-chloroethoxy)methane	111-91-1	NE	NE	190	2500	0.19	U	0.21	U	0.19	U	0.3	U	0.81	U	0.19	U
Bis(2-chloroethyl)ether	111-44-4	NE	NE	0.23	1	0.16	U	0.18	U	0.16	U	0.038/0.25	U	0.10/0.67	U	0.16	U
Bis(2-chloroisopropyl)ether	108-60-1	2804	36274	3100	47000	0.21	U	0.24	U	0.21	U	0.34	U	0.9	U	0.21	U
Bis(2-ethylhexyl)phthalate	117-81-7	20	120	39	160	0.17	U	0.2	U	0.18	U	**0.63**		**1.5**		0.17	U
Butyl benzyl phthalate	85-68-7	NE	NE	290	1200	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
Carbazole	86-74-8	NE	NE	NE	NE	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
Chrysene	218-01-9	NE	NE	110	2100	0.1	U	0.12	U	0.11	U	**0.055**	J	0.45	U	0.1	U
Dibenzo(a,h)anthracene	53-70-3	NE	NE	0.11	2.1	0.1	U	0.023/0.12	U	0.020/0.11	U	0.032/0.17	U	0.086/0.45	U	0.1	U
Dibenzofuran	132-64-9	NE	NE	73	1000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
Diethyl phthalate	84-66-2	NE	NE	51000	660000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
Dimethyl phthalate	131-11-3	NE	NE	NE	NE	0.17	U	0.2	U	0.18	U	**0.12**	J	**0.57**	J	0.17	U
Di-n-butylphthalate	84-74-2	NE	NE	6300	82000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
Di-n-octylphthalate	117-84-0	NE	NE	630	8200	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
Fluoranthene	206-44-0	2301	26371	2400	30000	0.1	U	0.12	U	0.11	U	**0.075**	J	0.45	U	0.1	U
Fluorene	86-73-7	2301	26371	2400	30000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
Hexachlorobenzene	118-74-1	0.13	0.69	0.21	0.96	0.1	U	0.12	U	0.11	U	0.032/0.17	U	0.084/0.45	U	0.1	U
Hexachlorobutadiene	87-68-3	NE	NE	1.2	5.3	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
Hexachlorocyclopentadiene	77-47-4	NE	NE	1.8	7.5	0.5	U	0.56	U	0.51	U	0.8	U	0.68/2.1	U	0.49	U
Hexachloroethane	67-72-1	NE	NE	1.8	8	0.14	U	0.16	U	0.14	U	0.22	U	0.6	U	0.14	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	1.1	21	0.14	U	0.16	U	0.14	U	**0.039**	J	0.6	U	0.14	U
Isophorone	78-59-1	NE	NE	570	2400	0.16	U	0.18	U	0.16	U	0.25	U	0.67	U	0.16	U
Naphthalene	91-20-3	2.7	16	3.8	17	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
NDPA/DPA	86-30-6	NE	NE	110	470	0.14	U	0.16	U	0.14	U	0.22	U	0.6	U	0.14	U
Nitrobenzene	98-95-3	NE	NE	5.1	22	0.16	U	0.18	U	0.16	U	0.25	U	0.67	U	0.16	U
n-Nitrosodimethylamine	62-75-9	NE	NE	0.002	0.034	0.033/0.35	U	0.038/0.39	U	0.034/0.35	U	0.054/0.56	U	0.14/1.5	U	0.033/0.34	U
n-Nitrosodi-n-propylamine	621-64-7	NE	NE	0.078	0.33	0.027/0.17	U	0.030/0.20	U	0.027/0.18	U	0.044/0.28	U	0.12/0.75	U	0.027/0.17	U
p-Chloro-m-cresol	59-50-7	NE	NE	6300	82000	0.17	U	0.2	U	0.18	U	0.28	U	0.75	U	0.17	U
Pentachlorophenol	87-86-5	0.48	2.9	1	4	0.14	U	0.16	U	0.14	U	0.22	U	0.16/0.60	U	0.14	U
Phenanthrene	85-01-8	NE	NE	NE	NE	0.1	U	0.12	U	0.11	U	0.17	U	0.45	U	0.1	U
Phenol	108-95-2	NE	NE	19000	250000	0.17	U	0.2	U	0.18	U	**0.12**	J	**0.32**	J	0.17	U
Pyrene	129-00-0	NE	NE	1800	23000	0.1	U	0.12	U	0.11	U	**0.11**	J	**0.13**	J	0.1	U
Pyridine	110-86-1	NE	NE	78	1200	0.19	U	0.21	U	0.19	U	0.3	U	0.81	U	0.19	U

Table C-3
Soil SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-07-71		IP-12-7.5		IP-13-7.5		IP-14-0.5		IP-15-7.0		IP-15-7.0-FD	
Sample Date	CAS#					8/21/2019	Q	7/22/2019	Q	7/23/2019	Q	7/23/2019	Q	7/23/2019	Q	7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
1,2,4-Trichlorobenzene	120-82-1	NE	NE	24	110	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
1,2-Dichlorobenzene	95-50-1	NE	NE	1800	9300	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
1,3-Dichlorobenzene	541-73-1	NE	NE	NE	NE	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
1,4-Dichlorobenzene	106-46-7	NE	NE	2.6	11	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
1-Methylnaphthalene	90-12-0	NE	NE	18	73	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
2,4,5-Trichlorophenol	95-95-4	NE	NE	6300	82000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
2,4,6-Trichlorophenol	88-06-2	NE	NE	49	210	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
2,4-Dichlorophenol	120-83-2	NE	NE	190	2500	0.18	U	0.17	U	0.17	U	0.16	U	0.17	U	0.16	U
2,4-Dimethylphenol	105-67-9	NE	NE	1300	16000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
2,4-Dinitrophenol	51-28-5	NE	NE	130	1600	0.96	U	0.9	U	0.92	U	0.87	U	0.9	U	0.88	U
2,4-Dinitrotoluene	121-14-2	NE	NE	1.7	7.4	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
2,6-Dinitrotoluene	606-20-2	NE	NE	0.36	1.5	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
2-Chloronaphthalene	91-58-7	NE	NE	4800	60000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
2-Chlorophenol	95-57-8	NE	NE	390	5800	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
2-Methylnaphthalene	91-57-6	NE	NE	240	3000	0.24	U	0.22	U	0.23	U	0.22	U	0.23	U	0.22	U
2-Methylphenol	95-48-7	NE	NE	3200	41000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
2-Nitroaniline	88-74-4	NE	NE	630	8000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
2-Nitrophenol	88-75-5	NE	NE	NE	NE	0.43	U	0.4	U	0.41	U	0.39	U	0.41	U	0.39	U
3,3'-Dichlorobenzidine	91-94-1	NE	NE	1.2	5.1	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
3-Methylphenol/4-Methylphenol	108-39-4/106-44-5	NE	NE	NE	NE	0.29	U	0.27	U	0.28	U	0.26	U	0.27	U	0.26	U
3-Nitroaniline	99-09-2	NE	NE	NE	NE	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
4,6-Dinitro-o-cresol	534-52-1	NE	NE	5.1	66	0.52	U	0.49	U	0.5	U	0.47	U	0.49	U	0.48	U
4-Bromophenyl phenyl ether	101-55-3	NE	NE	NE	NE	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
4-Chloroaniline	106-47-8	NE	NE	2.7	11	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
4-Chlorophenyl phenyl ether	7005-72-3	NE	NE	NE	NE	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
4-Nitroaniline	100-01-6	NE	NE	27	110	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
4-Nitrophenol	100-02-7	NE	NE	NE	NE	0.28	U	0.26	U	0.27	U	0.25	U	0.26	U	0.26	U
Acenaphthene	83-32-9	NE	NE	3600	45000	0.16	U	0.15	U	0.15	U	0.14	U	0.15	U	0.15	U
Acenaphthylene	208-96-8	NE	NE	NE	NE	0.16	U	0.15	U	0.15	U	0.14	U	0.15	U	0.15	U
Aniline	62-53-3	NE	NE	95	400	0.24	U	0.22	U	0.23	U	0.22	U	0.23	U	0.22	U
Anthracene	120-12-7	NE	NE	18000	230000	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Azobenzene	103-33-3	NE	NE	5.6	26	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
B(a)P-TEQ	50-32-8	0.07	1.54	0.11	2.1	0.040	U	0.038	U	0.039	U	0.036	U	0.038	U	0.036	U
Benzidine	92-87-5	NE	NE	0.00053	0.01	0.22/0.66	U	0.20/0.62	U	0.21/0.63	U	0.20/0.60	U	0.20/0.62	U	0.20/0.60	U
Benzo(a)anthracene	56-55-3	NE	NE	1.1	21	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Benzo(a)pyrene	50-32-8	0.07	1.54	0.11	2.1	0.049/0.160	U	0.046/0.15	U	0.047/0.15	U	0.044/0.14	U	0.046/0.15	U	0.044/0.15	U

Table C-3
Soil SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-07-71		IP-12-7.5		IP-13-7.5		IP-14-0.5		IP-15-7.0		IP-15-7.0-FD	
Sample Date	CAS#					8/21/2019	Q	7/22/2019	Q	7/23/2019	Q	7/23/2019	Q	7/23/2019	Q	7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)												
Benzo(b)fluoranthene	205-99-2	NE	NE	1.1	21	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Benzo(ghi)perylene	191-24-2	NE	NE	NE	NE	0.16	U	0.15	U	0.15	U	0.14	U	0.15	U	0.15	U
Benzo(k)fluoranthene	207-08-9	NE	NE	11	210	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Benzoic Acid	65-85-0	NE	NE	250000	3300000	0.65	U	0.61	U	0.62	U	0.59	U	0.61	U	0.59	U
Benzyl Alcohol	100-51-6	NE	NE	6300	82000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Biphenyl	92-52-4	NE	NE	47	200	0.45	U	0.43	U	0.44	U	0.41	U	0.43	U	0.42	U
Bis(2-chloroethoxy)methane	111-91-1	NE	NE	190	2500	0.22	U	0.2	U	0.21	U	0.2	U	0.2	U	0.2	U
Bis(2-chloroethyl)ether	111-44-4	NE	NE	0.23	1	0.18	U	0.17	U	0.17	U	0.16	U	0.17	U	0.16	U
Bis(2-chloroisopropyl)ether	108-60-1	2804	36274	3100	47000	0.24	U	0.22	U	0.23	U	0.22	U	0.23	U	0.22	U
Bis(2-ethylhexyl)phthalate	117-81-7	20	120	39	160	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Butyl benzyl phthalate	85-68-7	NE	NE	290	1200	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Carbazole	86-74-8	NE	NE	NE	NE	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Chrysene	218-01-9	NE	NE	110	2100	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Dibenzo(a,h)anthracene	53-70-3	NE	NE	0.11	2.1	0.023/0.120	U	0.022/0.11	U	0.022/0.11	U	0.021/0.11	U	0.022/0.11	U	0.021/0.11	U
Dibenzofuran	132-64-9	NE	NE	73	1000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Diethyl phthalate	84-66-2	NE	NE	51000	660000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Dimethyl phthalate	131-11-3	NE	NE	NE	NE	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Di-n-butylphthalate	84-74-2	NE	NE	6300	82000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Di-n-octylphthalate	117-84-0	NE	NE	630	8200	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Fluoranthene	206-44-0	2301	26371	2400	30000	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Fluorene	86-73-7	2301	26371	2400	30000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Hexachlorobenzene	118-74-1	0.13	0.69	0.21	0.96	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Hexachlorobutadiene	87-68-3	NE	NE	1.2	5.3	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Hexachlorocyclopentadiene	77-47-4	NE	NE	1.8	7.5	0.57	U	0.53	U	0.55	U	0.52	U	0.54	U	0.52	U
Hexachloroethane	67-72-1	NE	NE	1.8	8	0.16	U	0.15	U	0.15	U	0.14	U	0.15	U	0.15	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	1.1	21	0.16	U	0.15	U	0.15	U	0.14	U	0.15	U	0.15	U
Isophorone	78-59-1	NE	NE	570	2400	0.18	U	0.17	U	0.17	U	0.16	U	0.17	U	0.16	U
Naphthalene	91-20-3	2.7	16	3.8	17	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
NDPA/DPA	86-30-6	NE	NE	110	470	0.16	U	0.15	U	0.15	U	0.14	U	0.15	U	0.15	U
Nitrobenzene	98-95-3	NE	NE	5.1	22	0.18	U	0.17	U	0.17	U	0.16	U	0.17	U	0.16	U
n-Nitrosodimethylamine	62-75-9	NE	NE	0.002	0.034	0.038/0.40	U	0.036/0.37	U	0.037/0.38	U	0.035/0.36	U	0.036/0.38	U	0.035/0.36	U
n-Nitrosodi-n-propylamine	621-64-7	NE	NE	0.078	0.33	0.031/0.20	U	0.029/0.19	U	0.030/0.19	U	0.028/0.18	U	0.029/0.19	U	0.028/0.18	U
p-Chloro-m-cresol	59-50-7	NE	NE	6300	82000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Pentachlorophenol	87-86-5	0.48	2.9	1	4	0.16	U	0.15	U	0.15	U	0.14	U	0.15	U	0.15	U
Phenanthrene	85-01-8	NE	NE	NE	NE	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Phenol	108-95-2	NE	NE	19000	250000	0.2	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U
Pyrene	129-00-0	NE	NE	1800	23000	0.12	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Pyridine	110-86-1	NE	NE	78	1200	0.22	U	0.2	U	0.21	U	0.2	U	0.2	U	0.2	U

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VSSs and RSLs in gray color font are for reference only; regulatory standards for comparison are in regular font.
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
NS - Sample not analyzed for target compound
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated
value/value- if the reported quantitation limit exceeds the applicable regulatory criteria then the method detection/reported quantitation limit are presented.

Table C-4
Soil PFAS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-05-11.0		IP-06-0.5		IP-06-0.5-FD		IP-12-11.0		IP-13-13.0	
Sample Date	CAS#					8/14/2019	Q	8/15/2019	Q	8/15/2019	Q	7/22/2019	Q	7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)										
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	39108-34-4	NE	NE	NE	NE	0.001	U	**0.000728**	J	**0.000655**	J	0.0011	U	0.00096	U
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NONE	NE	NE	NE	NE	0.001	U	0.00148	U	0.00155	U	0.0011	U	0.00096	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	27619-97-2	NE	NE	NE	NE	0.001	U	0.00148	U	0.00155	U	0.0011	U	0.00096	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	NE	NE	NE	NE	0.001	U	**0.132**		**0.0941**		0.0011	U	0.00096	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	NE	NE	NE	NE	0.001	U	**0.00656**		**0.00536**		0.0011	U	0.00096	U
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NE	NE	1300	16000	0.001	U	0.00148	U	0.00155	U	0.0011	U	0.00096	U
Perfluorobutanoic Acid (PFBA)	375-22-4	NE	NE	NE	NE	0.001	U	**0.000684**	J	**0.00064**	J	0.0011	U	0.00096	U
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NE	NE	NE	NE	0.001	U	0.00148	U	0.00155	U	0.0011	U	0.00096	U
Perfluorodecanoic Acid (PFDA)	335-76-2	NE	NE	NE	NE	0.001	U	**0.0923**		**0.0813**		0.0011	U	0.00096	U
Perfluorododecanoic Acid (PFDoA)	307-55-1	NE	NE	NE	NE	0.001	U	**0.0301**		**0.027**		0.0011	U	0.00096	U
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NE	NE	NE	NE	0.001	U	**0.00038**	J	**0.000288**	J	0.0011	U	0.00096	U
Perfluoroheptanoic Acid (PFHpA)	375-85-9	1.22	14.36	NE	NE	0.001	U	**0.00768**		**0.00635**		**0.00026**	J	0.00096	U
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	1.22	14.36	NE	NE	0.001	U	**0.000277**	J	**0.000222**	J	0.0011	U	0.00096	U
Perfluorohexanoic Acid (PFHxA)	307-24-4	NE	NE	NE	NE	0.001	U	**0.00343**		**0.00276**		**0.000279**	J	0.00096	U
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NE	NE	NE	NE	0.001	U	0.00148	U	0.00155	U	0.0011	U	0.00096	U
Perfluorononanoic Acid (PFNA)	375-95-1	1.22	14.36	NE	NE	0.001	U	**0.0282**		**0.0245**		0.0011	U	0.00096	U
Perfluorooctanesulfonamide (FOSA)	754-91-6	NE	NE	NE	NE	0.001	U	**0.0138**		**0.0124**		0.011	U	0.00096	U
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	1.22	14.36	NE	NE	**0.000148**	J	**0.048**		**0.0389**		0.0011	U	0.00096	U
Perfluorooctanoic Acid (PFOA)	335-67-1	1.22	14.36	NE	NE	**0.00013**	J	**0.0807**		**0.0719**		**0.000271**	J	**0.00004**	J
Perfluoropentanesulfonic Acid (PFPeS)	2706-91-4	NE	NE	NE	NE	0.001	U	0.00148	U	0.00155	U	0.0011	U	0.00096	U
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NE	NE	NE	NE	0.001	U	**0.00172**		**0.00155**		**0.00007**	J	0.00096	U
Perfluorotetradecanoic Acid (PFTA)	376-06-7	NE	NE	NE	NE	0.001	U	**0.00915**		**0.00914**		0.0011	U	0.00096	U
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NE	NE	NE	NE	0.001	U	**0.00224**		**0.00226**		0.0011	U	0.00096	U
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NE	NE	NE	NE	0.001	U	**0.0123**		**0.0102**		0.0011	U	0.00096	U
Sum of PFHpA, PFHxA, PFNA, PFOS & PFOA		1.22	14.36	NE	NE	**0.000278**	J	**0.164857**		**0.141872**		**0.000531**	J	**0.00004**	J

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mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
Total Regulated PFAS - Cumulative sum of PFOA, PFOS, PFHxS, PFHpA, and PFNA
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-5
Soil POLYCHLORINATED BIPHENYLS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-05-11.0		IP-06-0.5		IP-06-0.5-FD		IP-12-7.5		IP-13-10.5	
Sample Date	CAS#					8/14/2019	Q	8/15/2019	Q	8/15/2019	Q	7/22/2019	Q	7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)										
Aroclor 1016	12674-11-2			4.1	27	0.0346	U	0.164	U	0.153	U	0.0375	U	0.033	U
Aroclor 1221	11104-28-2			0.2	0.83	0.0346	U	0.164	U	0.153	U	0.0375	U	0.033	U
Aroclor 1232	11141-16-5			0.17	0.72	0.0346	U	0.164	U	0.153	U	0.0375	U	0.033	U
Aroclor 1242	53469-21-9			0.23	0.95	0.0346	U	0.164	U	0.153	U	0.0375	U	0.033	U
Aroclor 1248	12672-29-6	NE	NE	0.23	0.95	0.0346	U	0.164	U	0.153	U	0.0375	U	0.033	U
Aroclor 1254	11097-69-1			0.24	0.97	0.0346	U	**2.66**		**1.68**		0.0375	U	0.033	U
Aroclor 1260	11096-82-5			0.24	0.99	0.0346	U	**0.865**		**1.04**		0.0375	U	0.033	U
Aroclor 1262	37324-23-5			NE	NE	0.0346	U	0.164	U	0.153	U	0.0375	U	0.033	U
Aroclor 1268	11100-14-4			NE	NE	0.0346	U	0.164	U	0.153	U	0.0375	U	0.033	U
PCBs, Total	1336-36-3	0.114	0.68	NE	NE	0.0346	U	**3.53**		**2.72**		0.0375	U	0.033	U

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mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.

Table C-6
Soil HERBICIDE Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	DU-1-A		DU-1-B		DU-1-C		DU-2-A		DU-2-B		DU-2-C	
Sample Date	**CAS#**					**8/21/2019**	**Q**	**8/21/2019**	**Q**	**8/21/2019**	**Q**	**8/22/2019**	**Q**	**8/22/2019**	**Q**	**8/22/2019**	**Q**
		(mg/Kg)	**(mg/Kg)**	**(mg/Kg)**	**(mg/Kg)**												
2,4,5-T	93-76-5	NE	NE	630	8200	0.198	U	0.198	U	0.198	U	0.178	U	0.178	U	0.178	U
2,4,5-TP (Silvex)	93-72-1	NE	NE	510	6600	0.198	U	0.198	U	0.198	U	0.178	U	0.178	U	0.178	U
2,4-D	94-75-7	NE	NE	700	9600	0.198	U	0.198	U	0.198	U	0.178	U	0.178	U	0.178	U
2,4-DB	94-82-6	NE	NE	1900	25000	0.198	U	0.198	U	0.198	U	0.178	U	0.178	U	0.178	U
Dalapon	75-99-0	NE	NE	1900	25000	0.0395	U	0.0395	U	0.0396	U	0.0357	U	0.0356	U	0.0356	U
Dicamba	1918-00-9	NE	NE	1900	25000	0.0395	U	0.0395	U	0.0396	U	0.0357	U	0.0356	U	0.0356	U
Dichloroprop	120-36-5	NE	NE	NE	NE	0.0395	U	0.0395	U	0.0396	U	0.0357	U	0.0356	U	0.0356	U
MCPA	94-74-6	NE	NE	32	410	3.95	U	3.95	U	3.96	U	3.57	U	3.56	U	3.56	U
MCPP	93-65-2	NE	NE	63	820	3.95	U	3.95	U	3.96	U	3.57	U	3.56	U	3.56	U

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VSSs and RSLs in gray color font are for reference only; regulatory standards for comparison are in regular font
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit

Table C-7
Soil Dioxins & Furans Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-05-11.0		IP-06-0.5		IP-06-0.5-FD		IP-12-11.0		IP-13-10.5	
Sample Date	CAS#					8/14/2019	Q	8/15/2019	Q	8/15/2019	Q	7/22/2019	Q	7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)										
1,2,3,4,6,7,8-HpCDD	35822-46-9					0.00000266	U	**0.00014800**		**0.000173**		0.0000028	U	0.00000226	U
1,2,3,4,6,7,8-HpCDF	67562-39-4					0.00000266	U	**0.00004600**		**0.0000362**		0.0000028	U	0.00000226	U
1,2,3,4,7,8,9-HpCDF	55673-89-7					0.00000266	U	**0.00001200**		**0.0000083**		0.0000028	U	0.00000226	U
1,2,3,4,7,8-HxCDD	39227-28-6					0.00000266	U	**0.00000225**	J	0.00000383	U	0.0000028	U	0.00000226	U
1,2,3,4,7,8-HxCDF	70648-26-9					0.00000266	U	**0.00001550**		**0.00000951**		0.0000028	U	0.00000226	U
1,2,3,6,7,8-HxCDD	57653-85-7					0.00000266	U	**0.00000813**		**0.00000953**		0.0000028	U	0.00000226	U
1,2,3,6,7,8-HxCDF	57117-44-9					0.00000266	U	**0.00000740**		**0.00000423**		0.0000028	U	0.00000226	U
1,2,3,7,8,9-HxCDD	19408-74-3	2,3,7,8-TCDD	2,3,7,8-TCDD TEQ	2,3,7,8-TCDD TEQ	2,3,7,8-TCDD TEQ	0.00000266	U	**0.00000449**		**0.00000492**		0.0000028	U	0.00000226	U
1,2,3,7,8,9-HxCDF	72918-21-9	TEQ 0.00000225	0.0000137	0.0000048	0.000022	0.00000266	U	**0.00000397**	J	**0.00000185**	J	0.0000028	U	0.00000226	U
1,2,3,7,8-PeCDD	40321-76-4					0.00000266	U	0.00000408	U	0.00000383	U	0.0000028	U	0.00000226	U
1,2,3,7,8-PeCDF	57117-41-6					0.00000266	U	**0.00000806**		**0.00000372**	J	0.0000028	U	0.00000226	U
2,3,4,6,7,8-HxCDF	60851-34-5					0.00000266	U	**0.00000614**		**0.00000362**	J	0.0000028	U	0.00000226	U
2,3,4,7,8-PeCDF	57117-31-4					0.00000266	U	**0.00000954**		**0.00000404**		0.0000028	U	0.00000226	U
2,3,7,8-TCDD	1746-01-6					0.000000532	U	**0.0000031**		**0.00000303**		0.00000056	U	0.000000451	U
2,3,7,8-TCDF	51207-31-9					0.000000532	U	**0.00004220**		**0.0000368**		0.00000056	U	0.000000451	U
OCDD	3268-87-9					**0.00000703**		**0.00180000**		**0.00246**		**0.00000518**	J	0.00000451	U
OCDF	39001-02-0					0.00000532	U	**0.00013800**		**0.000139**		0.0000056	U	0.00000451	U
2,3,7,8-TCDD - TEQ	NA	0.00000225	0.0000137	0.0000048	0.000022	**0.000000199**		***0.00001471***		***0.0000114***		**0.00000021**		**0.000000167**	U
Total HpCDD	37871-00-4					0.00000266	U	**0.00034800**		**0.000348**		0.0000028	U	0.00000226	U
Total HpCDF	38998-75-3					0.00000266	U	**0.00010500**		**0.0000876**		0.0000028	U	0.00000226	U
Total HxCDD	34465-46-8					0.00000266	U	**0.00007090**		**0.0000838**		0.0000028	U	0.00000226	U
Total HxCDF	55684-94-1					0.00000266	U	**0.00006820**		**0.0000362**		0.0000028	U	0.00000226	U
Total PCDD	NA					**0.00000703**		**0.00410000**		**0.00291**		**0.00000518**	J	0.000000451	U
Total PCDF	NA					0.000000532	U	**0.00057300**		**0.00042**		0.00000056	U	0.000000451	U
Total PeCDD	36088-22-9					0.00000266	U	0.00000408	U	0.00000383	U	0.0000028	U	0.00000226	U
Total PeCDF	30402-15-4					0.00000266	U	**0.00006900**		**0.0000324**		0.0000028	U	0.00000226	U
Total TCDD	41903-57-5					0.000000532	U	**0.00001470**		**0.0000137**		0.00000056	U	0.000000451	U
Total TCDF	55722-27-5					0.000000532	U	**0.00019300**		**0.000125**		0.00000056	U	0.000000451	U

Key:
VSS - Vermont Soil Standards, Appendix A Soil Standardsof Investigation and Remediation of Contaminated Properties Rule, July 6, 2019.
EPA RSL - United States Environmental Protection Agency Regional Screening Levels for residential and industrial properties, May 15, 2019
VSSs and RSLs in gray color font are for reference only; regulatory standards for comparison are in regular font.
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
TEQ - Toxic Equivalence Quotient
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-8
Groundwater METALS Sample Analytical Results

Sample ID		VGES	IP-01		IP-02		IP-03		IP-04		IP-05		IP-05-FD	
Sample Date	CAS#		8/29/2019	Q	8/29/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	8/29/2019	Q
		(µg/l)												
Aluminum, Total	7429-90-5	NE	**96**	J	**20400**		**3420**		**831**		**144**		**93**	J
Barium, Total	7440-39-3	2000	**79**		**270**		**84**		**99**		**15**		**13**	
Beryllium, Total	7440-41-7	4	1/5	U	1/5	U	1/5	U	1/5	U	1/5	U	1/5	U
Cadmium, Total	7440-43-9	5	1/5	U	**1**	J	1/5	U	1/5	U	1/5	U	1/5	U
Calcium, Total	7440-70-2	NE	**32700**		**44900**		**18900**		**37500**		**9680**		**9210**	
Chromium, Total	7440-47-3	100	10	U	**49**		**12**		**3**	J	10	U	10	U
Cobalt, Total	7440-48-4	NE	20	U	**43**		**7**	J	**3**	J	20	U	20	U
Copper, Total	7440-50-8	1300	**2**	J	**106**		**13**		**6**	J	**3**	J	10	U
Iron, Total	7439-89-6	NE	**207**		**51800**		**9500**		**2350**		**351**		**261**	
Lead, Total	7439-92-1	15	10	U	**52**		**8**	J	**5**	J	10	U	10	U
Magnesium, Total	7439-95-4	NE	**6660**		**19400**		**5960**		**6040**		**2770**		**2660**	
Manganese, Total	7439-96-5	300	**136**		**2580**		**777**		**433**		**78**		**65**	
Nickel, Total	7440-02-0	100	**2**	J	**76**		**21**	J	**7**	J	**3**	J	**3**	J
Potassium, Total	9/7/7440	NE	**2800**		**7130**		**2720**		**3020**		**1080**	J	**1180**	J
Selenium, Total	7782-49-2	50	10	U	10	U	10	U	10	U	10	U	10	U
Silver, Total	7440-22-4	NE	7	U	7	U	7	U	7	U	7	U	7	U
Sodium, Total	7440-23-5	NE	**223000**		**106000**		**7550**		**245000**		**16600**		**17100**	
Vanadium, Total	7440-62-2	NE	10	U	**51**		**8**	J	**2**	J	10	U	10	U
Zinc, Total	7440-66-6	NE	**11**	J	**190**		**31**	J	**16**	J	**13**	J	**13**	J
Antimony, Total	7440-36-0	NE	4	U	4	U	4	U	4	U	4	U	4	U
Arsenic, Total	7440-38-2	10	**0.26**	J	**20.54**		**2.76**		**1.26**		**0.24**	J	0.5	U
Thallium, Total	7440-28-0	2	1	U	**0.54**	J	1	U	1	U	1	U	1	U
Mercury, Total	7439-97-6	2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cyanide, Total	57-12-5	200	**4**	J	5	U	5	U	**4**	J	5	U	5	U

Table C-8
Groundwater METALS Sample Analytical Results

Sample ID		VGES	IP-06		IP-07		IP-08		IP-16		DEEP WELL		SHALLOW WELL	
Sample Date	CAS#		8/30/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	7/23/2019	Q	7/23/2019	Q
		(µg/l)												
Aluminum, Total	7429-90-5	NE	**1470**		**277**		**3300**		**453**		100	U	100	U
Barium, Total	7440-39-3	2000	**106**		**56**		**99**		**120**		**64**		**49**	
Beryllium, Total	7440-41-7	4	1/5	U	1/5	U	1/5	U	1/5	U	1/5	U	1/5	U
Cadmium, Total	7440-43-9	5	1/5	U	1/5	U	1/5	U	1/5	U	1/5	U	1/5	U
Calcium, Total	7440-70-2	NE	**54500**		**44900**		**38100**		**88900**		**52300**		**56700**	
Chromium, Total	7440-47-3	100	**3**	J	10	U	**8**	J	10	U	10	U	10	U
Cobalt, Total	7440-48-4	NE	**6**	J	20	U	**18**	J	20	U	20	U	20	U
Copper, Total	7440-50-8	1300	**10**		**2**	J	**31**		**3**	J	**88**		**20**	
Iron, Total	7439-89-6	NE	**4390**		**1000**		**13100**		**1170**		**15**	J	**65**	
Lead, Total	7439-92-1	15	**6**	J	**3**	J	**21**		**3**	J	**27**		**3**	J
Magnesium, Total	7439-95-4	NE	**14000**		**12300**		**11800**		**26200**		**17100**		**17100**	
Manganese, Total	7439-96-5	300	**346**		**45**		**722**		**161**		**31**		**267**	
Nickel, Total	7440-02-0	100	**12**	J	**3**	J	**23**	J	**3**	J	**5**	J	25	U
Potassium, Total	9/7/7440	NE	**5130**		**2530**		**5070**		**3990**		**3790**		**4490**	
Selenium, Total	7782-49-2	50	10	U	10	U	10	U	10	U	10	U	10	U
Silver, Total	7440-22-4	NE	7	U	7	U	7	U	7	U	7	U	7	U
Sodium, Total	7440-23-5	NE	**115000**		**111000**		**86800**		**209000**		**99700**		**40400**	
Vanadium, Total	7440-62-2	NE	**3**	J	10	U	**11**		10	U	10	U	10	U
Zinc, Total	7440-66-6	NE	**25**	J	**14**	J	**58**		**14**	J	**187**		**30**	J
Antimony, Total	7440-36-0	NE	4	U	**0.45**	J	4	U	4	U	**0.47**	J	**0.89**	J
Arsenic, Total	7440-38-2	10	**4.15**		**0.71**		**22.03**		**1.48**		**0.37**	J	**0.64**	
Thallium, Total	7440-28-0	2	1	U	1	U	1	U	1	U	0.5	U	**0.19**	J
Mercury, Total	7439-97-6	2	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cyanide, Total	57-12-5	200	5	U	5	U	5	U	5	U	0.005	U	0.005	U

Key:
VGES - Vermont Groundwater Enforcement Standard (7/6/2019)
µg/L - micrograms per liter (parts per billion)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated
value/value- if the reported quantitation limit exceeds the applicable regulatory criteria then the method detection/reported quantitation limit are presented.

Table C-9
Groundwater VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VGES	IP-01		IP-02		IP-03		IP-04		IP-05		IP-05-FD	
Sample Date	**CAS#**		**8/29/2019**	**Q**	**8/29/2019**	**Q**	**8/29/2019**	**Q**	**8/30/2019**	**Q**	**8/29/2019**	**Q**	**8/29/2019**	**Q**
		(µg/l)												
1,1,1,2-Tetrachloroethane	630-20-6	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	71-55-6	200	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	79-34-5	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	79-00-5	5	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	75-34-3	70	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	75-35-4	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	563-58-6	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2,3-Trichlorobenzene	87-61-6	0.9	0.23/2.5	U	0.23/2.5	U	0.23/2.5	U	0.23/2.5	U	0.23/2.5	U	0.23/2.5	U
1,2,3-Trichloropropane	96-18-4	0.02	0.18/5	U	0.18/5	U	0.18/5	U	0.18/5	U	0.18/5	U	0.18/5	U
1,2,4-Trichlorobenzene	120-82-1	70	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2,4-Trimethylbenzene	95-63-6	23	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dibromo-3-chloropropane	96-12-8	0.2	*0.35/2.5*	U	*0.35/2.5*	U	*0.35/2.5*	U	*0.35/2.5*	U	*0.35/2.5*	U	*0.35/2.5*	U
1,2-Dibromoethane	106-93-4	0.05	*0.19/2*	U	*0.19/2*	U	*0.19/2*	U	*0.19/2*	U	*0.19/2*	U	*0.19/2*	U
1,2-Dichlorobenzene	95-50-1	600	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dichloroethane	107-06-2	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethene, Total	540-59-0	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	78-87-5	5	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
1,3,5-Trimethylbenzene	108-67-8	23	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,3-Dichlorobenzene	541-73-1	600	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,3-Dichloropropane	142-28-9	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,3-Dichloropropene, Total	542-75-6	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	106-46-7	75	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,4-Dichlorobutane	110-56-5	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	594-20-7	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
2-Butanone	78-93-3	511	5	U	5	U	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6	NE	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone	108-10-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	950	**2.4**	J	**1.8**	J	5	U	5	U	5	U	5	U
Acrylonitrile	107-13-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	71-43-2	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	108-86-1	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Bromochloromethane	74-97-5	8	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Bromodichloromethane	75-27-4	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	75-25-2	NE	2	U	2	U	2	U	2	U	2	U	2	U
Bromomethane	74-83-9	5	1	U	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	75-15-0	NE	5	U	5	U	5	U	5	U	5	U	5	U

Table C-9
Groundwater VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VGES	IP-01		IP-02		IP-03		IP-04		IP-05		IP-05-FD	
Sample Date	CAS#		8/29/2019	Q	8/29/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	8/29/2019	Q
Carbon tetrachloride	56-23-5	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	108-90-7	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	75-00-3	NE	1	U	1	U	1	U	1	U	1	U	1	U
Chloroform	67-66-3	NE	**0.22**	J	**0.31**	J	**0.48**	J	**2**		0.75	U	0.75	U
Chloromethane	74-87-3	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
cis-1,2-Dichloroethene	156-59-2	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	10061-01-5	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	124-48-1	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	74-95-3	NE	5	U	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	NE	5	U	5	U	5	U	5	U	5	U	5	U
Ethyl ether	60-29-7	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Ethyl methacrylate	97-63-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
Ethylbenzene	100-41-4	700	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	87-68-3	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Isopropylbenzene	98-82-8	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert butyl ether	1634-04-4	11	1	U	1	U	1	U	1	U	1	U	1	U
Methylene chloride	75-09-2	5	3	U	3	U	3	U	3	U	3	U	3	U
Naphthalene	91-20-3	0.5	0.22/2.5	U	0.22/2.5	U	0.22/2.5	U	0.22/2.5	U	0.22/2.5	U	0.22/2.5	U
n-Butylbenzene	104-51-8	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	103-65-1	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	95-49-8	100	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
o-Xylene	95-47-6	10000	1	U	1	U	1	U	1	U	1	U	1	U
p/m-Xylene	179601-23-1	NE	1	U	1	U	1	U	1	U	1	U	1	U
p-Chlorotoluene	106-43-4	100	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
p-Isopropyltoluene	99-87-6	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	135-98-8	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	100-42-5	100	1	U	1	U	1	U	1	U	1	U	1	U
tert-Butylbenzene	98-06-6	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Tetrachloroethene	127-18-4	5	0.5	U	0.5	U	**1.5**		**0.19**	J	0.5	U	0.5	U
Tetrahydrofuran	109-99-9	NE	5	U	5	U	5	U	5	U	5	U	5	U
Toluene	108-88-3	1000	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Total Xylene	1330-20-7	10000	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	156-60-5	100	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
trans-1,3-Dichloropropene	10061-02-6	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,4-Dichloro-2-butene	110-57-6	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Trichloroethene	79-01-6	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	75-69-4	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Vinyl acetate	108-05-4	NE	5	U	5	U	5	U	5	U	5	U	5	U
Vinyl chloride	75-01-4	2	1	U	1	U	1	U	1	U	1	U	1	U
Total Trimethyl benzenes	NA	23	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Xylenes, Total	1330-20-7	10000	1	U	1	U	1	U	1	U	1	U	1	U

Table C-9
Groundwater VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VGES	IP-06		IP-07		IP-08		IP-16		DEEP WELL		SHALLOW WELL	
Sample Date	CAS#		8/30/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	7/23/2019	Q	7/23/2019	Q
		(µg/l)												
1,1,1,2-Tetrachloroethane	630-20-6	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	71-55-6	200	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	79-34-5	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	79-00-5	5	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethane	75-34-3	70	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
1,1-Dichloroethene	75-35-4	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	563-58-6	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2,3-Trichlorobenzene	87-61-6	0.9	0.23/2.5	U	0.23/2.5	U	0.23/2.5	U	0.23/2.5	U	0.23/2.5	U	0.23/2.5	U
1,2,3-Trichloropropane	96-18-4	0.02	0.18/5	U	0.18/5	U	0.18/5	U	0.18/0.5	U	0.18/5	U	0.18/5	U
1,2,4-Trichlorobenzene	120-82-1	70	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2,4-Trimethylbenzene	95-63-6	23	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dibromo-3-chloropropane	96-12-8	0.2	0.35/2.5	U	0.35/2.5	U	0.35/2.5	U	0.35/2.5	U	0.35/2.5	U	0.35/2.5	U
1,2-Dibromoethane	106-93-4	0.05	0.19/2	U	0.19/2	U	0.19/2	U	0.19/2	U	0.19/2	U	0.19/2	U
1,2-Dichlorobenzene	95-50-1	600	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,2-Dichloroethane	107-06-2	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.21**	J
1,2-Dichloroethene, Total	540-59-0	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	78-87-5	5	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
1,3,5-Trimethylbenzene	108-67-8	23	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,3-Dichlorobenzene	541-73-1	600	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,3-Dichloropropane	142-28-9	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,3-Dichloropropene, Total	542-75-6	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	106-46-7	75	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
1,4-Dichlorobutane	110-56-5	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,2-Dichloropropane	594-20-7	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
2-Butanone	78-93-3	511	5	U	5	U	5	U	5	U	5	U	5	U
2-Hexanone	591-78-6	NE	5	U	5	U	**1.1**	J	5	U	5	U	5	U
4-Methyl-2-pentanone	108-10-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	950	5	U	**1.6**	J	5	U	5	U	5	U	5	U
Acrylonitrile	107-13-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	71-43-2	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	108-86-1	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Bromochloromethane	74-97-5	8	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Bromodichloromethane	75-27-4	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	75-25-2	NE	2	U	2	U	2	U	2	U	2	U	2	U
Bromomethane	74-83-9	5	1	U	1	U	1	U	**0.33**	J	1	U	1	U
Carbon disulfide	75-15-0	NE	5	U	5	U	5	U	5	U	5	U	5	U
Carbon tetrachloride	56-23-5	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	108-90-7	100	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U

Table C-9
Groundwater VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VGES	IP-06		IP-07		IP-08		IP-16		DEEP WELL		SHALLOW WELL	
Sample Date	CAS#		8/30/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	7/23/2019	Q	7/23/2019	Q
		(µg/l)												
Chloroethane	75-00-3	NE	1	U	1	U	1	U	1	U	1	U	1	U
Chloroform	67-66-3	NE	0.75	U	**0.39**	J	0.75	U	**0.35**	J	0.75	U	**0.48**	J
Chloromethane	74-87-3	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
cis-1,2-Dichloroethene	156-59-2	70	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	10061-01-5	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	124-48-1	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	74-95-3	NE	5	U	5	U	5	U	5	U	5	U	5	U
Dichlorodifluoromethane	75-71-8	NE	5	U	5	U	5	U	5	U	5	U	5	U
Ethyl ether	60-29-7	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Ethyl methacrylate	97-63-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
Ethylbenzene	100-41-4	700	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	87-68-3	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Isopropylbenzene	98-82-8	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert butyl ether	1634-04-4	11	1	U	1	U	1	U	1	U	**2**		**9.9**	
Methylene chloride	75-09-2	5	3	U	3	U	3	U	3	U	3	U	3	U
Naphthalene	91-20-3	0.5	0.22/2.5	U	0.22/2.5	U	0.22/2.5	U	0.22/2.5	U	**1.1**	J	**1.8**	J
n-Butylbenzene	104-51-8	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	103-65-1	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	95-49-8	100	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
o-Xylene	95-47-6	10000	1	U	1	U	1	U	1	U	1	U	1	U
p/m-Xylene	179601-23-1	NE	1	U	1	U	1	U	1	U	1	U	1	U
p-Chlorotoluene	106-43-4	100	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
p-Isopropyltoluene	99-87-6	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	135-98-8	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	100-42-5	100	1	U	1	U	1	U	1	U	1	U	1	U
tert-Butylbenzene	98-06-6	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Tetrachloroethene	127-18-4	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrahydrofuran	109-99-9	NE	5	U	5	U	5	U	5	U	5	U	5	U
Toluene	108-88-3	1000	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
Total Xylene	1330-20-7	10000	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	156-60-5	100	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
trans-1,3-Dichloropropene	10061-02-6	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,4-Dichloro-2-butene	110-57-6	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Trichloroethene	79-01-6	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	75-69-4	NE	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Vinyl acetate	108-05-4	NE	5	U	5	U	5	U	5	U	5	U	5	U
Total Trimethyl benzenes	NA	23	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Vinyl chloride	75-01-4	2	1	U	1	U	1	U	1	U	1	U	1	U
Xylenes, Total	1330-20-7	10000	1	U	1	U	1	U	1	U	1	U	1	U

Key:
VGES - Vermont Groundwater Enforcement Standard (7/6/2019)
µg/L - micrograms per liter (parts per billion)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
Total Trimethyl benzenes - Cumulative sum of all TMB isomers
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated
value/value- if the reported quantitation limit exceeds the applicable regulatory criteria then the method detection/reported quantitation limit are presented.

Table C-10
Groundwater SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VGES	IP-01		IP-02		IP-03		IP-04		IP-05		IP-05-FD	
Sample Date	CAS#		8/29/2019	Q	8/29/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	8/29/2019	Q
		(µg/l)												
1,2,4-Trichlorobenzene	120-82-1	70	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	95-50-1	600	2	U	2	U	2	U	2	U	2	U	2	U
1,3-Dichlorobenzene	541-73-1	600	2	U	2	U	2	U	2	U	2	U	2	U
1,4-Dichlorobenzene	106-46-7	75	2	U	2	U	2	U	2	U	2	U	2	U
2,4,5-Trichlorophenol	95-95-4	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,4,6-Trichlorophenol	88-06-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	120-83-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	105-67-9	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	51-28-5	NE	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	121-14-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	606-20-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	95-57-8	NE	2	U	2	U	2	U	2	U	2	U	2	U
2-Methylphenol	95-48-7	NE	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	88-74-4	NE	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitrophenol	88-75-5	NE	10	U	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
3-Methylphenol/4-Methylphenol	108-39-4/106-44-5	NE	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	99-09-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
4,6-Dinitro-o-cresol	534-52-1	NE	10	U	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl phenyl ether	101-55-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
4-Chloroaniline	106-47-8	NE	5	U	5	U	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	7005-72-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
4-Nitroaniline	100-01-6	NE	5	U	5	U	5	U	5	U	5	U	5	U
4-Nitrophenol	100-02-7	NE	10	U	10	U	10	U	10	U	10	U	10	U
Aniline	62-53-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
Azobenzene	103-33-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
Benzidine	92-87-5	NE	20	U	20	U	20	U	20	U	20	U	20	U
Benzoic Acid	65-85-0	NE	50	U	50	U	50	U	50	U	50	U	50	U
Benzyl Alcohol	100-51-6	NE	2	U	2	U	2	U	2	U	2	U	2	U
Biphenyl	92-52-4	NE	2	U	2	U	2	U	2	U	2	U	2	U
Bis(2-chloroethoxy)methane	111-91-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
Bis(2-chloroethyl)ether	111-44-4	NE	2	U	2	U	2	U	2	U	2	U	2	U
Bis(2-chloroisopropyl)ether	108-60-1	46	2	U	2	U	2	U	2	U	2	U	2	U
Bis(2-ethylhexyl)phthalate	117-81-7	6	3	U	3	U	3	U	3	U	3	U	3	U

Table C-10
Groundwater SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VGES	IP-01		IP-02		IP-03		IP-04		IP-05		IP-05-FD	
Sample Date	CAS#		8/29/2019	Q	8/29/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	8/29/2019	Q
		(µg/l)												
Butyl benzyl phthalate	85-68-7	NE	5	U	5	U	5	U	5	U	5	U	5	U
Carbazole	86-74-8	NE	2	U	2	U	2	U	2	U	2	U	2	U
Dibenzofuran	132-64-9	NE	2	U	2	U	2	U	2	U	2	U	2	U
Diethyl phthalate	84-66-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
Dimethyl phthalate	131-11-3	NE	5	U	5	U	5	U	5	U	5	U	5	U
Di-n-butylphthalate	84-74-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
Di-n-octylphthalate	117-84-0	NE	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	77-47-4	NE	20	U	20	U	20	U	20	U	20	U	20	U
Isophorone	78-59-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
NDPA/DPA	86-30-6	NE	2	U	2	U	2	U	2	U	2	U	2	U
Nitrobenzene	98-95-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
n-Nitrosodimethylamine	62-75-9	NE	2	U	2	U	2	U	2	U	2	U	2	U
n-Nitrosodi-n-propylamine	621-64-7	NE	5	U	5	U	5	U	5	U	5	U	5	U
p-Chloro-m-cresol	59-50-7	NE	2	U	2	U	2	U	2	U	2	U	2	U
Phenol	108-95-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
Pyridine	110-86-1	NE	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U
1-Methylnaphthalene	90-12-0	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
2-Chloronaphthalene	91-58-7	NE	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
2-Methylnaphthalene	91-57-6	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Acenaphthene	83-32-9	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Acenaphthylene	208-96-8	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Anthracene	120-12-7	343	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Benzo(a)anthracene	56-55-3	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.02**	J	0.1	U
Benzo(a)pyrene	50-32-8	0.2	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Benzo(b)fluoranthene	205-99-2	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.03**	J	0.1	U
Benzo(ghi)perylene	191-24-2	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Benzo(k)fluoranthene	207-08-9	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Chrysene	218-01-9	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Dibenzo(a,h)anthracene	53-70-3	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Fluoranthene	206-44-0	46	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Fluorene	86-73-7	46	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Hexachlorobenzene	118-74-1	1	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
Hexachlorobutadiene	87-68-3	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachloroethane	67-72-1	NE	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Naphthalene	91-20-3	0.5	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Pentachlorophenol	87-86-5	1	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
Phenanthrene	85-01-8	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Pyrene	129-00-0	NE	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U

Table C-10
Groundwater SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VGES	IP-06		IP-07		IP-08		IP-16		DEEP WELL		SHALLOW WELL	
Sample Date	CAS#		8/30/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	7/23/2019	Q	7/23/2019	Q
		(µg/l)												
1,2,4-Trichlorobenzene	120-82-1	70	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichlorobenzene	95-50-1	600	2	U	2	U	2	U	2	U	2	U	2	U
1,3-Dichlorobenzene	541-73-1	600	2	U	2	U	2	U	2	U	2	U	2	U
1,4-Dichlorobenzene	106-46-7	75	2	U	2	U	2	U	2	U	2	U	2	U
2,4,5-Trichlorophenol	95-95-4	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,4,6-Trichlorophenol	88-06-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dichlorophenol	120-83-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dimethylphenol	105-67-9	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,4-Dinitrophenol	51-28-5	NE	20	U	20	U	20	U	20	U	20	U	20	U
2,4-Dinitrotoluene	121-14-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
2,6-Dinitrotoluene	606-20-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
2-Chlorophenol	95-57-8	NE	2	U	2	U	2	U	2	U	2	U	2	U
2-Methylphenol	95-48-7	NE	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitroaniline	88-74-4	NE	5	U	5	U	5	U	5	U	5	U	5	U
2-Nitrophenol	88-75-5	NE	10	U	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	91-94-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
3-Methylphenol/4-Methylphenol	108-39-4/106-44-5	NE	5	U	5	U	5	U	5	U	5	U	5	U
3-Nitroaniline	99-09-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
4,6-Dinitro-o-cresol	534-52-1	NE	10	U	10	U	10	U	10	U	10	U	10	U
4-Bromophenyl phenyl ether	101-55-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
4-Chloroaniline	106-47-8	NE	5	U	5	U	5	U	5	U	5	U	5	U
4-Chlorophenyl phenyl ether	7005-72-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
4-Nitroaniline	100-01-6	NE	5	U	5	U	5	U	5	U	5	U	5	U
4-Nitrophenol	100-02-7	NE	10	U	10	U	10	U	10	U	10	U	10	U
Aniline	62-53-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
Azobenzene	103-33-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
Benzidine	92-87-5	NE	20	U	20	U	20	U	20	U	20	U	20	U
Benzoic Acid	65-85-0	NE	50	U	50	U	50	U	50	U	50	U	50	U
Benzyl Alcohol	100-51-6	NE	2	U	2	U	2	U	2	U	2	U	2	U
Biphenyl	92-52-4	NE	2	U	2	U	2	U	2	U	2	U	2	U
Bis(2-chloroethoxy)methane	111-91-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
Bis(2-chloroethyl)ether	111-44-4	NE	2	U	2	U	2	U	2	U	2	U	2	U
Bis(2-chloroisopropyl)ether	108-60-1	46	2	U	2	U	2	U	2	U	2	U	2	U
Bis(2-ethylhexyl)phthalate	117-81-7	6	3	U	3	U	3	U	**2.5**	J	**4.2**		**2.2**	J
Butyl benzyl phthalate	85-68-7	NE	5	U	5	U	5	U	5	U	5	U	5	U
Carbazole	86-74-8	NE	2	U	2	U	2	U	2	U	2	U	2	U
Dibenzofuran	132-64-9	NE	2	U	2	U	2	U	2	U	2	U	2	U
Diethyl phthalate	84-66-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
Dimethyl phthalate	131-11-3	NE	5	U	**1.3**	J	5	U	5	U	5	U	5	U
Di-n-butylphthalate	84-74-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
Di-n-octylphthalate	117-84-0	NE	5	U	5	U	5	U	5	U	5	U	5	U
Hexachlorocyclopentadiene	77-47-4	NE	20	U	20	U	20	U	20	U	20	U	20	U

Table C-10
Groundwater SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VGES	IP-06		IP-07		IP-08		IP-16		DEEP WELL		SHALLOW WELL	
Sample Date	CAS#		8/30/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	7/23/2019	Q	7/23/2019	Q
		(µg/l)												
Isophorone	78-59-1	NE	5	U	5	U	5	U	5	U	5	U	5	U
NDPA/DPA	86-30-6	NE	2	U	2	U	2	U	2	U	2	U	2	U
Nitrobenzene	98-95-3	NE	2	U	2	U	2	U	2	U	2	U	2	U
n-Nitrosodimethylamine	62-75-9	NE	2	U	2	U	2	U	2	U	2	U	2	U
n-Nitrosodi-n-propylamine	621-64-7	NE	5	U	5	U	5	U	5	U	5	U	5	U
p-Chloro-m-cresol	59-50-7	NE	2	U	2	U	2	U	2	U	2	U	2	U
Phenol	108-95-2	NE	5	U	5	U	5	U	5	U	5	U	5	U
Pyridine	110-86-1	NE	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U
1-Methylnaphthalene	90-12-0	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.09**	J	0.1	U
2-Chloronaphthalene	91-58-7	NE	0.2	U	0.2	U	0.2	U	0.2	U	**0.05**	J	0.2	U
2-Methylnaphthalene	91-57-6	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.06**	J	0.1	U
Acenaphthene	83-32-9	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.06**	J	**0.03**	J
Acenaphthylene	208-96-8	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.06**	J	0.1	U
Anthracene	120-12-7	343	0.1	U	0.1	U	0.1	U	0.1	U	**0.07**	J	0.1	U
Benzo(a)anthracene	56-55-3	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.07**	J	0.1	U
Benzo(a)pyrene	50-32-8	0.2	0.1	U	0.1	U	0.1	U	0.1	U	**0.07**	J	0.1	U
Benzo(b)fluoranthene	205-99-2	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.08**	J	0.1	U
Benzo(ghi)perylene	191-24-2	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.08**	J	0.1	U
Benzo(k)fluoranthene	207-08-9	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.08**	J	0.1	U
Chrysene	218-01-9	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.07**	J	0.1	U
Dibenzo(a,h)anthracene	53-70-3	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.08**	J	0.1	U
Fluoranthene	206-44-0	46	0.1	U	0.1	U	0.1	U	0.1	U	**0.08**	J	0.1	U
Fluorene	86-73-7	46	0.1	U	0.1	U	0.1	U	0.1	U	**0.07**	J	0.1	U
Hexachlorobenzene	118-74-1	1	0.8	U	0.8	U	0.8	U	0.8	U	**0.07**	J	0.8	U
Hexachlorobutadiene	87-68-3	NE	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachloroethane	67-72-1	NE	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.08**	J	0.1	U
Naphthalene	91-20-3	0.5	0.1	U	0.1	U	0.1	U	0.1	U	**0.06**	J	**0.27**	
Pentachlorophenol	87-86-5	1	0.8	U	0.8	U	0.8	U	0.8	U	**0.57**	J	0.8	U
Phenanthrene	85-01-8	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.1**		0.1	U
Pyrene	129-00-0	NE	0.1	U	0.1	U	0.1	U	0.1	U	**0.08**	J	0.1	U

Key:
VGES - Vermont Groundwater Enforcement Standard (7/6/2019)
µg/L - micrograms per liter (parts per billion)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
Total Trimethyl benzenes - Cumulative sum of all TMB isomers
NS - Sample not analyzed for target compound
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-11
Groundwater PFAS Sample Analytical Results

Sample ID		VGES	IP-01		IP-02		IP-03		IP-04		IP-05		IP-05-FD	
Sample Date	CAS#		8/29/2019	Q	8/29/2019	Q	8/29/2019	Q	8/30/2019	Q	8/29/2019	Q	8/29/2019	Q
		(ng/l)												
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	39108-34-4	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NONE	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	27619-97-2	NE	1.71	U	2.04	U	1.72	U	**1.34**	J	1.71	U	1.84	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NE	**0.469**	J	**0.812**	J	**0.471**	J	**0.692**	J	**0.246**	J	1.84	U
Perfluorobutanoic Acid (PFBA)	375-22-4	NE	**2.85**		**1.99**	J	**1.55**	J	**7.09**		**0.549**	J	**0.522**	J
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluorodecanoic Acid (PFDA)	335-76-2	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluorododecanoic Acid (PFDoA)	307-55-1	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluoroheptanoic Acid (PFHpA)	375-85-9	20	**2.84**		**1.06**	J	**0.433**	J	**1.6**	J	**0.454**	J	**0.441**	J
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	20	**0.74**	J	**0.6**	J	1.72	U	**1.83**		1.71	U	1.84	U
Perfluorohexanoic Acid (PFHxA)	307-24-4	NE	**6.06**		**2.64**		**0.862**	J	**6.12**		**0.843**	J	**0.989**	J
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluorononanoic Acid (PFNA)	375-95-1	20	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluorooctanesulfonamide (FOSA)	754-91-6	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	20	1.71	U	**0.649**	J	1.72	U	1.81	U	**0.495**	J	**0.537**	J
Perfluorooctanoic Acid (PFOA)	335-67-1	20	**6.83**		**2.28**		**5.25**		**3.25**		**1.42**	J	**1.41**	J
Perfluoropentanesulfonic Acid (PFPeS)	2706-91-4	NE	1.71	U	2.04	U	1.72	U	**0.627**	J	1.71	U	1.84	U
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NE	**5.2**		**3.22**		**0.704**	J	**9.75**		**0.546**	J	**0.526**	J
Perfluorotetradecanoic Acid (PFTA)	376-06-7	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NE	1.71	U	2.04	U	1.72	U	1.81	U	1.71	U	1.84	U
Sum of PFHpA, PFHxA, PFNA, PFOS & PFOA		20	**10.4**	J	**4.59**	J	**5.68**	J	**6.68**	J	**2.37**	J	**2.39**	J

Table C-11
Groundwater PFAS Sample Analytical Results

Sample ID		VGES	IP-06		IP-07		IP-08		DEEP WELL		SHALLOW WELL	
Sample Date	CAS#		8/30/2019	Q	8/29/2019	Q	8/30/2019	Q	7/23/2019	Q	7/23/2019	Q
		(ng/l)										
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	39108-34-4	NE	**2.32**		1.9	U	**1.85**	J	**1.75**	U	1.76	U
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NONE	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.76	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	27619-97-2	NE	**22.9**		1.9	U	**11**		**1.75**	U	1.76	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.34	J
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.31	J
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NE	**0.631**	J	**0.757**	J	**0.646**	J	**1.75**	U	**1.76**	U
Perfluorobutanoic Acid (PFBA)	375-22-4	NE	**21.2**		**1.7**	J	**8.46**		**1.25**	J	**0.458**	J
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.76	U
Perfluorodecanoic Acid (PFDA)	335-76-2	NE	1.71	U	1.9	U	**0.434**	J	0.81	J	0.556	J
Perfluorododecanoic Acid (PFDoA)	307-55-1	NE	1.71	U	1.9	U	2.01	U	1.75	U	0.366	J
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.76	U
Perfluoroheptanoic Acid (PFHpA)	375-85-9	20	**7.28**		**0.814**	J	**3.25**		**0.846**	J	**1.76**	U
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	20	**0.877**	J	**0.673**	J	**0.646**	J	**0.375**	J	**1.76**	U
Perfluorohexanoic Acid (PFHxA)	307-24-4	NE	**71.6**		**1.95**		**23**		**2.33**		**1.76**	U
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.76	U
Perfluorononanoic Acid (PFNA)	375-95-1	20	1.71	U	1.9	U	2.01	U	0.902	J	1.76	U
Perfluorooctanesulfonamide (FOSA)	754-91-6	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.76	U
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	20	1.71	U	**0.528**	J	2.01	U	0.512	J	**1.76**	U
Perfluorooctanoic Acid (PFOA)	335-67-1	20	**4.85**		**1.98**		**1.11**	J	**1.25**	J	**1.76**	U
Perfluoropentanesulfonic Acid (PFPeS)	2706-91-4	NE	**0.358**	J	1.9	U	2.01	U	**1.75**	U	1.76	U
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NE	**93.7**		**1.9**		**22.3**		**2.69**		**0.433**	J
Perfluorotetradecanoic Acid (PFTA)	376-06-7	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.76	U
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.08	J
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NE	1.71	U	1.9	U	2.01	U	1.75	U	1.76	U
PFAS, Total (5)	Total Regulated PFAS	20	**13**	J	**4**	J	**5.01**	J	**3.89**	J	**1.76**	U
PFOA/PFOS, Total	NONE	NE	**4.85**		**2.51**	J	**1.11**	J	**1.76**	J	**1.76**	U

Key:
VGES - Vermont Groundwater Enforcement Standard (7/6/2019)
ng/L - nanograms per liter (parts per trillon)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
Total Regulated PFAS - Cumulative sum of PFOA, PFOS, PFHxS, PFHpA, and PFNA
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-12

Groundwater POLYCHLORINATED BIPHENYLS Sample Analytical Results

Sample ID		VGES	IP-05		IP-05-FD		IP-06	
Sample Date	CAS#		8/29/2019	Q	8/29/2019	Q	8/30/2019	Q
		(µg/l)						
Aroclor 1016	12674-11-2	0.5	0.291	U	0.25	U	0.25	U
Aroclor 1221	11104-28-2	0.5	0.291	U	0.25	U	0.25	U
Aroclor 1232	11141-16-5	0.5	0.291	U	0.25	U	0.25	U
Aroclor 1242	53469-21-9	0.5	0.291	U	0.25	U	0.25	U
Aroclor 1248	12672-29-6	0.5	0.291	U	0.25	U	0.25	U
Aroclor 1254	11097-69-1	0.5	0.291	U	0.25	U	0.25	U
Aroclor 1260	11096-82-5	0.5	0.291	U	0.25	U	**0.1**	J
Aroclor 1262	37324-23-5	0.5	0.291	U	0.25	U	0.25	U
Aroclor 1268	11100-14-4	0.5	0.291	U	0.25	U	0.25	U
PCBs, Total	1336-36-3	0.5	0.291	U	0.25	U	**0.1**	J

Key:
VGES - Vermont Groundwater Enforcement Standard (7/6/2019)
µg/L - micrograms per liter (parts per billion)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-13
Groundwater SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VGES	IP-01		IP-02		IP-03		IP-04		IP-05		IP-05-FD	
Sample Date	**CAS#**		**8/29/2019**	**Q**	**8/29/2019**	**Q**	**8/29/2019**	**Q**	**8/30/2019**	**Q**	**8/29/2019**	**Q**	**8/29/2019**	**Q**
		(µg/l)												
1,4-Dioxane	123-91-1	0.3	0.139	U	0.15	U	0.144	U	**0.0542**	J	0.15	U	0.15	U
Sample ID		**VGES**	**IP-06**		**IP-07**		**IP-08**		**DEEP WELL**		**SHALLOW WELL**		**IP-16**	
Sample Date	**CAS#**		**8/30/2019**	**Q**	**8/29/2019**	**Q**	**8/30/2019**	**Q**	**8/29/2019**	**Q**	**8/29/2019**	**Q**	**8/29/2019**	**Q**
		(µg/l)												
1,4-Dioxane	123-91-1	0.3	0.15	U	0.15	U	0.139	U	0.144	U	**0.16**		NS	

Key:
VGES - Vermont Groundwater Enforcement Standard (7/6/2019)
µg/L - micrograms per liter (parts per billion)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NS - Sample not analyzed for target compound
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-14
Groundwater Dioxins/Furans Sample Analytical Results

Sample ID		VGES (7/6/2019)	IP-05		IP-05-FD		IP-06	
Sample Date	CAS #		8/29/2019	Q	8/29/2019	Q	8/30/2019	Q
		(µg/l)						
1,2,3,4,6,7,8-HpCDD	35822-46-9	NE	0.0000142	U	0.0000148	U	0.0000148	U
1,2,3,4,6,7,8-HpCDF	67562-39-4	NE	0.0000132	U	0.0000137	U	0.0000137	U
1,2,3,4,7,8,9-HpCDF	55673-89-7	NE	0.0000125	U	0.000013	U	0.000013	U
1,2,3,4,7,8-HxCDD	39227-28-6	NE	0.0000123	U	0.0000128	U	0.0000128	U
1,2,3,4,7,8-HxCDF	70648-26-9	NE	0.0000109	U	0.0000113	U	0.0000113	U
1,2,3,6,7,8-HxCDD	57653-85-7	NE	0.0000152	U	0.0000159	U	0.0000159	U
1,2,3,6,7,8-HxCDF	57117-44-9	NE	0.0000156	U	0.0000162	U	0.0000162	U
1,2,3,7,8,9-HxCDD	19408-74-3	NE	0.0000143	U	0.0000149	U	0.0000149	U
1,2,3,7,8,9-HxCDF	72918-21-9	NE	0.0000161	U	0.0000168	U	0.0000168	U
1,2,3,7,8-PeCDD	40321-76-4	NE	0.0000102	U	0.0000106	U	0.0000106	U
1,2,3,7,8-PeCDF	57117-41-6	NE	0.00000686	U	0.00000714	U	0.00000714	U
2,3,4,6,7,8-HxCDF	60851-34-5	NE	0.0000155	U	0.0000162	U	0.0000162	U
2,3,4,7,8-PeCDF	57117-31-4	NE	0.0000102	U	0.0000107	U	0.0000107	U
2,3,7,8-TCDD	1746-01-6	0.00003	0.00000204	U	0.00000212	U	0.00000212	U
2,3,7,8-TCDF	51207-31-9	NE	0.000003	U	0.00000312	U	0.00000312	U
OCDD	3268-87-9	NE	0.0000249	U	0.0000259	U	0.0000259	U
OCDF	39001-02-0	NE	0.0000318	U	0.0000331	U	0.0000331	U
Total HpCDD	37871-00-4	NE	0.0000142	U	0.0000148	U	0.0000148	U
Total HpCDF	38998-75-3	NE	0.0000132	U	0.0000137	U	0.0000137	U
Total HxCDD	34465-46-8	NE	0.0000123	U	0.0000128	U	0.0000128	U
Total HxCDF	55684-94-1	NE	0.0000109	U	0.0000113	U	0.0000113	U
Total PCDD	NA	NE	0.00000204	U	0.00000212	U	0.00000212	U
Total PCDF	NA	NE	0.000003	U	0.00000312	U	0.00000312	U
Total PeCDD	36088-22-9	NE	0.0000102	U	0.0000106	U	0.0000106	U
Total PeCDF	30402-15-4	NE	0.00000686	U	0.00000714	U	0.00000714	U
Total TCDD	41903-57-5	NE	0.00000204	U	0.00000212	U	0.00000212	U
Total TCDF	55722-27-5	NE	0.000003	U	0.00000312	U	0.00000312	U
Toxic Equivalency (TEQ)	NA	NE	0.000000029	U	0.000000031	U	0.000000031	U

Key:
VGES - Vermont Groundwater Enforcement Standard (7/6/2019)
µg/L - micrograms per liter (parts per billion)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NS - Sample not analyzed for target compound
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported method detection limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-15
Sludge METALS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-25	
Sample Date	CAS#					7/23/2019	Q
		(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)		
Aluminum, Total	7429-90-5	72507	941748	77000	1100000	**1860**	
Antimony, Total	7440-36-0	26	319	31	470	13.6	U
Arsenic, Total	7440-38-2	16	16	0.68	3	2.71	U
Barium, Total	7440-39-3	11247	127382	15000	220000	**4.91**	
Beryllium, Total	7440-41-7	35	289	160	2300	1.36	U
Cadmium, Total	7440-43-9	6.9	87	NE	NE	2.71	U
Calcium, Total	7440-70-2	NE	NE	NE	NE	**6520**	
Chromium, Total	7440-47-3	NE	NE	NE	NE	**3.18**	
Cobalt, Total	7440-48-4	22	291	23	350	5.43	U
Copper, Total	7440-50-8	10407	139231	3100	47000	**125**	
Iron, Total	7439-89-6	51302	686351	55000	820000	**495**	
Lead, Total	7439-92-1	400	800	400	800	**2.2**	J
Magnesium, Total	7439-95-4	NE	NE	NE	NE	**396**	
Manganese, Total	7439-96-5	1118	11350	1800	NE	**15.5**	
Nickel, Total	7440-02-0	940	9707	1500	22000	**1.44**	J
Potassium, Total	9/7/7440	NE	NE	NE	NE	**59.1**	J
Selenium, Total	7782-49-2	366	4900	390	5800	**0.977**	J
Silver, Total	7440-22-4	237	2483	390	5800	2.71	U
Sodium, Total	7440-23-5	NE	NE	NE	NE	**358**	J
Thallium, Total	7440-28-0	NE	NE	0.78	12	0.85 / 5.43	U
Vanadium, Total	7440-62-2	2.8	27	390	5800	**1.41**	J
Zinc, Total	7440-66-6	21986	294150	23000	350000	**12.9**	J
Mercury, Total	7439-97-6	3.1	3.1	11	46	0.22	U
Cyanide, Total	57-12-5	NE	NE	23	150	3.2	U

Key:
VSS - Vermont Soil Standards, Appendix A Soil Standardsof Investigation and Remediation of Contaminated Properties Rule, July 6, 2019.
EPA RSL - United States Environmental Protection Agency Regional Screening Levels for residential and industrial properties, May 15, 2019
VSSs and RSLs in gray color font are for reference only; regulatory standards for comparison are in regular font.
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
value / value - if the reported quantitation limit exceeds the applicable regulatory standard, then the method detection limit / reporting limit are presented.
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-16
Sludge VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-25	
Sample Date	CAS#					7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)		
1,1,1,2-Tetrachloroethane	630-20-6	1.3	8	2	8.8	0.0021	U
1,1,1-Trichloroethane	71-55-6	NE	NE	8100	36000	0.0021	U
1,1,2,2-Tetrachloroethane	79-34-5	NE	NE	0.6	2.7	0.0021	U
1,1,2-Trichloroethane	79-00-5	NE	NE	1.1	5	0.0042	U
1,1-Dichloroethane	75-34-3	2.1	13	3.6	16	0.0042	U
1,1-Dichloroethene	75-35-4	NE	NE	230	1000	0.0042	U
1,1-Dichloropropene	563-58-6	NE	NE	NE	NE	0.0021	U
1,2,3-Trichlorobenzene	87-61-6	NE	NE	63	930	0.0083	U
1,2,3-Trichloropropane	96-18-4	0.00311	0.07	0.0051	0.11	0.00053 / 0.0083	U
1,2,4-Trichlorobenzene	120-82-1	NE	NE	24	110	0.0083	U
1,2,4-Trimethylbenzene	95-63-6	144	177	300	1800	0.0083	U
1,2-Dibromo-3-chloropropane	96-12-8	0.01	0.06	0.0053	0.064	0.0042 / 0.012	U
1,2-Dibromoethane	106-93-4	0.02	0.14	0.036	0.16	0.0042	U
1,2-Dichlorobenzene	95-50-1	NE	NE	1800	9300	0.0083	U
1,2-Dichloroethane	107-06-2	0.29	1.7	0.46	2	0.0042	U
1,2-Dichloroethene, Total	540-59-0	NE	NE	NE	NE	0.0042	U
1,2-Dichloropropane	78-87-5	1.5	9.1	2.5	11	0.0042	U
1,3,5-Trimethylbenzene	108-67-8	144	177	270	1500	0.0083	U
1,3-Dichlorobenzene	541-73-1	NE	NE	NE	NE	0.0083	U
1,3-Dichloropropane	142-28-9	NE	NE	1600	23000	0.0083	U
1,3-Dichloropropene, Total	542-75-6	NE	NE	1.8	8.2	0.0021	U
1,4-Dichlorobenzene	106-46-7	NE	NE	2.6	11	0.0083	U
1,4-Dichlorobutane	110-56-5	NE	NE	NE	NE	**0.0029**	J
2,2-Dichloropropane	594-20-7	NE	NE	NE	NE	0.0083	U
2-Butanone	78-93-3	16952	26991	27000	190000	0.042	U
2-Hexanone	591-78-6	NE	NE	200	1300	0.042	U
4-Methyl-2-pentanone	108-10-1	NE	NE	33000	140000	0.042	U
Acetone	67-64-1	40609	100028	61000	670000	**0.093**	
Acrylonitrile	107-13-1	NE	NE	0.25	1.1	0.017	U
Benzene	71-43-2	0.7	4.2	1.2	5.1	0.0021	U
Bromobenzene	108-86-1	NE	NE	290	1800	0.0083	U
Bromochloromethane	74-97-5	193	597	150	630	0.0083	U
Bromodichloromethane	75-27-4	NE	NE	0.29	1.3	0.0021	U
Bromoform	75-25-2	NE	NE	19	86	0.017	U
Bromomethane	74-83-9	NE	NE	6.8	30	0.0083	U
Carbon disulfide	75-15-0	608	662	770	3500	0.042	U
Carbon tetrachloride	56-23-5	0.37	2.2	0.65	2.9	0.0042	U
Chlorobenzene	108-90-7	414	726	280	1300	0.0021	U
Chloroethane	75-00-3	NE	NE	14000	57000	0.0083	U
Chloroform	67-66-3	NE	NE	0.32	1.4	0.0062	U
Chloromethane	74-87-3	NE	NE	110	460	0.017	U
cis-1,2-Dichloroethene	156-59-2	140	1814	160	2300	0.0042	U
cis-1,3-Dichloropropene	10061-01-5	NE	NE	NE	NE	0.0021	U

Table C-16
Sludge VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-25	
Sample Date	CAS#					7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)		
Dibromochloromethane	124-48-1	NE	NE	8.3	39	0.0042	U
Dibromomethane	74-95-3	NE	NE	24	99	0.0083	U
Dichlorodifluoromethane	75-71-8	NE	NE	87	370	0.042	U
Ethyl ether	60-29-7	NE	NE	16000	230000	0.0083	U
Ethyl methacrylate	97-63-2	NE	NE	1800	7600	0.042	U
Ethylbenzene	100-41-4	3.7	22	5.8	25	0.0042	U
Hexachlorobutadiene	87-68-3	NE	NE	1.2	5.3	0.017	U
Isopropylbenzene	98-82-8	256	264	1900	9900	0.0042	U
Methyl tert butyl ether	1634-04-4	649	4464	47	210	0.0083	U
Methylene chloride	75-09-2	NE	NE	57	1000	0.021	U
Naphthalene	91-20-3	2.7	16	3.8	17	0.017	U
n-Butylbenzene	104-51-8	3504	51100	3900	58000	0.0042	U
n-Propylbenzene	103-65-1	253	261	3800	24000	0.0042	U
o-Chlorotoluene	95-49-8	NE	NE	1600	23000	0.0083	U
o-Xylene	95-47-6	NE	NE	650	2800	0.0042	U
p/m-Xylene	179601-23-1	NE	NE	NE	NE	0.0083	U
p-Chlorotoluene	106-43-4	NE	NE	1600	23000	0.0083	U
p-Isopropyltoluene	99-87-6	NE	NE	NE	NE	0.0042	U
sec-Butylbenzene	135-98-8	7009	102200	7800	120000	0.0042	U
Styrene	100-42-5	NE	NE	6000	35000	0.0042	U
tert-Butylbenzene	98-06-6	7009	102200	7800	120000	0.0083	U
Tetrachloroethene	127-18-4	2.4	14	24	100	0.0021	U
Tetrahydrofuran	109-99-9	NE	NE	18000	94000	0.017	U
Toluene	108-88-3	706	798	4900	47000	0.0042	U
Total Trimethylbenzene	25551-13-7	144	177	NE	NE	0.0083	U
Total Xylene	1330-20-7	252	257	580	2500	0.0042	U
trans-1,2-Dichloroethene	156-60-5	1402	18137	1600	23000	0.0062	U
trans-1,3-Dichloropropene	10061-02-6	NE	NE	NE	NE	0.0042	U
trans-1,4-Dichloro-2-butene	110-57-6	NE	NE	0.0074	0.032	0.0059 / 0.021	U
Trichloroethene	79-01-6	0.68	6.5	0.94	6	0.0021	U
Trichlorofluoromethane	75-69-4	NE	NE	23000	350000	0.017	U
Vinyl acetate	108-05-4	NE	NE	910	3800	0.042	U
Vinyl chloride	75-01-4	0.1	0.59	0.059	1.7	0.0042	U
Xylenes, Total	1330-20-7	252	257	580	2500	0.0042	U

Key:
VSS - Vermont Soil Standards, Appendix A Soil Standardsof Investigation and Remediation of Contaminated Properties Rule, July 6, 2019.
EPA RSL - United States Environmental Protection Agency Regional Screening Levels for residential and industrial properties, May 15, 2019
VSSs and RSLs in gray color font are for reference only; regulatory standards for comparison are in regular font.
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
value / value - if the reported quantitation limit exceeds the applicable regulatory standard, then the method detection limit / reporting limit are presented.
Total Trimethyl benzenes - Cumulative sum of all TMB isomers
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-17
Sludge SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-25	
Sample Date	CAS#					7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)		
1,2,4-Trichlorobenzene	120-82-1	NE	NE	24	110	1.7	U
1,2-Dichlorobenzene	95-50-1	NE	NE	1800	9300	1.7	U
1,3-Dichlorobenzene	541-73-1	NE	NE	NE	NE	1.7	U
1,4-Dichlorobenzene	106-46-7	NE	NE	2.6	11	1.7	U
1-Methylnaphthalene	90-12-0	NE	NE	18	73	1.7	U
2,4,5-Trichlorophenol	95-95-4	NE	NE	6300	82000	1.7	U
2,4,6-Trichlorophenol	88-06-2	NE	NE	49	210	1	U
2,4-Dichlorophenol	120-83-2	NE	NE	190	2500	1.5	U
2,4-Dimethylphenol	105-67-9	NE	NE	1300	16000	1.7	U
2,4-Dinitrophenol	51-28-5	NE	NE	130	1600	8	U
2,4-Dinitrotoluene	121-14-2	NE	NE	1.7	7.4	0.33 / 1.7	U
2,6-Dinitrotoluene	606-20-2	NE	NE	0.36	1.5	0.29 / 1.7	U
2-Chloronaphthalene	91-58-7	NE	NE	4800	60000	1.7	U
2-Chlorophenol	95-57-8	NE	NE	390	5800	1.7	U
2-Methylnaphthalene	91-57-6	NE	NE	240	3000	2	U
2-Methylphenol	95-48-7	NE	NE	3200	41000	1.7	U
2-Nitroaniline	88-74-4	NE	NE	630	8000	1.7	U
2-Nitrophenol	88-75-5	NE	NE	NE	NE	3.6	U
3,3'-Dichlorobenzidine	91-94-1	NE	NE	1.2	5.1	0.44 / 1.7	U
3-Methylphenol/4-Methylphenol	108-39-4/106-44-5	NE	NE	NE	NE	2.4	U
3-Nitroaniline	99-09-2	NE	NE	NE	NE	1.7	U
4,6-Dinitro-o-cresol	534-52-1	NE	NE	5.1	66	4.3	U
4-Bromophenyl phenyl ether	101-55-3	NE	NE	NE	NE	1.7	U
4-Chloroaniline	106-47-8	NE	NE	2.7	11	1.7	U
4-Chlorophenyl phenyl ether	7005-72-3	NE	NE	NE	NE	1.7	U
4-Nitroaniline	100-01-6	NE	NE	27	110	1.7	U
4-Nitrophenol	100-02-7	NE	NE	NE	NE	2.3	U
Acenaphthene	83-32-9	NE	NE	3600	45000	1.3	U
Acenaphthylene	208-96-8	NE	NE	NE	NE	1.3	U
Aniline	62-53-3	NE	NE	95	400	2	U
Anthracene	120-12-7	NE	NE	18000	230000	1	U
Azobenzene	103-33-3	NE	NE	5.6	26	1.7	U
B(a)P-TEQ	50-32-8	0.07	1.54	0.11	2.1	0.336435	U
Benzidine	92-87-5	NE	NE	0.00053	0.01	1.8 / 5.5	U
Benzo(a)anthracene	56-55-3	NE	NE	1.1	21	1	U
Benzo(a)pyrene	50-32-8	0.07	1.54	0.11	2.1	0.41 / 1.3	U
Benzo(b)fluoranthene	205-99-2	NE	NE	1.1	21	1	U
Benzo(ghi)perylene	191-24-2	NE	NE	NE	NE	1.3	U
Benzo(k)fluoranthene	207-08-9	NE	NE	11	210	1	U
Benzoic Acid	65-85-0	NE	NE	250000	3300000	5.4	U

Table C-17
Sludge SEMI VOLATILE ORGANIC COMPOUNDS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-25	
Sample Date	CAS#					7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)		
Benzyl Alcohol	100-51-6	NE	NE	6300	82000	1.7	U
Biphenyl	92-52-4	NE	NE	47	200	3.8	U
Bis(2-chloroethoxy)methane	111-91-1	NE	NE	190	2500	1.8	U
Bis(2-chloroethyl)ether	111-44-4	NE	NE	0.23	1	0.23 / 1.5	U
Bis(2-chloroisopropyl)ether	108-60-1	2804	36274	3100	47000	2	U
Bis(2-ethylhexyl)phthalate	117-81-7	20	120	39	160	1.7	U
Butyl benzyl phthalate	85-68-7	NE	NE	290	1200	1.7	U
Carbazole	86-74-8	NE	NE	NE	NE	1.7	U
Chrysene	218-01-9	NE	NE	110	2100	1	U
Dibenzo(a,h)anthracene	53-70-3	NE	NE	0.11	2.1	0.19 / 1	U
Dibenzofuran	132-64-9	NE	NE	73	1000	1.7	U
Diethyl phthalate	84-66-2	NE	NE	51000	660000	1.7	U
Dimethyl phthalate	131-11-3	NE	NE	NE	NE	1.7	U
Di-n-butylphthalate	84-74-2	NE	NE	6300	82000	1.7	U
Di-n-octylphthalate	117-84-0	NE	NE	630	8200	1.7	U
Fluoranthene	206-44-0	2301	26371	2400	30000	1	U
Fluorene	86-73-7	2301	26371	2400	30000	1.7	U
Hexachlorobenzene	118-74-1	0.13	0.69	0.21	0.96	*0.19 / 1*	U
Hexachlorobutadiene	87-68-3	NE	NE	1.2	5.3	0.24 / 1.7	U
Hexachlorocyclopentadiene	77-47-4	NE	NE	1.8	7.5	1.5 / 4.8	U
Hexachloroethane	67-72-1	NE	NE	1.8	8	1.3	U
Indeno(1,2,3-cd)pyrene	193-39-5	NE	NE	1.1	21	0.23 / 1.3	U
Isophorone	78-59-1	NE	NE	570	2400	1.5	U
Naphthalene	91-20-3	2.7	16	3.8	17	1.7	U
NDPA/DPA	86-30-6	NE	NE	110	470	1.3	U
Nitrobenzene	98-95-3	NE	NE	5.1	22	1.5	U
n-Nitrosodimethylamine	62-75-9	NE	NE	0.002	0.034	0.32 / 3.3	U
n-Nitrosodi-n-propylamine	621-64-7	NE	NE	0.078	0.33	0.26 / 1.7	U
p-Chloro-m-cresol	59-50-7	NE	NE	6300	82000	1.7	U
Pentachlorophenol	87-86-5	0.48	2.9	1	4	0.37 / 1.3	U
Phenanthrene	85-01-8	NE	NE	NE	NE	1	U
Phenol	108-95-2	NE	NE	19000	250000	1.7	U
Pyrene	129-00-0	NE	NE	1800	23000	1	U
Pyridine	110-86-1	NE	NE	78	1200	1.8	U

Key:
VSS - Vermont Soil Standards, Appendix A Soil Standardsof Investigation and Remediation of Contaminated Properties Rule, July 6, 2019.
EPA RSL - United States Environmental Protection Agency Regional Screening Levels for residential and industrial properties, May 15, 2019
VSSs and RSLs om gray color font are for reference only; regulatory standards for comparison are in regular font.
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
value / value - if the reported quantitation limit exceeds the applicable regulatory standard, then the method detection limit / reporting limit are presented.
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.

Table C-18
Sludge PFAS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-25	
Sample Date	CAS#					7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)		
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	39108-34-4	NE	NE	NE	NE	0.0031	U
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	NA	NE	NE	NE	NE	0.0031	U
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	27619-97-2	NE	NE	NE	NE	**0.00202**	J
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2991-50-6	NE	NE	NE	NE	0.0031	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2355-31-9	NE	NE	NE	NE	0.0031	U
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NE	NE	1300	16000	0.0031	U
Perfluorobutanoic Acid (PFBA)	375-22-4	NE	NE	NE	NE	0.0031	U
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NE	NE	NE	NE	0.0031	U
Perfluorodecanoic Acid (PFDA)	335-76-2	NE	NE	NE	NE	0.0031	U
Perfluorododecanoic Acid (PFDoA)	307-55-1	NE	NE	NE	NE	**0.000229**	J
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NE	NE	NE	NE	0.0031	U
Perfluoroheptanoic Acid (PFHpA)	375-85-9	1.22	14.36	NE	NE	0.0031	U
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	1.22	14.36	NE	NE	0.0031	U
Perfluorohexanoic Acid (PFHxA)	307-24-4	NE	NE	NE	NE	**0.000203**	J
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NE	NE	NE	NE	0.0031	U
Perfluorononanoic Acid (PFNA)	375-95-1	1.22	14.36	NE	NE	0.0031	U
Perfluorooctanesulfonamide (FOSA)	754-91-6	NE	NE	NE	NE	0.0031	U
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	1.22	14.36	NE	NE	0.0031	U
Perfluorooctanoic Acid (PFOA)	335-67-1	1.22	14.36	NE	NE	0.0031	U
Perfluoropentanesulfonic Acid (PFPeS)	2706-91-4	NE	NE	NE	NE	0.0031	U
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NE	NE	NE	NE	0.0031	U
Perfluorotetradecanoic Acid (PFTA)	376-06-7	NE	NE	NE	NE	0.0031	U
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NE	NE	NE	NE	0.0031	U
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NE	NE	NE	NE	0.0031	U
Sum of PFHpA, PFHxA, PFNA, PFOS & PFOA		1.22	14.36	NE	NE	0.0031	U

Key:
VSS - Vermont Soil Standards, Appendix A Soil Standardsof Investigation and Remediation of Contaminated Properties Rule, July 6, 2019.
EPA RSL - United States Environmental Protection Agency Regional Screening Levels for residential and industrial properties, May 15, 2019
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
Total Regulated PFAS - Cumulative sum of PFOA, PFOS, PFHxS, PFHpA, and PFNA
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-19
Sludge POLYCHLORINATED BIPHENYLS Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-25	
Sample Date	CAS#					7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)		
Aroclor 1016	12674-11-2	NE	NE	4.1	27	0.338	U
Aroclor 1221	11104-28-2	NE	NE	0.2	0.83	0.338	U
Aroclor 1232	11141-16-5	NE	NE	0.17	0.72	0.338	U
Aroclor 1242	53469-21-9	NE	NE	0.23	0.95	0.338	U
Aroclor 1248	12672-29-6	NE	NE	0.23	0.95	0.338	U
Aroclor 1254	11097-69-1	NE	NE	0.24	0.97	0.338	U
Aroclor 1260	11096-82-5	NE	NE	0.24	0.99	0.338	U
Aroclor 1262	37324-23-5	NE	NE	NE	NE	0.338	U
Aroclor 1268	11100-14-4	NE	NE	NE	NE	0.338	U
PCBs, Total	1336-36-3	0.114	0.68	NE	NE	0.338	U

Key:
VSS - Vermont Soil Standards, Appendix A Soil Standardsof Investigation and Remediation of Contaminated Properties Rule, July 6, 2019.
EPA RSL - United States Environmental Protection Agency Regional Screening Levels for residential and industrial properties, May 15, 2019
VSSs and RSLs om gray color font are for reference only; regulatory standards for comparison are in regular font.
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.

Table C-20
Sludge Dioxins & Furans Sample Analytical Results

Sample ID		VSS - Resident	VSS Non-Resident	EPA Residential RSL	EPA Industrial RSL	IP-25	
Sample Date	CAS#					7/23/2019	Q
		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)		
1,2,3,4,6,7,8-HpCDD	35822-46-9	2,3,7,8-TCDD TEQ 0.00000225	2,3,7,8-TCDD TEQ 0.0000137	2,3,7,8-TCDD TEQ 0.0000048	2,3,7,8-TCDD TEQ 0.000022	**0.0000159**	
1,2,3,4,6,7,8-HpCDF	67562-39-4					**0.00000806**	J
1,2,3,4,7,8,9-HpCDF	55673-89-7					**0.00000711**	J
1,2,3,4,7,8-HxCDD	39227-28-6					**0.00000708**	J
1,2,3,4,7,8-HxCDF	70648-26-9					**0.0000115**	
1,2,3,6,7,8-HxCDD	57653-85-7					**0.00000813**	J
1,2,3,6,7,8-HxCDF	57117-44-9					**0.00000836**	
1,2,3,7,8,9-HxCDD	19408-74-3					**0.00000725**	J
1,2,3,7,8,9-HxCDF	72918-21-9					**0.00000882**	
1,2,3,7,8-PeCDD	40321-76-4					**0.00000688**	J
1,2,3,7,8-PeCDF	57117-41-6					**0.000018**	
2,3,4,6,7,8-HxCDF	60851-34-5					**0.00000836**	
2,3,4,7,8-PeCDF	57117-31-4					**0.0000131**	
2,3,7,8-TCDD	1746-01-6					**0.00000164**	
2,3,7,8-TCDF	51207-31-9					**0.0000355**	
OCDD	3268-87-9					**0.0000844**	
OCDF	39001-02-0					**0.0000166**	
2,3,7,8-TCDD TEQ	NA	0.00000225	0.0000137	0.0000048	0.000022	***0.000022988***	
Total HpCDD	37871-00-4	NE	NE	NE	NE	**0.0000299**	
Total HpCDF	38998-75-3	NE	NE	NE	NE	**0.00000875**	
Total HxCDD	34465-46-8	NE	NE	NE	NE	0.0000082	U
Total HxCDF	55684-94-1	NE	NE	NE	NE	**0.0000283**	
Total PCDD	NA	NE	NE	NE	NE	**0.000118**	
Total PCDF	NA	NE	NE	NE	NE	**0.000147**	
Total PeCDD	36088-22-9	NE	NE	NE	NE	0.0000082	U
Total PeCDF	30402-15-4	NE	NE	NE	NE	**0.0000306**	
Total TCDD	41903-57-5	NE	NE	NE	NE	**0.00000338**	
Total TCDF	55722-27-5	NE	NE	NE	NE	**0.0000623**	

Key:
VSS - Vermont Soil Standards, Appendix A Soil Standardsof Investigation and Remediation of Contaminated Properties Rule, July 6, 2019.
EPA RSL - United States Environmental Protection Agency Regional Screening Levels for residential and industrial properties, May 15, 2019
VSSs and RSLs om gray color font are for reference only; regulatory standards for comparison are in regular font.
mg/kg - milligrams per kilogram (parts per million)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
TEQ - Toxic Equivalence Quotient
NE - screening level not established
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Table C-21
Sludge SPLP PFAS / TOP Assay Analytical Results

Sample ID		VGES (7/6/2019)	IP25 Pre-Treatment		IP25 Post-Treatment		Difference	
Sample Date	CAS #		8/30/2019	Q	8/30/2019	Q		
		(ng/l)						
Perfluorobutanesulfonic Acid (PFBS)	375-73-5	NE	1.81	U	1.67	U	ND	U
Perfluorobutanoic Acid (PFBA)	375-22-4	NE	**20.5**		**16.5**		-4.000	
Perfluorodecanesulfonic Acid (PFDS)	335-77-3	NE	1.81	U	1.67	U	ND	U
Perfluorodecanoic Acid (PFDA)	335-76-2	NE	**0.79**	J	1.67	U	-0.790	J
Perfluorododecanoic Acid (PFDoA)	307-55-1	NE	**0.58**	J	1.67	U	-0.580	
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	NE	1.81	U	1.67	U	ND	U
Perfluoroheptanoic Acid (PFHpA)	375-85-9	20	**1.05**	J	**4.5**		3.450	
Perfluorohexanesulfonic Acid (PFHxS)	355-46-4	20	1.81	U	1.67	U	ND	U
Perfluorohexanoic Acid (PFHxA)	307-24-4	NE	**5.34**		**8.76**		3.420	
Perfluorononanesulfonic Acid (PFNS)	68259-12-1	NE	1.81	U	1.67	U	ND	U
Perfluorononanoic Acid (PFNA)	375-95-1	20	**0.688**	J	**0.38**	J	-0.308	J
Perfluorooctanesulfonic Acid (PFOS)	1763-23-1	20	1.81	U	**0.857**	J	0.857	J
Perfluorooctanoic Acid (PFOA)	335-67-1	20	**3.05**		**2.61**		-0.440	
Perfluoropentanesulfonic Acid (PFPeS)	2706-91-4	NE	1.81	U	1.67	U	ND	U
Perfluoropentanoic Acid (PFPeA)	2706-90-3	NE	**0.717**	J	**9.83**		9.113	
Perfluorotetradecanoic Acid (PFTA)	376-06-7	NE	1.81	U	1.67	U	ND	U
Perfluorotridecanoic Acid (PFTrDA)	72629-94-8	NE	1.81	U	1.67	U	ND	U
Perfluoroundecanoic Acid (PFUnA)	2058-94-8	NE	1.81	U	1.67	U	ND	U
Sum of PFHpA, PFHxA, PFNA, PFOS & PFOA	Total Regulated PFAS	20	**4.788**		**8.347**		3.559	

Key:
VGES - Vermont Groundwater Enforcement Standard (7/6/2019)
ng/L - nanograms per liter (parts per trillon)
Bold results indicate detections of the analyte
Shaded results indicate an exceedence of the enforcement standard(s)
Total Regulated PFAS - Cumulative sum of PFOA, PFOS, PFHxS, PFHpA, and PFNA
NE - screening level not established
SPLP - Synthetic Precipiation Leaching Procedure
TOP Assay - Total Oxidizable Precursor Assay
ND - Analyte was not detected above laboratory reporting in Pre-Treatment or Post-Treatment samples
Q - Qualifier
U - Analyte was not detected and is reported as less than the reported quantitation limit.
J - Analyte was detected between the method detection limit and the quantitation limit. Value provided is estimated

Appendix D: Laboratory Results

ANALYTICAL REPORT

Lab Number:	L1932777
Client:	Stone Environmental 535 Stone Cutters Way Montpelier, VT 05602
ATTN:	Lee Rosberg
Phone:	(802) 229-1875
Project Name:	LONG FALLS PAPERBOARD
Project Number:	19-015
Report Date:	09/04/19

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Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1932777-01	IP-12-7.5	SOIL	BRATTLEBORO, VT	07/22/19 16:00	07/24/19
L1932777-02	IP-12-11.0	SOIL	BRATTLEBORO, VT	07/22/19 16:05	07/24/19
L1932777-03	IP-13-7.5	SOIL	BRATTLEBORO, VT	07/23/19 07:45	07/24/19
L1932777-04	IP-13-10.5	SOIL	BRATTLEBORO, VT	07/23/19 07:55	07/24/19
L1932777-05	IP-13-13.0	SOIL	BRATTLEBORO, VT	07/23/19 08:05	07/24/19
L1932777-06	IP-15-8.0	SOIL	BRATTLEBORO, VT	07/23/19 09:55	07/24/19
L1932777-07	IP-15-8.0-FD	SOIL	BRATTLEBORO, VT	07/23/19 09:55	07/24/19
L1932777-08	IP-15-7.0	SOIL	BRATTLEBORO, VT	07/23/19 10:12	07/24/19
L1932777-09	IP-15-7.0-FD	SOIL	BRATTLEBORO, VT	07/23/19 10:12	07/24/19
L1932777-10	IP-15-6.0	SOIL	BRATTLEBORO, VT	07/23/19 10:21	07/24/19
L1932777-11	IP-15-6.0-FD	SOIL	BRATTLEBORO, VT	07/23/19 10:21	07/24/19
L1932777-12	IP-14-0.5	SOIL	BRATTLEBORO, VT	07/23/19 10:20	07/24/19
L1932777-13	IP-25	SOIL	BRATTLEBORO, VT	07/23/19 15:30	07/24/19
L1932777-14	SHALLOW WELL	WATER	BRATTLEBORO, VT	07/23/19 16:55	07/24/19
L1932777-15	DEEP WELL	WATER	BRATTLEBORO, VT	07/23/19 17:15	07/24/19
L1932777-16	DU1-A	SOIL	BRATTLEBORO, VT	07/24/19 10:35	07/24/19
L1932777-17	DU1-B	SOIL	BRATTLEBORO, VT	07/24/19 10:40	07/24/19
L1932777-18	DU1-C	SOIL	BRATTLEBORO, VT	07/24/19 10:45	07/24/19
L1932777-19	DU2-A	SOIL	BRATTLEBORO, VT	07/24/19 13:39	07/24/19
L1932777-20	DU2-B	SOIL	BRATTLEBORO, VT	07/24/19 13:52	07/24/19
L1932777-21	DU2-C	SOIL	BRATTLEBORO, VT	07/24/19 13:41	07/24/19
L1932777-22	TRIP BLANK	WATER	BRATTLEBORO, VT	07/24/19 00:00	07/24/19

Project Name:	LONG FALLS PAPERBOARD	**Lab Number:**	L1932777
Project Number:	19-015	**Report Date:**	09/04/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	LONG FALLS PAPERBOARD	**Lab Number:**	L1932777
Project Number:	19-015	**Report Date:**	09/04/19

Case Narrative (continued)

Report Revision

September 04, 2019: All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L1932777-22: A Trip Blank was received in the laboratory, but not listed on the Chain of Custody, and was not analyzed.

Semivolatile Organics

L1932777-13: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

The WG1265524-2/-3 LCS/LCSD recoveries, associated with L1932777-14 and -15, are below the acceptance criteria for benzidine (5%/0%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

Perfluorinated Alkyl Acids by Isotope Dilution

L1932777-02: The reporting limit was elevated for FOSA due to low recovery of the extracted internal standard M8FOSA. The low recovery was attributed to the sample matrix.

L1932777-02 and -13: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

The WG1268635-2/-3 LCS/LCSD RPDs, associated with L1932777-14 and -15, are above the acceptance criteria for perfluoroheptanesulfonic acid (pfhps) (39%), perfluorooctanesulfonic acid (pfos) (38%), perfluorononanesulfonic acid (pfns) (42%) and perfluorodecanesulfonic acid (pfds) (33%).

The WG1269730-2 LCS recovery, associated with L1932777-02 ,-05, and -13, is below the acceptance criteria for perfluorooctanesulfonamide (fosa) (64%); however, it has been identified as a "difficult" analyte and acceptable recoveries were achieved in the LCSD and MS. The results of the associated samples are reported.

The WG1269730-2/-3 LCS/LCSD RPD, associated with L1932777-02, -05, and -13, is above the acceptance

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777
Project Number: 19-015 **Report Date:** 09/04/19

Case Narrative (continued)

criteria for perfluorooctanesulfonamide (fosa) (58%).

PCBs

L1932777-13: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

Total Metals

L1932777-01, -03, -10, -11, -12, and -13: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

Cyanide, Total

The WG1264276-2 LCS recovery (68%), associated with L1932777-01, -03, -10, -11, -12, and -13, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

The WG1264276-2/-3 LCS/LCSD RPD (37%), associated with L1932777-01, -03, -10, -11, -12, and -13, is above the acceptance criteria.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 09/04/19

ORGANICS

VOLATILES

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-01
Client ID: IP-12-7.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/22/19 16:00
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/19 10:48
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	1.8	1
1,1-Dichloroethane	ND		ug/kg	0.76	0.11	1
Chloroform	ND		ug/kg	1.1	0.11	1
Carbon tetrachloride	ND		ug/kg	0.76	0.18	1
1,2-Dichloropropane	ND		ug/kg	0.76	0.10	1
Dibromochloromethane	ND		ug/kg	0.76	0.11	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	0.20	1
Tetrachloroethene	ND		ug/kg	0.38	0.15	1
Chlorobenzene	ND		ug/kg	0.38	0.10	1
Trichlorofluoromethane	ND		ug/kg	3.1	0.53	1
1,2-Dichloroethane	ND		ug/kg	0.76	0.20	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	0.13	1
Bromodichloromethane	ND		ug/kg	0.38	0.08	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	0.21	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	0.12	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	0.12	1
1,1-Dichloropropene	ND		ug/kg	0.38	0.12	1
Bromoform	ND		ug/kg	3.1	0.19	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	0.13	1
Benzene	ND		ug/kg	0.38	0.13	1
Toluene	ND		ug/kg	0.76	0.42	1
Ethylbenzene	ND		ug/kg	0.76	0.11	1
Chloromethane	ND		ug/kg	3.1	0.71	1
Bromomethane	ND		ug/kg	1.5	0.44	1
Vinyl chloride	ND		ug/kg	0.76	0.26	1
Chloroethane	ND		ug/kg	1.5	0.34	1
1,1-Dichloroethene	ND		ug/kg	0.76	0.18	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	0.10	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-01 Date Collected: 07/22/19 16:00

Client ID: IP-12-7.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	0.10	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	0.11	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	0.11	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	0.13	1
Methyl tert butyl ether	ND		ug/kg	1.5	0.15	1
p/m-Xylene	ND		ug/kg	1.5	0.43	1
o-Xylene	ND		ug/kg	0.76	0.22	1
Xylenes, Total	ND		ug/kg	0.76	0.22	1
cis-1,2-Dichloroethene	ND		ug/kg	0.76	0.13	1
1,2-Dichloroethene, Total	ND		ug/kg	0.76	0.10	1
Dibromomethane	ND		ug/kg	1.5	0.18	1
1,4-Dichlorobutane	ND		ug/kg	7.6	0.17	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	0.10	1
Styrene	ND		ug/kg	0.76	0.15	1
Dichlorodifluoromethane	ND		ug/kg	7.6	0.70	1
Acetone	5.0	J	ug/kg	7.6	3.7	1
Carbon disulfide	ND		ug/kg	7.6	3.5	1
2-Butanone	ND		ug/kg	7.6	1.7	1
Vinyl acetate	ND		ug/kg	7.6	1.6	1
4-Methyl-2-pentanone	ND		ug/kg	7.6	0.98	1
2-Hexanone	ND		ug/kg	7.6	0.90	1
Ethyl methacrylate	ND		ug/kg	7.6	1.2	1
Acrylonitrile	ND		ug/kg	3.1	0.88	1
Bromochloromethane	ND		ug/kg	1.5	0.16	1
Tetrahydrofuran	ND		ug/kg	3.1	1.2	1
2,2-Dichloropropane	ND		ug/kg	1.5	0.15	1
1,2-Dibromoethane	ND		ug/kg	0.76	0.21	1
1,3-Dichloropropane	ND		ug/kg	1.5	0.13	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	0.10	1
Bromobenzene	ND		ug/kg	1.5	0.11	1
n-Butylbenzene	ND		ug/kg	0.76	0.13	1
sec-Butylbenzene	ND		ug/kg	0.76	0.11	1
tert-Butylbenzene	ND		ug/kg	1.5	0.09	1
o-Chlorotoluene	ND		ug/kg	1.5	0.15	1
p-Chlorotoluene	ND		ug/kg	1.5	0.08	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	0.76	1
Hexachlorobutadiene	ND		ug/kg	3.1	0.13	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-01 Date Collected: 07/22/19 16:00

Client ID: IP-12-7.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	0.76	0.08	1
p-Isopropyltoluene	ND		ug/kg	0.76	0.08	1
Naphthalene	ND		ug/kg	3.1	0.50	1
n-Propylbenzene	ND		ug/kg	0.76	0.13	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	0.25	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	0.21	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	0.15	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	0.26	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	3.8	1.1	1
Ethyl ether	ND		ug/kg	1.5	0.26	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	103		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-03
Client ID: IP-13-7.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 07:45
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/19 11:14
Analyst: MKS
Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.4	2.5	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.1	0.25	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.29	1
Tetrachloroethene	ND		ug/kg	0.54	0.21	1
Chlorobenzene	ND		ug/kg	0.54	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.3	0.75	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.28	1
1,1,1-Trichloroethane	ND		ug/kg	0.54	0.18	1
Bromodichloromethane	ND		ug/kg	0.54	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.30	1
cis-1,3-Dichloropropene	ND		ug/kg	0.54	0.17	1
1,3-Dichloropropene, Total	ND		ug/kg	0.54	0.17	1
1,1-Dichloropropene	ND		ug/kg	0.54	0.17	1
Bromoform	ND		ug/kg	4.3	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.54	0.18	1
Benzene	ND		ug/kg	0.54	0.18	1
Toluene	0.59	J	ug/kg	1.1	0.59	1
Ethylbenzene	ND		ug/kg	1.1	0.15	1
Chloromethane	ND		ug/kg	4.3	1.0	1
Bromomethane	ND		ug/kg	2.2	0.63	1
Vinyl chloride	ND		ug/kg	1.1	0.36	1
Chloroethane	ND		ug/kg	2.2	0.49	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.26	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.15	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-03 Date Collected: 07/23/19 07:45

Client ID: IP-13-7.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.54	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	0.16	1
1,3-Dichlorobenzene	ND		ug/kg	2.2	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	0.18	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.22	1
p/m-Xylene	ND		ug/kg	2.2	0.61	1
o-Xylene	ND		ug/kg	1.1	0.32	1
Xylenes, Total	ND		ug/kg	1.1	0.32	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	0.15	1
Dibromomethane	ND		ug/kg	2.2	0.26	1
1,4-Dichlorobutane	ND		ug/kg	11	0.24	1
1,2,3-Trichloropropane	ND		ug/kg	2.2	0.14	1
Styrene	ND		ug/kg	1.1	0.21	1
Dichlorodifluoromethane	ND		ug/kg	11	0.99	1
Acetone	ND		ug/kg	11	5.2	1
Carbon disulfide	ND		ug/kg	11	4.9	1
2-Butanone	ND		ug/kg	11	2.4	1
Vinyl acetate	ND		ug/kg	11	2.3	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Ethyl methacrylate	ND		ug/kg	11	1.7	1
Acrylonitrile	ND		ug/kg	4.3	1.2	1
Bromochloromethane	ND		ug/kg	2.2	0.22	1
Tetrahydrofuran	ND		ug/kg	4.3	1.7	1
2,2-Dichloropropane	ND		ug/kg	2.2	0.22	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.30	1
1,3-Dichloropropane	ND		ug/kg	2.2	0.18	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.54	0.14	1
Bromobenzene	ND		ug/kg	2.2	0.16	1
n-Butylbenzene	ND		ug/kg	1.1	0.18	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
tert-Butylbenzene	ND		ug/kg	2.2	0.13	1
o-Chlorotoluene	ND		ug/kg	2.2	0.21	1
p-Chlorotoluene	ND		ug/kg	2.2	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	1.1	1
Hexachlorobutadiene	ND		ug/kg	4.3	0.18	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-03 Date Collected: 07/23/19 07:45

Client ID: IP-13-7.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
Naphthalene	ND		ug/kg	4.3	0.70	1
n-Propylbenzene	ND		ug/kg	1.1	0.18	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	0.35	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	0.29	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	0.21	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	0.36	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.4	1.5	1
Ethyl ether	ND		ug/kg	2.2	0.37	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	109		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-06
Client ID: IP-15-8.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 09:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/19 11:39
Analyst: MKS
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.3	2.0	1
1,1-Dichloroethane	ND		ug/kg	0.86	0.12	1
Chloroform	ND		ug/kg	1.3	0.12	1
Carbon tetrachloride	ND		ug/kg	0.86	0.20	1
1,2-Dichloropropane	ND		ug/kg	0.86	0.11	1
Dibromochloromethane	ND		ug/kg	0.86	0.12	1
1,1,2-Trichloroethane	ND		ug/kg	0.86	0.23	1
Tetrachloroethene	ND		ug/kg	0.43	0.17	1
Chlorobenzene	ND		ug/kg	0.43	0.11	1
Trichlorofluoromethane	ND		ug/kg	3.4	0.60	1
1,2-Dichloroethane	ND		ug/kg	0.86	0.22	1
1,1,1-Trichloroethane	ND		ug/kg	0.43	0.14	1
Bromodichloromethane	ND		ug/kg	0.43	0.09	1
trans-1,3-Dichloropropene	ND		ug/kg	0.86	0.23	1
cis-1,3-Dichloropropene	ND		ug/kg	0.43	0.14	1
1,3-Dichloropropene, Total	ND		ug/kg	0.43	0.14	1
1,1-Dichloropropene	ND		ug/kg	0.43	0.14	1
Bromoform	ND		ug/kg	3.4	0.21	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.43	0.14	1
Benzene	ND		ug/kg	0.43	0.14	1
Toluene	0.50	J	ug/kg	0.86	0.47	1
Ethylbenzene	ND		ug/kg	0.86	0.12	1
Chloromethane	ND		ug/kg	3.4	0.80	1
Bromomethane	ND		ug/kg	1.7	0.50	1
Vinyl chloride	ND		ug/kg	0.86	0.29	1
Chloroethane	ND		ug/kg	1.7	0.39	1
1,1-Dichloroethene	ND		ug/kg	0.86	0.20	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	0.12	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-06 Date Collected: 07/23/19 09:55

Client ID: IP-15-8.0 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.43	0.12	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	0.12	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	0.13	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	0.15	1
Methyl tert butyl ether	ND		ug/kg	1.7	0.17	1
p/m-Xylene	ND		ug/kg	1.7	0.48	1
o-Xylene	ND		ug/kg	0.86	0.25	1
Xylenes, Total	ND		ug/kg	0.86	0.25	1
cis-1,2-Dichloroethene	ND		ug/kg	0.86	0.15	1
1,2-Dichloroethene, Total	ND		ug/kg	0.86	0.12	1
Dibromomethane	ND		ug/kg	1.7	0.20	1
1,4-Dichlorobutane	ND		ug/kg	8.6	0.19	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	0.11	1
Styrene	ND		ug/kg	0.86	0.17	1
Dichlorodifluoromethane	ND		ug/kg	8.6	0.79	1
Acetone	14		ug/kg	8.6	4.1	1
Carbon disulfide	ND		ug/kg	8.6	3.9	1
2-Butanone	ND		ug/kg	8.6	1.9	1
Vinyl acetate	ND		ug/kg	8.6	1.8	1
4-Methyl-2-pentanone	ND		ug/kg	8.6	1.1	1
2-Hexanone	ND		ug/kg	8.6	1.0	1
Ethyl methacrylate	ND		ug/kg	8.6	1.4	1
Acrylonitrile	ND		ug/kg	3.4	0.99	1
Bromochloromethane	ND		ug/kg	1.7	0.18	1
Tetrahydrofuran	ND		ug/kg	3.4	1.4	1
2,2-Dichloropropane	ND		ug/kg	1.7	0.17	1
1,2-Dibromoethane	ND		ug/kg	0.86	0.24	1
1,3-Dichloropropane	ND		ug/kg	1.7	0.14	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.43	0.11	1
Bromobenzene	ND		ug/kg	1.7	0.12	1
n-Butylbenzene	ND		ug/kg	0.86	0.14	1
sec-Butylbenzene	ND		ug/kg	0.86	0.12	1
tert-Butylbenzene	ND		ug/kg	1.7	0.10	1
o-Chlorotoluene	ND		ug/kg	1.7	0.16	1
p-Chlorotoluene	ND		ug/kg	1.7	0.09	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.6	0.86	1
Hexachlorobutadiene	ND		ug/kg	3.4	0.14	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-06 Date Collected: 07/23/19 09:55

Client ID: IP-15-8.0 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	0.86	0.09	1
p-Isopropyltoluene	ND		ug/kg	0.86	0.09	1
Naphthalene	ND		ug/kg	3.4	0.56	1
n-Propylbenzene	ND		ug/kg	0.86	0.15	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.7	0.28	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	0.23	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	0.17	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	0.29	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	4.3	1.2	1
Ethyl ether	ND		ug/kg	1.7	0.29	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	106		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-07
Client ID: IP-15-8.0-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 09:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/19 12:05
Analyst: MKS
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.4	2.0	1
1,1-Dichloroethane	ND		ug/kg	0.88	0.13	1
Chloroform	ND		ug/kg	1.3	0.12	1
Carbon tetrachloride	ND		ug/kg	0.88	0.20	1
1,2-Dichloropropane	ND		ug/kg	0.88	0.11	1
Dibromochloromethane	ND		ug/kg	0.88	0.12	1
1,1,2-Trichloroethane	ND		ug/kg	0.88	0.24	1
Tetrachloroethene	ND		ug/kg	0.44	0.17	1
Chlorobenzene	ND		ug/kg	0.44	0.11	1
Trichlorofluoromethane	ND		ug/kg	3.5	0.61	1
1,2-Dichloroethane	ND		ug/kg	0.88	0.23	1
1,1,1-Trichloroethane	ND		ug/kg	0.44	0.15	1
Bromodichloromethane	ND		ug/kg	0.44	0.10	1
trans-1,3-Dichloropropene	ND		ug/kg	0.88	0.24	1
cis-1,3-Dichloropropene	ND		ug/kg	0.44	0.14	1
1,3-Dichloropropene, Total	ND		ug/kg	0.44	0.14	1
1,1-Dichloropropene	ND		ug/kg	0.44	0.14	1
Bromoform	ND		ug/kg	3.5	0.22	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.44	0.15	1
Benzene	ND		ug/kg	0.44	0.15	1
Toluene	0.56	J	ug/kg	0.88	0.48	1
Ethylbenzene	ND		ug/kg	0.88	0.12	1
Chloromethane	ND		ug/kg	3.5	0.82	1
Bromomethane	ND		ug/kg	1.8	0.51	1
Vinyl chloride	ND		ug/kg	0.88	0.30	1
Chloroethane	ND		ug/kg	1.8	0.40	1
1,1-Dichloroethene	ND		ug/kg	0.88	0.21	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	0.12	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-07 Date Collected: 07/23/19 09:55

Client ID: IP-15-8.0-FD Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.44	0.12	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	0.13	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	0.13	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	0.15	1
Methyl tert butyl ether	ND		ug/kg	1.8	0.18	1
p/m-Xylene	ND		ug/kg	1.8	0.49	1
o-Xylene	ND		ug/kg	0.88	0.26	1
Xylenes, Total	ND		ug/kg	0.88	0.26	1
cis-1,2-Dichloroethene	ND		ug/kg	0.88	0.15	1
1,2-Dichloroethene, Total	ND		ug/kg	0.88	0.12	1
Dibromomethane	ND		ug/kg	1.8	0.21	1
1,4-Dichlorobutane	ND		ug/kg	8.8	0.20	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	0.11	1
Styrene	ND		ug/kg	0.88	0.17	1
Dichlorodifluoromethane	ND		ug/kg	8.8	0.81	1
Acetone	ND		ug/kg	8.8	4.2	1
Carbon disulfide	ND		ug/kg	8.8	4.0	1
2-Butanone	ND		ug/kg	8.8	2.0	1
Vinyl acetate	ND		ug/kg	8.8	1.9	1
4-Methyl-2-pentanone	ND		ug/kg	8.8	1.1	1
2-Hexanone	ND		ug/kg	8.8	1.0	1
Ethyl methacrylate	ND		ug/kg	8.8	1.4	1
Acrylonitrile	ND		ug/kg	3.5	1.0	1
Bromochloromethane	ND		ug/kg	1.8	0.18	1
Tetrahydrofuran	ND		ug/kg	3.5	1.4	1
2,2-Dichloropropane	ND		ug/kg	1.8	0.18	1
1,2-Dibromoethane	ND		ug/kg	0.88	0.24	1
1,3-Dichloropropane	ND		ug/kg	1.8	0.15	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.44	0.12	1
Bromobenzene	ND		ug/kg	1.8	0.13	1
n-Butylbenzene	ND		ug/kg	0.88	0.15	1
sec-Butylbenzene	ND		ug/kg	0.88	0.13	1
tert-Butylbenzene	ND		ug/kg	1.8	0.10	1
o-Chlorotoluene	ND		ug/kg	1.8	0.17	1
p-Chlorotoluene	ND		ug/kg	1.8	0.10	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.6	0.88	1
Hexachlorobutadiene	ND		ug/kg	3.5	0.15	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-07 Date Collected: 07/23/19 09:55

Client ID: IP-15-8.0-FD Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	0.88	0.10	1
p-Isopropyltoluene	ND		ug/kg	0.88	0.10	1
Naphthalene	ND		ug/kg	3.5	0.57	1
n-Propylbenzene	ND		ug/kg	0.88	0.15	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	0.28	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	0.24	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	0.17	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	0.29	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	4.4	1.2	1
Ethyl ether	ND		ug/kg	1.8	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	104		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-12
Client ID: IP-14-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:20
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/19 12:31
Analyst: MKS
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.3	2.0	1
1,1-Dichloroethane	ND		ug/kg	0.87	0.12	1
Chloroform	ND		ug/kg	1.3	0.12	1
Carbon tetrachloride	ND		ug/kg	0.87	0.20	1
1,2-Dichloropropane	ND		ug/kg	0.87	0.11	1
Dibromochloromethane	ND		ug/kg	0.87	0.12	1
1,1,2-Trichloroethane	ND		ug/kg	0.87	0.23	1
Tetrachloroethene	ND		ug/kg	0.43	0.17	1
Chlorobenzene	ND		ug/kg	0.43	0.11	1
Trichlorofluoromethane	ND		ug/kg	3.5	0.60	1
1,2-Dichloroethane	ND		ug/kg	0.87	0.22	1
1,1,1-Trichloroethane	ND		ug/kg	0.43	0.14	1
Bromodichloromethane	ND		ug/kg	0.43	0.09	1
trans-1,3-Dichloropropene	ND		ug/kg	0.87	0.24	1
cis-1,3-Dichloropropene	ND		ug/kg	0.43	0.14	1
1,3-Dichloropropene, Total	ND		ug/kg	0.43	0.14	1
1,1-Dichloropropene	ND		ug/kg	0.43	0.14	1
Bromoform	ND		ug/kg	3.5	0.21	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.43	0.14	1
Benzene	ND		ug/kg	0.43	0.14	1
Toluene	ND		ug/kg	0.87	0.47	1
Ethylbenzene	ND		ug/kg	0.87	0.12	1
Chloromethane	ND		ug/kg	3.5	0.81	1
Bromomethane	ND		ug/kg	1.7	0.50	1
Vinyl chloride	ND		ug/kg	0.87	0.29	1
Chloroethane	ND		ug/kg	1.7	0.39	1
1,1-Dichloroethene	ND		ug/kg	0.87	0.21	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	0.12	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-12 Date Collected: 07/23/19 10:20

Client ID: IP-14-0.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.43	0.12	1
1,2-Dichlorobenzene	ND		ug/kg	1.7	0.12	1
1,3-Dichlorobenzene	ND		ug/kg	1.7	0.13	1
1,4-Dichlorobenzene	ND		ug/kg	1.7	0.15	1
Methyl tert butyl ether	ND		ug/kg	1.7	0.17	1
p/m-Xylene	ND		ug/kg	1.7	0.48	1
o-Xylene	ND		ug/kg	0.87	0.25	1
Xylenes, Total	ND		ug/kg	0.87	0.25	1
cis-1,2-Dichloroethene	ND		ug/kg	0.87	0.15	1
1,2-Dichloroethene, Total	ND		ug/kg	0.87	0.12	1
Dibromomethane	ND		ug/kg	1.7	0.21	1
1,4-Dichlorobutane	ND		ug/kg	8.7	0.20	1
1,2,3-Trichloropropane	ND		ug/kg	1.7	0.11	1
Styrene	ND		ug/kg	0.87	0.17	1
Dichlorodifluoromethane	ND		ug/kg	8.7	0.79	1
Acetone	6.9	J	ug/kg	8.7	4.2	1
Carbon disulfide	ND		ug/kg	8.7	3.9	1
2-Butanone	ND		ug/kg	8.7	1.9	1
Vinyl acetate	ND		ug/kg	8.7	1.9	1
4-Methyl-2-pentanone	ND		ug/kg	8.7	1.1	1
2-Hexanone	ND		ug/kg	8.7	1.0	1
Ethyl methacrylate	ND		ug/kg	8.7	1.4	1
Acrylonitrile	ND		ug/kg	3.5	1.0	1
Bromochloromethane	ND		ug/kg	1.7	0.18	1
Tetrahydrofuran	ND		ug/kg	3.5	1.4	1
2,2-Dichloropropane	ND		ug/kg	1.7	0.18	1
1,2-Dibromoethane	ND		ug/kg	0.87	0.24	1
1,3-Dichloropropane	ND		ug/kg	1.7	0.14	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.43	0.11	1
Bromobenzene	ND		ug/kg	1.7	0.12	1
n-Butylbenzene	ND		ug/kg	0.87	0.14	1
sec-Butylbenzene	ND		ug/kg	0.87	0.13	1
tert-Butylbenzene	ND		ug/kg	1.7	0.10	1
o-Chlorotoluene	ND		ug/kg	1.7	0.16	1
p-Chlorotoluene	ND		ug/kg	1.7	0.09	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.6	0.86	1
Hexachlorobutadiene	ND		ug/kg	3.5	0.15	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-12 Date Collected: 07/23/19 10:20

Client ID: IP-14-0.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	0.87	0.09	1
p-Isopropyltoluene	ND		ug/kg	0.87	0.09	1
Naphthalene	ND		ug/kg	3.5	0.56	1
n-Propylbenzene	ND		ug/kg	0.87	0.15	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.7	0.28	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.7	0.24	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.7	0.17	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.7	0.29	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	4.3	1.2	1
Ethyl ether	ND		ug/kg	1.7	0.30	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	107		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13
Client ID: IP-25
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 15:30
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/04/19 12:56
Analyst: MKS
Percent Solids: 29%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	21	9.5	1
1,1-Dichloroethane	ND		ug/kg	4.2	0.60	1
Chloroform	ND		ug/kg	6.2	0.58	1
Carbon tetrachloride	ND		ug/kg	4.2	0.96	1
1,2-Dichloropropane	ND		ug/kg	4.2	0.52	1
Dibromochloromethane	ND		ug/kg	4.2	0.58	1
1,1,2-Trichloroethane	ND		ug/kg	4.2	1.1	1
Tetrachloroethene	ND		ug/kg	2.1	0.82	1
Chlorobenzene	ND		ug/kg	2.1	0.53	1
Trichlorofluoromethane	ND		ug/kg	17	2.9	1
1,2-Dichloroethane	ND		ug/kg	4.2	1.1	1
1,1,1-Trichloroethane	ND		ug/kg	2.1	0.70	1
Bromodichloromethane	ND		ug/kg	2.1	0.45	1
trans-1,3-Dichloropropene	ND		ug/kg	4.2	1.1	1
cis-1,3-Dichloropropene	ND		ug/kg	2.1	0.66	1
1,3-Dichloropropene, Total	ND		ug/kg	2.1	0.66	1
1,1-Dichloropropene	ND		ug/kg	2.1	0.66	1
Bromoform	ND		ug/kg	17	1.0	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	2.1	0.69	1
Benzene	ND		ug/kg	2.1	0.69	1
Toluene	ND		ug/kg	4.2	2.3	1
Ethylbenzene	ND		ug/kg	4.2	0.59	1
Chloromethane	ND		ug/kg	17	3.9	1
Bromomethane	ND		ug/kg	8.3	2.4	1
Vinyl chloride	ND		ug/kg	4.2	1.4	1
Chloroethane	ND		ug/kg	8.3	1.9	1
1,1-Dichloroethene	ND		ug/kg	4.2	0.99	1
trans-1,2-Dichloroethene	ND		ug/kg	6.2	0.57	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13 Date Collected: 07/23/19 15:30

Client ID: IP-25 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	2.1	0.57	1
1,2-Dichlorobenzene	ND		ug/kg	8.3	0.60	1
1,3-Dichlorobenzene	ND		ug/kg	8.3	0.62	1
1,4-Dichlorobenzene	ND		ug/kg	8.3	0.71	1
Methyl tert butyl ether	ND		ug/kg	8.3	0.84	1
p/m-Xylene	ND		ug/kg	8.3	2.3	1
o-Xylene	ND		ug/kg	4.2	1.2	1
Xylenes, Total	ND		ug/kg	4.2	1.2	1
cis-1,2-Dichloroethene	ND		ug/kg	4.2	0.73	1
1,2-Dichloroethene, Total	ND		ug/kg	4.2	0.57	1
Dibromomethane	ND		ug/kg	8.3	0.99	1
1,4-Dichlorobutane	2.9	J	ug/kg	42	0.94	1
1,2,3-Trichloropropane	ND		ug/kg	8.3	0.53	1
Styrene	ND		ug/kg	4.2	0.82	1
Dichlorodifluoromethane	ND		ug/kg	42	3.8	1
Acetone	93		ug/kg	42	20.	1
Carbon disulfide	ND		ug/kg	42	19.	1
2-Butanone	ND		ug/kg	42	9.2	1
Vinyl acetate	ND		ug/kg	42	9.0	1
4-Methyl-2-pentanone	ND		ug/kg	42	5.3	1
2-Hexanone	ND		ug/kg	42	4.9	1
Ethyl methacrylate	ND		ug/kg	42	6.6	1
Acrylonitrile	ND		ug/kg	17	4.8	1
Bromochloromethane	ND		ug/kg	8.3	0.85	1
Tetrahydrofuran	ND		ug/kg	17	6.6	1
2,2-Dichloropropane	ND		ug/kg	8.3	0.84	1
1,2-Dibromoethane	ND		ug/kg	4.2	1.2	1
1,3-Dichloropropane	ND		ug/kg	8.3	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	2.1	0.55	1
Bromobenzene	ND		ug/kg	8.3	0.60	1
n-Butylbenzene	ND		ug/kg	4.2	0.70	1
sec-Butylbenzene	ND		ug/kg	4.2	0.61	1
tert-Butylbenzene	ND		ug/kg	8.3	0.49	1
o-Chlorotoluene	ND		ug/kg	8.3	0.80	1
p-Chlorotoluene	ND		ug/kg	8.3	0.45	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	12	4.2	1
Hexachlorobutadiene	ND		ug/kg	17	0.70	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13 Date Collected: 07/23/19 15:30

Client ID: IP-25 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	4.2	0.45	1
p-Isopropyltoluene	ND		ug/kg	4.2	0.45	1
Naphthalene	ND		ug/kg	17	2.7	1
n-Propylbenzene	ND		ug/kg	4.2	0.71	1
1,2,3-Trichlorobenzene	ND		ug/kg	8.3	1.3	1
1,2,4-Trichlorobenzene	ND		ug/kg	8.3	1.1	1
1,3,5-Trimethylbenzene	ND		ug/kg	8.3	0.80	1
1,2,4-Trimethylbenzene	ND		ug/kg	8.3	1.4	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	21	5.9	1
Ethyl ether	ND		ug/kg	8.3	1.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	105		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14
Client ID: SHALLOW WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 16:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 08/02/19 12:20
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	0.48	J	ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	0.21	J	ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14 Date Collected: 07/23/19 16:55

Client ID: SHALLOW WELL Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	9.9		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14 Date Collected: 07/23/19 16:55

Client ID: SHALLOW WELL Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	1.8	J	ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	81		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	93		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15
Client ID: DEEP WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 17:15
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 08/02/19 12:48
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15 Date Collected: 07/23/19 17:15

Client ID: DEEP WELL Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	2.0		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15 Date Collected: 07/23/19 17:15

Client ID: DEEP WELL Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	1.1	J	ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	85		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/02/19 09:29
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 14-15 Batch: WG1268084-5					
Methylene chloride	ND		ug/l	3.0	0.68
1,1-Dichloroethane	ND		ug/l	0.75	0.21
Chloroform	ND		ug/l	0.75	0.22
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.8	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14
2-Chloroethylvinyl ether	ND		ug/l	10	0.40
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	0.50	0.18
Trichlorofluoromethane	ND		ug/l	2.5	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.24
Bromoform	ND		ug/l	2.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
Chloromethane	ND		ug/l	2.5	0.20
Bromomethane	ND		ug/l	1.0	0.26
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	1.0	0.13
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/02/19 09:29
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 14-15 Batch: WG1268084-5					
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19
Methyl tert butyl ether	ND		ug/l	1.0	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19
Dibromomethane	ND		ug/l	5.0	0.36
1,4-Dichlorobutane	ND		ug/l	5.0	0.46
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18
Styrene	ND		ug/l	1.0	0.36
Dichlorodifluoromethane	ND		ug/l	5.0	0.24
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	0.30
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	0.31
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42
2-Hexanone	ND		ug/l	5.0	0.52
Ethyl methacrylate	ND		ug/l	5.0	0.61
Acrolein	ND		ug/l	5.0	0.44
Acrylonitrile	ND		ug/l	5.0	0.43
Bromochloromethane	ND		ug/l	2.5	0.15
Tetrahydrofuran	ND		ug/l	5.0	0.52
2,2-Dichloropropane	ND		ug/l	2.5	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
1,3-Dichloropropane	ND		ug/l	2.5	0.21

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/02/19 09:29
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 14-15 Batch: WG1268084-5					
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16
Bromobenzene	ND		ug/l	2.5	0.15
n-Butylbenzene	ND		ug/l	0.50	0.19
sec-Butylbenzene	ND		ug/l	0.50	0.18
tert-Butylbenzene	ND		ug/l	2.5	0.20
o-Chlorotoluene	ND		ug/l	2.5	0.22
p-Chlorotoluene	ND		ug/l	2.5	0.18
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35
Hexachlorobutadiene	ND		ug/l	0.50	0.22
Isopropylbenzene	ND		ug/l	0.50	0.19
p-Isopropyltoluene	ND		ug/l	0.50	0.19
Naphthalene	ND		ug/l	2.5	0.22
n-Propylbenzene	ND		ug/l	0.50	0.17
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,3,5-Trichlorobenzene	ND		ug/l	2.0	0.14
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21
Halothane	ND		ug/l	2.5	0.29
Ethyl ether	ND		ug/l	2.5	0.16
Methyl Acetate	ND		ug/l	10	0.23
Ethyl Acetate	1.2	J	ug/l	10	0.72
Isopropyl Ether	ND		ug/l	2.0	0.42
Cyclohexane	ND		ug/l	10	0.27
Tert-Butyl Alcohol	ND		ug/l	10	1.4
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	0.18
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	0.28
1,4-Dioxane	ND		ug/l	250	61.

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/02/19 09:29
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 14-15 Batch: WG1268084-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	0.15
Methyl cyclohexane	ND		ug/l	10	0.40
p-Diethylbenzene	ND		ug/l	2.0	0.39
4-Ethyltoluene	ND		ug/l	2.0	0.34
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	97		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/19 10:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03,06-07,12-13 Batch: WG1268696-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
2-Chloroethylvinyl ether	ND		ug/kg	20	1.6
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
1,3-Dichloropropene, Total	ND		ug/kg	0.50	0.16
1,1-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/19 10:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03,06-07,12-13 Batch: WG1268696-5					
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.14
Dibromomethane	ND		ug/kg	2.0	0.24
1,4-Dichlorobutane	ND		ug/kg	10	0.23
1,2,3-Trichloropropane	ND		ug/kg	2.0	0.13
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
Vinyl acetate	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Ethyl methacrylate	ND		ug/kg	10	1.6
Acrolein	ND		ug/kg	25	5.6
Acrylonitrile	ND		ug/kg	4.0	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
Tetrahydrofuran	ND		ug/kg	4.0	1.6
2,2-Dichloropropane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
1,3-Dichloropropane	ND		ug/kg	2.0	0.17

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/19 10:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03,06-07,12-13 Batch: WG1268696-5					
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.13
Bromobenzene	ND		ug/kg	2.0	0.14
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,3,5-Trichlorobenzene	ND		ug/kg	2.0	0.17
o-Chlorotoluene	ND		ug/kg	2.0	0.19
p-Chlorotoluene	ND		ug/kg	2.0	0.11
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Hexachlorobutadiene	ND		ug/kg	4.0	0.17
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	1.4
Ethyl ether	ND		ug/kg	2.0	0.34
Methyl Acetate	ND		ug/kg	4.0	0.95
Ethyl Acetate	ND		ug/kg	10	1.2
Isopropyl Ether	ND		ug/kg	2.0	0.21
Cyclohexane	ND		ug/kg	10	0.54
Tert-Butyl Alcohol	ND		ug/kg	20	5.1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	0.13
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	0.18
1,4-Dioxane	ND		ug/kg	80	35.
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/04/19 10:21
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,03,06-07,12-13 Batch: WG1268696-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	4.0	0.69

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 14-15 Batch: WG1268084-3 WG1268084-4								
Methylene chloride	92		93		70-130	1		20
1,1-Dichloroethane	88		87		70-130	1		20
Chloroform	87		90		70-130	3		20
Carbon tetrachloride	84		85		63-132	1		20
1,2-Dichloropropane	88		88		70-130	0		20
Dibromochloromethane	92		93		63-130	1		20
1,1,2-Trichloroethane	100		110		70-130	10		20
2-Chloroethylvinyl ether	**48**	Q	**57**	Q	70-130	17		20
Tetrachloroethene	85		88		70-130	3		20
Chlorobenzene	90		93		75-130	3		25
Trichlorofluoromethane	79		81		62-150	3		20
1,2-Dichloroethane	85		86		70-130	1		20
1,1,1-Trichloroethane	85		85		67-130	0		20
Bromodichloromethane	88		88		67-130	0		20
trans-1,3-Dichloropropene	100		100		70-130	0		20
cis-1,3-Dichloropropene	**69**	Q	74		70-130	7		20
1,1-Dichloropropene	85		85		70-130	0		20
Bromoform	89		93		54-136	4		20
1,1,2,2-Tetrachloroethane	110		110		67-130	0		20
Benzene	94		95		70-130	1		25
Toluene	94		97		70-130	3		25
Ethylbenzene	93		97		70-130	4		20
Chloromethane	71		72		64-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 14-15 Batch: WG1268084-3 WG1268084-4								
Bromomethane	59		57		39-139	3		20
Vinyl chloride	76		76		55-140	0		20
Chloroethane	85		83		55-138	2		20
1,1-Dichloroethene	89		87		61-145	2		25
trans-1,2-Dichloroethene	89		87		70-130	2		20
Trichloroethene	93		88		70-130	6		25
1,2-Dichlorobenzene	90		91		70-130	1		20
1,3-Dichlorobenzene	90		94		70-130	4		20
1,4-Dichlorobenzene	90		94		70-130	4		20
Methyl tert butyl ether	99		100		63-130	1		20
p/m-Xylene	95		95		70-130	0		20
o-Xylene	90		95		70-130	5		20
cis-1,2-Dichloroethene	92		91		70-130	1		20
Dibromomethane	87		87		70-130	0		20
1,4-Dichlorobutane	100		100		70-130	0		20
1,2,3-Trichloropropane	100		100		64-130	0		20
Styrene	90		95		70-130	5		20
Dichlorodifluoromethane	63		63		36-147	0		20
Acetone	100		110		58-148	10		20
Carbon disulfide	90		90		51-130	0		20
2-Butanone	95		100		63-138	5		20
Vinyl acetate	93		93		70-130	0		20
4-Methyl-2-pentanone	110		110		59-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 14-15 Batch: WG1268084-3 WG1268084-4								
2-Hexanone	100		100		57-130	0		20
Ethyl methacrylate	100		100		70-130	0		20
Acrolein	120		120		70-130	0		20
Acrylonitrile	100		100		70-130	0		20
Bromochloromethane	87		85		70-130	2		20
Tetrahydrofuran	93		91		58-130	2		20
2,2-Dichloropropane	94		94		63-133	0		20
1,2-Dibromoethane	95		97		70-130	2		20
1,3-Dichloropropane	100		100		70-130	0		20
1,1,1,2-Tetrachloroethane	89		90		64-130	1		20
Bromobenzene	90		91		70-130	1		20
n-Butylbenzene	95		100		53-136	5		20
sec-Butylbenzene	**60**	Q	**64**	Q	70-130	6		20
tert-Butylbenzene	91		95		70-130	4		20
o-Chlorotoluene	98		99		70-130	1		20
p-Chlorotoluene	96		98		70-130	2		20
1,2-Dibromo-3-chloropropane	88		94		41-144	7		20
Hexachlorobutadiene	78		82		63-130	5		20
Isopropylbenzene	94		97		70-130	3		20
p-Isopropyltoluene	94		98		70-130	4		20
Naphthalene	92		97		70-130	5		20
n-Propylbenzene	98		99		69-130	1		20
1,2,3-Trichlorobenzene	88		92		70-130	4		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 14-15 Batch: WG1268084-3 WG1268084-4								
1,2,4-Trichlorobenzene	85		91		70-130	7		20
1,3,5-Trimethylbenzene	95		98		64-130	3		20
1,3,5-Trichlorobenzene	89		92		70-130	3		20
1,2,4-Trimethylbenzene	97		99		70-130	2		20
trans-1,4-Dichloro-2-butene	120		120		70-130	0		20
Halothane	81		84		70-130	4		20
Ethyl ether	100		93		59-134	7		20
Methyl Acetate	100		99		70-130	1		20
Ethyl Acetate	**59**	Q	**61**	Q	70-130	3		20
Isopropyl Ether	90		90		70-130	0		20
Cyclohexane	87		87		70-130	0		20
Tert-Butyl Alcohol	128		130		70-130	2		20
Ethyl-Tert-Butyl-Ether	92		94		70-130	2		20
Tertiary-Amyl Methyl Ether	89		92		66-130	3		20
1,4-Dioxane	160		**164**	Q	56-162	2		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	85		85		70-130	0		20
Methyl cyclohexane	82		85		70-130	4		20
p-Diethylbenzene	92		95		70-130	3		20
4-Ethyltoluene	98		100		70-130	2		20
1,2,4,5-Tetramethylbenzene	91		94		70-130	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 14-15 Batch: WG1268084-3 WG1268084-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	103		101		70-130
Toluene-d8	107		107		70-130
4-Bromofluorobenzene	102		105		70-130
Dibromofluoromethane	94		96		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,03,06-07,12-13 Batch: WG1268696-3 WG1268696-4								
Methylene chloride	88		85		70-130	3		30
1,1-Dichloroethane	96		92		70-130	4		30
Chloroform	101		94		70-130	7		30
Carbon tetrachloride	100		93		70-130	7		30
1,2-Dichloropropane	96		94		70-130	2		30
Dibromochloromethane	99		96		70-130	3		30
1,1,2-Trichloroethane	96		95		70-130	1		30
2-Chloroethylvinyl ether	80		77		70-130	4		30
Tetrachloroethene	96		90		70-130	6		30
Chlorobenzene	100		96		70-130	4		30
Trichlorofluoromethane	98		90		70-139	9		30
1,2-Dichloroethane	96		94		70-130	2		30
1,1,1-Trichloroethane	103		96		70-130	7		30
Bromodichloromethane	95		92		70-130	3		30
trans-1,3-Dichloropropene	88		86		70-130	2		30
cis-1,3-Dichloropropene	89		86		70-130	3		30
1,1-Dichloropropene	98		90		70-130	9		30
Bromoform	88		91		70-130	3		30
1,1,2,2-Tetrachloroethane	93		94		70-130	1		30
Benzene	96		91		70-130	5		30
Toluene	96		92		70-130	4		30
Ethylbenzene	100		94		70-130	6		30
Chloromethane	102		93		52-130	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,03,06-07,12-13 Batch: WG1268696-3 WG1268696-4								
Bromomethane	**165**	Q	**154**	Q	57-147	7		30
Vinyl chloride	**66**	Q	**60**	Q	67-130	10		30
Chloroethane	107		100		50-151	7		30
1,1-Dichloroethene	86		78		65-135	10		30
trans-1,2-Dichloroethene	92		85		70-130	8		30
Trichloroethene	97		88		70-130	10		30
1,2-Dichlorobenzene	103		100		70-130	3		30
1,3-Dichlorobenzene	104		99		70-130	5		30
1,4-Dichlorobenzene	102		97		70-130	5		30
Methyl tert butyl ether	75		75		66-130	0		30
p/m-Xylene	99		94		70-130	5		30
o-Xylene	94		90		70-130	4		30
cis-1,2-Dichloroethene	96		91		70-130	5		30
Dibromomethane	99		99		70-130	0		30
1,4-Dichlorobutane	84		84		70-130	0		30
1,2,3-Trichloropropane	90		92		68-130	2		30
Styrene	92		88		70-130	4		30
Dichlorodifluoromethane	75		68		30-146	10		30
Acetone	89		97		54-140	9		30
Carbon disulfide	79		72		59-130	9		30
2-Butanone	81		82		70-130	1		30
Vinyl acetate	89		93		70-130	4		30
4-Methyl-2-pentanone	74		76		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,03,06-07,12-13 Batch: WG1268696-3 WG1268696-4								
2-Hexanone	76		83		70-130	9		30
Ethyl methacrylate	**68**	Q	**67**	Q	70-130	1		30
Acrolein	91		98		70-130	7		30
Acrylonitrile	72		79		70-130	9		30
Bromochloromethane	98		97		70-130	1		30
Tetrahydrofuran	94		105		66-130	11		30
2,2-Dichloropropane	95		85		70-130	11		30
1,2-Dibromoethane	98		99		70-130	1		30
1,3-Dichloropropane	98		95		69-130	3		30
1,1,1,2-Tetrachloroethane	99		97		70-130	2		30
Bromobenzene	101		97		70-130	4		30
n-Butylbenzene	102		95		70-130	7		30
sec-Butylbenzene	102		94		70-130	8		30
tert-Butylbenzene	102		95		70-130	7		30
1,3,5-Trichlorobenzene	102		99		70-139	3		30
o-Chlorotoluene	101		95		70-130	6		30
p-Chlorotoluene	98		92		70-130	6		30
1,2-Dibromo-3-chloropropane	84		91		68-130	8		30
Hexachlorobutadiene	100		93		67-130	7		30
Isopropylbenzene	98		90		70-130	9		30
p-Isopropyltoluene	101		94		70-130	7		30
Naphthalene	94		98		70-130	4		30
n-Propylbenzene	98		91		70-130	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,03,06-07,12-13 Batch: WG1268696-3 WG1268696-4								
1,2,3-Trichlorobenzene	100		100		70-130	0		30
1,2,4-Trichlorobenzene	100		100		70-130	0		30
1,3,5-Trimethylbenzene	99		93		70-130	6		30
1,2,4-Trimethylbenzene	99		94		70-130	5		30
trans-1,4-Dichloro-2-butene	76		82		70-130	8		30
Ethyl ether	67		67		67-130	0		30
Methyl Acetate	83		95		65-130	13		30
Ethyl Acetate	90		100		70-130	11		30
Isopropyl Ether	98		94		66-130	4		30
Cyclohexane	83		77		70-130	8		30
Tert-Butyl Alcohol	**66**	Q	77		70-130	15		30
Ethyl-Tert-Butyl-Ether	82		80		70-130	2		30
Tertiary-Amyl Methyl Ether	82		80		70-130	2		30
1,4-Dioxane	83		93		65-136	11		30
Methyl cyclohexane	85		76		70-130	11		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	84		77		70-130	9		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		103		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	93		93		70-130
Dibromofluoromethane	103		105		70-130

SEMIVOLATILES

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-01
Client ID: IP-12-7.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/22/19 16:00
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/14/19 09:49
Analyst: IM
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Benzidine	ND		ug/kg	620	200	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	21.	1
Hexachlorobenzene	ND		ug/kg	110	21.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	25.	1
2-Chloronaphthalene	ND		ug/kg	190	18.	1
1,2-Dichlorobenzene	ND		ug/kg	190	34.	1
1,3-Dichlorobenzene	ND		ug/kg	190	32.	1
1,4-Dichlorobenzene	ND		ug/kg	190	33.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Azobenzene	ND		ug/kg	190	18.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	19.	1
Hexachlorobutadiene	ND		ug/kg	190	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	530	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	ND		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	65.	1
Butyl benzyl phthalate	ND		ug/kg	190	47.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-01 Date Collected: 07/22/19 16:00

Client ID: IP-12-7.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	190	35.	1
Di-n-octylphthalate	ND		ug/kg	190	64.	1
Diethyl phthalate	ND		ug/kg	190	17.	1
Dimethyl phthalate	ND		ug/kg	190	39.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	46.	1
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	ND		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	430	43.	1
Aniline	ND		ug/kg	220	88.	1
4-Chloroaniline	ND		ug/kg	190	34.	1
1-Methylnaphthalene	ND		ug/kg	190	22.	1
2-Nitroaniline	ND		ug/kg	190	36.	1
3-Nitroaniline	ND		ug/kg	190	35.	1
4-Nitroaniline	ND		ug/kg	190	77.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
n-Nitrosodimethylamine	ND		ug/kg	370	36.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	190	28.	1
2-Chlorophenol	ND		ug/kg	190	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	30.	1
2,4-Dimethylphenol	ND		ug/kg	190	62.	1
2-Nitrophenol	ND		ug/kg	400	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	900	87.	1
4,6-Dinitro-o-cresol	ND		ug/kg	490	90.	1
Pentachlorophenol	ND		ug/kg	150	41.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-01 Date Collected: 07/22/19 16:00

Client ID: IP-12-7.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	190	28.	1
2-Methylphenol	ND		ug/kg	190	29.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	36.	1
Benzoic Acid	ND		ug/kg	610	190	1
Benzyl Alcohol	ND		ug/kg	190	57.	1
Carbazole	ND		ug/kg	190	18.	1
Pyridine	ND		ug/kg	200	71.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	76		25-120
Phenol-d6	79		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	63		30-120
2,4,6-Tribromophenol	80		10-136
4-Terphenyl-d14	64		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-02
Client ID: IP-12-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/22/19 16:05
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 08/09/19 01:30
Analyst: JW
Percent Solids: 89%

Extraction Method: EPA 537(M)
Extraction Date: 08/07/19 17:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	1.10	0.025	1
Perfluoropentanoic Acid (PFPeA)	0.070	J	ng/g	1.10	0.051	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.10	0.043	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.10	0.071	1
Perfluorohexanoic Acid (PFHxA)	0.279	J	ng/g	1.10	0.058	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.10	0.092	1
Perfluoroheptanoic Acid (PFHpA)	0.260	J	ng/g	1.10	0.050	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	1.10	0.066	1
Perfluorooctanoic Acid (PFOA)	0.271	J	ng/g	1.10	0.046	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	1.10	0.197	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	1.10	0.150	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	1.10	0.082	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	1.10	0.143	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	1.10	0.074	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	1.10	0.315	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.10	0.328	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	1.10	0.221	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	1.10	0.051	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	1.10	0.168	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	11.0	0.108	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	1.10	0.093	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	1.10	0.077	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	1.10	0.225	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	1.10	0.059	1
PFOA/PFOS, Total	0.271	J	ng/g	1.10	0.046	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-02 Date Collected: 07/22/19 16:05

Client ID: IP-12-11.0 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	86		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	90		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	59		56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	82		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	84		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	50		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	89		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	91		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	62		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**44**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**0**	Q	1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	45		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	76		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	52		26-160

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-03
Client ID: IP-13-7.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 07:45
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/14/19 10:15
Analyst: IM
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	20.	1
Benzidine	ND		ug/kg	630	210	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	22.	1
Hexachlorobenzene	ND		ug/kg	110	21.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
1,2-Dichlorobenzene	ND		ug/kg	190	34.	1
1,3-Dichlorobenzene	ND		ug/kg	190	33.	1
1,4-Dichlorobenzene	ND		ug/kg	190	33.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Azobenzene	ND		ug/kg	190	18.	1
Fluoranthene	ND		ug/kg	110	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	29.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	ND		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	1
Butyl benzyl phthalate	ND		ug/kg	190	48.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-03 Date Collected: 07/23/19 07:45

Client ID: IP-13-7.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	190	36.	1
Di-n-octylphthalate	ND		ug/kg	190	65.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	ND		ug/kg	110	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	31.	1
Chrysene	ND		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	30.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	ND		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	27.	1
Pyrene	ND		ug/kg	110	19.	1
Biphenyl	ND		ug/kg	440	44.	1
Aniline	ND		ug/kg	230	90.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
1-Methylnaphthalene	ND		ug/kg	190	22.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	79.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
n-Nitrosodimethylamine	ND		ug/kg	380	37.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	36.	1
p-Chloro-m-cresol	ND		ug/kg	190	28.	1
2-Chlorophenol	ND		ug/kg	190	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	410	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	89.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-03 Date Collected: 07/23/19 07:45

Client ID: IP-13-7.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Benzoic Acid	ND		ug/kg	620	190	1
Benzyl Alcohol	ND		ug/kg	190	59.	1
Carbazole	ND		ug/kg	190	19.	1
Pyridine	ND		ug/kg	210	73.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	79		25-120
Phenol-d6	83		10-120
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	61		30-120
2,4,6-Tribromophenol	78		10-136
4-Terphenyl-d14	60		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-05
Client ID: IP-13-13.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 08:05
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 08/09/19 01:46
Analyst: JW
Percent Solids: 95%

Extraction Method: EPA 537(M)
Extraction Date: 08/07/19 17:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.960	0.022	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.960	0.044	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.960	0.037	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	0.960	0.062	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.960	0.050	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	0.960	0.080	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.960	0.043	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.960	0.058	1
Perfluorooctanoic Acid (PFOA)	0.040	J	ng/g	0.960	0.040	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.960	0.172	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.960	0.131	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.960	0.072	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.960	0.125	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.960	0.064	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.960	0.276	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	0.960	0.287	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.960	0.194	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.960	0.045	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.960	0.147	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.960	0.094	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.960	0.081	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.960	0.067	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.960	0.196	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.960	0.052	1
PFOA/PFOS, Total	0.040	J	ng/g	0.960	0.040	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-05 Date Collected: 07/23/19 08:05

Client ID: IP-13-13.0 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	92		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	97		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	62		56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	87		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	91		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	63		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	76		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	46		45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	59		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	53		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	85		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	77		26-160

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-08
Client ID: IP-15-7.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:12
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/14/19 10:40
Analyst: IM
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	20.	1
Benzidine	ND		ug/kg	620	200	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	22.	1
Hexachlorobenzene	ND		ug/kg	110	21.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
1,2-Dichlorobenzene	ND		ug/kg	190	34.	1
1,3-Dichlorobenzene	ND		ug/kg	190	32.	1
1,4-Dichlorobenzene	ND		ug/kg	190	33.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Azobenzene	ND		ug/kg	190	18.	1
Fluoranthene	ND		ug/kg	110	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	29.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	540	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	ND		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	65.	1
Butyl benzyl phthalate	ND		ug/kg	190	48.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-08 Date Collected: 07/23/19 10:12

Client ID: IP-15-7.0 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	190	36.	1
Di-n-octylphthalate	ND		ug/kg	190	64.	1
Diethyl phthalate	ND		ug/kg	190	17.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	46.	1
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	ND		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	19.	1
Biphenyl	ND		ug/kg	430	44.	1
Aniline	ND		ug/kg	230	89.	1
4-Chloroaniline	ND		ug/kg	190	34.	1
1-Methylnaphthalene	ND		ug/kg	190	22.	1
2-Nitroaniline	ND		ug/kg	190	36.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	78.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
n-Nitrosodimethylamine	ND		ug/kg	380	36.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	36.	1
p-Chloro-m-cresol	ND		ug/kg	190	28.	1
2-Chlorophenol	ND		ug/kg	190	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	30.	1
2,4-Dimethylphenol	ND		ug/kg	190	62.	1
2-Nitrophenol	ND		ug/kg	410	71.	1
4-Nitrophenol	ND		ug/kg	260	77.	1
2,4-Dinitrophenol	ND		ug/kg	900	88.	1
4,6-Dinitro-o-cresol	ND		ug/kg	490	90.	1
Pentachlorophenol	ND		ug/kg	150	41.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-08 Date Collected: 07/23/19 10:12

Client ID: IP-15-7.0 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	190	28.	1
2-Methylphenol	ND		ug/kg	190	29.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	36.	1
Benzoic Acid	ND		ug/kg	610	190	1
Benzyl Alcohol	ND		ug/kg	190	58.	1
Carbazole	ND		ug/kg	190	18.	1
Pyridine	ND		ug/kg	200	72.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	79		25-120
Phenol-d6	83		10-120
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	67		30-120
2,4,6-Tribromophenol	100		10-136
4-Terphenyl-d14	79		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-09
Client ID: IP-15-7.0-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:12
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/14/19 11:05
Analyst: IM
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Benzidine	ND		ug/kg	600	200	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	21.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	25.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
1,2-Dichlorobenzene	ND		ug/kg	180	33.	1
1,3-Dichlorobenzene	ND		ug/kg	180	31.	1
1,4-Dichlorobenzene	ND		ug/kg	180	32.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	49.	1
2,4-Dinitrotoluene	ND		ug/kg	180	36.	1
2,6-Dinitrotoluene	ND		ug/kg	180	31.	1
Azobenzene	ND		ug/kg	180	18.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	160	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	160	24.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	63.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-09 Date Collected: 07/23/19 10:12

Client ID: IP-15-7.0-FD Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	180	35.	1
Di-n-octylphthalate	ND		ug/kg	180	62.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	150	44.	1
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	28.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	21.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	25.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	42.	1
Aniline	ND		ug/kg	220	86.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
1-Methylnaphthalene	ND		ug/kg	180	21.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	76.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
n-Nitrosodimethylamine	ND		ug/kg	360	35.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	22.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	60.	1
2-Nitrophenol	ND		ug/kg	390	69.	1
4-Nitrophenol	ND		ug/kg	260	74.	1
2,4-Dinitrophenol	ND		ug/kg	880	85.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	88.	1
Pentachlorophenol	ND		ug/kg	150	40.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-09 Date Collected: 07/23/19 10:12

Client ID: IP-15-7.0-FD Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Benzoic Acid	ND		ug/kg	590	180	1
Benzyl Alcohol	ND		ug/kg	180	56.	1
Carbazole	ND		ug/kg	180	18.	1
Pyridine	ND		ug/kg	200	69.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	88		25-120
Phenol-d6	98		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	78		30-120
2,4,6-Tribromophenol	85		10-136
4-Terphenyl-d14	79		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-12
Client ID: IP-14-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:20
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/14/19 11:37
Analyst: JG
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	19.	1
Benzidine	ND		ug/kg	600	200	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	21.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	24.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
1,2-Dichlorobenzene	ND		ug/kg	180	32.	1
1,3-Dichlorobenzene	ND		ug/kg	180	31.	1
1,4-Dichlorobenzene	ND		ug/kg	180	32.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	48.	1
2,4-Dinitrotoluene	ND		ug/kg	180	36.	1
2,6-Dinitrotoluene	ND		ug/kg	180	31.	1
Azobenzene	ND		ug/kg	180	17.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	19.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	63.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-12 Date Collected: 07/23/19 10:20

Client ID: IP-14-0.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	62.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	140	44.	1
Benzo(b)fluoranthene	ND		ug/kg	110	30.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	140	28.	1
Anthracene	ND		ug/kg	110	35.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	25.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	410	42.	1
Aniline	ND		ug/kg	220	85.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
1-Methylnaphthalene	ND		ug/kg	180	21.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	75.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
n-Nitrosodimethylamine	ND		ug/kg	360	35.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	34.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	21.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	60.	1
2-Nitrophenol	ND		ug/kg	390	68.	1
4-Nitrophenol	ND		ug/kg	250	74.	1
2,4-Dinitrophenol	ND		ug/kg	870	84.	1
4,6-Dinitro-o-cresol	ND		ug/kg	470	87.	1
Pentachlorophenol	ND		ug/kg	140	40.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-12 Date Collected: 07/23/19 10:20

Client ID: IP-14-0.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	180	27.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	28.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Benzoic Acid	ND		ug/kg	590	180	1
Benzyl Alcohol	ND		ug/kg	180	55.	1
Carbazole	ND		ug/kg	180	18.	1
Pyridine	ND		ug/kg	200	69.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	84		25-120
Phenol-d6	87		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	80		30-120
2,4,6-Tribromophenol	88		10-136
4-Terphenyl-d14	77		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13
Client ID: IP-25
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 15:30
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/14/19 15:24
Analyst: JG
Percent Solids: 29%

Extraction Method: EPA 3546
Extraction Date: 08/06/19 12:44

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	1300	170	1
Benzidine	ND		ug/kg	5500	1800	1
1,2,4-Trichlorobenzene	ND		ug/kg	1700	190	1
Hexachlorobenzene	ND		ug/kg	1000	190	1
Bis(2-chloroethyl)ether	ND		ug/kg	1500	230	1
2-Chloronaphthalene	ND		ug/kg	1700	160	1
1,2-Dichlorobenzene	ND		ug/kg	1700	300	1
1,3-Dichlorobenzene	ND		ug/kg	1700	290	1
1,4-Dichlorobenzene	ND		ug/kg	1700	290	1
3,3'-Dichlorobenzidine	ND		ug/kg	1700	440	1
2,4-Dinitrotoluene	ND		ug/kg	1700	330	1
2,6-Dinitrotoluene	ND		ug/kg	1700	290	1
Azobenzene	ND		ug/kg	1700	160	1
Fluoranthene	ND		ug/kg	1000	190	1
4-Chlorophenyl phenyl ether	ND		ug/kg	1700	180	1
4-Bromophenyl phenyl ether	ND		ug/kg	1700	250	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	2000	280	1
Bis(2-chloroethoxy)methane	ND		ug/kg	1800	170	1
Hexachlorobutadiene	ND		ug/kg	1700	240	1
Hexachlorocyclopentadiene	ND		ug/kg	4800	1500	1
Hexachloroethane	ND		ug/kg	1300	270	1
Isophorone	ND		ug/kg	1500	220	1
Naphthalene	ND		ug/kg	1700	200	1
Nitrobenzene	ND		ug/kg	1500	250	1
NDPA/DPA	ND		ug/kg	1300	190	1
n-Nitrosodi-n-propylamine	ND		ug/kg	1700	260	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	1700	580	1
Butyl benzyl phthalate	ND		ug/kg	1700	420	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13 Date Collected: 07/23/19 15:30

Client ID: IP-25 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	1700	320	1
Di-n-octylphthalate	ND		ug/kg	1700	570	1
Diethyl phthalate	ND		ug/kg	1700	150	1
Dimethyl phthalate	ND		ug/kg	1700	350	1
Benzo(a)anthracene	ND		ug/kg	1000	190	1
Benzo(a)pyrene	ND		ug/kg	1300	410	1
Benzo(b)fluoranthene	ND		ug/kg	1000	280	1
Benzo(k)fluoranthene	ND		ug/kg	1000	270	1
Chrysene	ND		ug/kg	1000	170	1
Acenaphthylene	ND		ug/kg	1300	260	1
Anthracene	ND		ug/kg	1000	320	1
Benzo(ghi)perylene	ND		ug/kg	1300	200	1
Fluorene	ND		ug/kg	1700	160	1
Phenanthrene	ND		ug/kg	1000	200	1
Dibenzo(a,h)anthracene	ND		ug/kg	1000	190	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	1300	230	1
Pyrene	ND		ug/kg	1000	160	1
Biphenyl	ND		ug/kg	3800	390	1
Aniline	ND		ug/kg	2000	790	1
4-Chloroaniline	ND		ug/kg	1700	300	1
1-Methylnaphthalene	ND		ug/kg	1700	190	1
2-Nitroaniline	ND		ug/kg	1700	320	1
3-Nitroaniline	ND		ug/kg	1700	310	1
4-Nitroaniline	ND		ug/kg	1700	690	1
Dibenzofuran	ND		ug/kg	1700	160	1
2-Methylnaphthalene	ND		ug/kg	2000	200	1
n-Nitrosodimethylamine	ND		ug/kg	3300	320	1
2,4,6-Trichlorophenol	ND		ug/kg	1000	320	1
p-Chloro-m-cresol	ND		ug/kg	1700	250	1
2-Chlorophenol	ND		ug/kg	1700	200	1
2,4-Dichlorophenol	ND		ug/kg	1500	270	1
2,4-Dimethylphenol	ND		ug/kg	1700	550	1
2-Nitrophenol	ND		ug/kg	3600	630	1
4-Nitrophenol	ND		ug/kg	2300	680	1
2,4-Dinitrophenol	ND		ug/kg	8000	780	1
4,6-Dinitro-o-cresol	ND		ug/kg	4300	800	1
Pentachlorophenol	ND		ug/kg	1300	370	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13 Date Collected: 07/23/19 15:30

Client ID: IP-25 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	1700	250	1
2-Methylphenol	ND		ug/kg	1700	260	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	2400	260	1
2,4,5-Trichlorophenol	ND		ug/kg	1700	320	1
Benzoic Acid	ND		ug/kg	5400	1700	1
Benzyl Alcohol	ND		ug/kg	1700	510	1
Carbazole	ND		ug/kg	1700	160	1
Pyridine	ND		ug/kg	1800	630	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		25-120
Phenol-d6	73		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	72		30-120
2,4,6-Tribromophenol	76		10-136
4-Terphenyl-d14	59		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13
Client ID: IP-25
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 15:30
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 08/09/19 02:03
Analyst: JW
Percent Solids: 29%

Extraction Method: EPA 537(M)
Extraction Date: 08/07/19 17:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	3.10	0.070	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	3.10	0.143	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	3.10	0.121	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	3.10	0.200	1
Perfluorohexanoic Acid (PFHxA)	0.203	J	ng/g	3.10	0.163	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	3.10	0.259	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	3.10	0.140	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	3.10	0.188	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	3.10	0.130	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	2.02	J	ng/g	3.10	0.556	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	3.10	0.423	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	3.10	0.232	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	3.10	0.403	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	3.10	0.208	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	3.10	0.890	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	3.10	0.927	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	3.10	0.625	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	3.10	0.145	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	3.10	0.474	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	3.10	0.304	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	3.10	0.262	1
Perfluorododecanoic Acid (PFDoA)	0.229	J	ng/g	3.10	0.217	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	3.10	0.634	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	3.10	0.167	1
PFOA/PFOS, Total	ND		ng/g	3.10	0.130	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13 Date Collected: 07/23/19 15:30

Client ID: IP-25 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	79		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	93		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	71		56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**55**	Q	61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	**57**	Q	62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	86		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	78		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	121		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	68		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	83		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	141		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	74		45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	19		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	58		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	80		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	80		26-160

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14
Client ID: SHALLOW WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 16:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 08/02/19 21:53
Analyst: RC

Extraction Method: EPA 3510C
Extraction Date: 07/28/19 11:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	1.8	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.50	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.45	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.40	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.43	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
Azobenzene	ND		ug/l	2.0	0.37	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	2.2	J	ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	ND		ug/l	2.0	0.46	1
Aniline	ND		ug/l	2.0	0.68	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14 Date Collected: 07/23/19 16:55

Client ID: SHALLOW WELL Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.76	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Benzoic Acid	ND		ug/l	50	2.6	1
Benzyl Alcohol	ND		ug/l	2.0	0.59	1
Carbazole	ND		ug/l	2.0	0.49	1
Pyridine	ND		ug/l	3.5	1.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	50		10-120
Nitrobenzene-d5	98		23-120
2-Fluorobiphenyl	91		15-120
2,4,6-Tribromophenol	22		10-120
4-Terphenyl-d14	95		41-149

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14
Client ID: SHALLOW WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 16:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 08/07/19 04:30
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/28/19 11:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.03	J	ug/l	0.10	0.01	1
2-Chloronaphthalene	ND		ug/l	0.20	0.02	1
Fluoranthene	ND		ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	0.27		ug/l	0.10	0.05	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01	1
Chrysene	ND		ug/l	0.10	0.01	1
Acenaphthylene	ND		ug/l	0.10	0.01	1
Anthracene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
1-Methylnaphthalene	ND		ug/l	0.10	0.02	1
2-Methylnaphthalene	ND		ug/l	0.10	0.02	1
Pentachlorophenol	ND		ug/l	0.80	0.01	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID:	L1932777-14	Date Collected:	07/23/19 16:55
Client ID:	SHALLOW WELL	Date Received:	07/24/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	30		21-120
Phenol-d6	43		10-120
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	89		15-120
2,4,6-Tribromophenol	26		10-120
4-Terphenyl-d14	110		41-149

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14
Client ID: SHALLOW WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 16:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 08/06/19 19:23
Analyst: AJ

Extraction Method: EPA 537
Extraction Date: 08/05/19 11:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.458	J	ng/l	1.76	0.359	1
Perfluoropentanoic Acid (PFPeA)	0.433	J	ng/l	1.76	0.348	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.76	0.210	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.76	0.398	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.76	0.289	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.76	0.216	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.76	0.198	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.76	0.331	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.76	0.208	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.76	1.17	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.76	0.606	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.76	0.275	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.76	0.444	1
Perfluorodecanoic Acid (PFDA)	0.556	J	ng/l	1.76	0.268	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.76	1.07	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.76	0.986	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	1.31	J	ng/l	1.76	0.570	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.76	0.229	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.76	0.863	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.76	0.510	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	1.34	J	ng/l	1.76	0.708	1
Perfluorododecanoic Acid (PFDoA)	0.366	J	ng/l	1.76	0.327	1
Perfluorotridecanoic Acid (PFTrDA)	1.08	J	ng/l	1.76	0.288	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.76	0.218	1
PFOA/PFOS, Total	ND		ng/l	1.76	0.208	1
PFAS, Total (5)	ND		ng/l	1.76	0.198	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14 Date Collected: 07/23/19 16:55

Client ID: SHALLOW WELL Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	106		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	118		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	105		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	66		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	104		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	101		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	92		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	75		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	46		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	69		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	77		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	33		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	55		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	87		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	82		33-143

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15
Client ID: DEEP WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 17:15
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 08/02/19 22:19
Analyst: RC

Extraction Method: EPA 3510C
Extraction Date: 07/28/19 11:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	1.8	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.50	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.45	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.40	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.43	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
Azobenzene	ND		ug/l	2.0	0.37	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	4.2		ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	ND		ug/l	2.0	0.46	1
Aniline	ND		ug/l	2.0	0.68	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15 Date Collected: 07/23/19 17:15

Client ID: DEEP WELL Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.76	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Benzoic Acid	ND		ug/l	50	2.6	1
Benzyl Alcohol	ND		ug/l	2.0	0.59	1
Carbazole	ND		ug/l	2.0	0.49	1
Pyridine	ND		ug/l	3.5	1.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	26		21-120
Phenol-d6	36		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	17		10-120
4-Terphenyl-d14	97		41-149

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15
Client ID: DEEP WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 17:15
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 08/10/19 21:41
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 07/28/19 11:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.06	J	ug/l	0.10	0.01	1
2-Chloronaphthalene	0.05	J	ug/l	0.20	0.02	1
Fluoranthene	0.08	J	ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	0.06	J	ug/l	0.10	0.05	1
Benzo(a)anthracene	0.07	J	ug/l	0.10	0.02	1
Benzo(a)pyrene	0.07	J	ug/l	0.10	0.02	1
Benzo(b)fluoranthene	0.08	J	ug/l	0.10	0.01	1
Benzo(k)fluoranthene	0.08	J	ug/l	0.10	0.01	1
Chrysene	0.07	J	ug/l	0.10	0.01	1
Acenaphthylene	0.06	J	ug/l	0.10	0.01	1
Anthracene	0.07	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	0.08	J	ug/l	0.10	0.01	1
Fluorene	0.07	J	ug/l	0.10	0.01	1
Phenanthrene	0.10		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	0.08	J	ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	0.08	J	ug/l	0.10	0.01	1
Pyrene	0.08	J	ug/l	0.10	0.02	1
1-Methylnaphthalene	0.09	J	ug/l	0.10	0.02	1
2-Methylnaphthalene	0.06	J	ug/l	0.10	0.02	1
Pentachlorophenol	0.57	J	ug/l	0.80	0.01	1
Hexachlorobenzene	0.07	J	ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID:	L1932777-15	Date Collected:	07/23/19 17:15
Client ID:	DEEP WELL	Date Received:	07/24/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	35		21-120
Phenol-d6	46		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	88		15-120
2,4,6-Tribromophenol	34		10-120
4-Terphenyl-d14	121		41-149

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15
Client ID: DEEP WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 17:15
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 08/06/19 19:39
Analyst: AJ

Extraction Method: EPA 537
Extraction Date: 08/05/19 11:56

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	1.25	J	ng/l	1.75	0.358	1
Perfluoropentanoic Acid (PFPeA)	2.69		ng/l	1.75	0.347	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.75	0.209	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.75	0.396	1
Perfluorohexanoic Acid (PFHxA)	2.33		ng/l	1.75	0.288	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.75	0.215	1
Perfluoroheptanoic Acid (PFHpA)	0.846	J	ng/l	1.75	0.198	1
Perfluorohexanesulfonic Acid (PFHxS)	0.375	J	ng/l	1.75	0.330	1
Perfluorooctanoic Acid (PFOA)	1.25	J	ng/l	1.75	0.207	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.75	1.17	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.75	0.604	1
Perfluorononanoic Acid (PFNA)	0.902	J	ng/l	1.75	0.274	1
Perfluorooctanesulfonic Acid (PFOS)	0.512	J	ng/l	1.75	0.442	1
Perfluorodecanoic Acid (PFDA)	0.810	J	ng/l	1.75	0.267	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.75	1.06	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.75	0.982	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.75	0.568	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.75	0.228	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.75	0.860	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.75	0.509	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.75	0.705	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.75	0.326	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.75	0.287	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.75	0.218	1
PFOA/PFOS, Total	1.76	J	ng/l	1.75	0.207	1
PFAS, Total (5)	3.89	J	ng/l	1.75	0.198	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15 Date Collected: 07/23/19 17:15

Client ID: DEEP WELL Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	94		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	107		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	125		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	83		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	99		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	104		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	134		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	95		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	98		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	68		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	58		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	81		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	36		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	45		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	94		33-143

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/31/19 06:05
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 07/28/19 09:14

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 14-15 Batch: WG1265524-1					
Acenaphthene	ND		ug/l	2.0	0.44
Benzidine	ND		ug/l	20	1.8
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.50
Hexachlorobenzene	ND		ug/l	2.0	0.46
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50
2-Chloronaphthalene	ND		ug/l	2.0	0.44
1,2-Dichlorobenzene	ND		ug/l	2.0	0.45
1,3-Dichlorobenzene	ND		ug/l	2.0	0.40
1,4-Dichlorobenzene	ND		ug/l	2.0	0.43
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93
Azobenzene	ND		ug/l	2.0	0.37
Fluoranthene	ND		ug/l	2.0	0.26
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50
Hexachlorobutadiene	ND		ug/l	2.0	0.66
Hexachlorocyclopentadiene	ND		ug/l	20	0.69
Hexachloroethane	ND		ug/l	2.0	0.58
Isophorone	ND		ug/l	5.0	1.2
Naphthalene	ND		ug/l	2.0	0.46
Nitrobenzene	ND		ug/l	2.0	0.77
NDPA/DPA	ND		ug/l	2.0	0.42
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64
Bis(2-ethylhexyl)phthalate	2.6	J	ug/l	3.0	1.5
Butyl benzyl phthalate	ND		ug/l	5.0	1.2
Di-n-butylphthalate	ND		ug/l	5.0	0.39

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/31/19 06:05
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 07/28/19 09:14

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 14-15 Batch: WG1265524-1					
Di-n-octylphthalate	ND		ug/l	5.0	1.3
Diethyl phthalate	ND		ug/l	5.0	0.38
Dimethyl phthalate	ND		ug/l	5.0	1.8
Benzo(a)anthracene	ND		ug/l	2.0	0.32
Benzo(a)pyrene	ND		ug/l	2.0	0.41
Benzo(b)fluoranthene	ND		ug/l	2.0	0.35
Benzo(k)fluoranthene	ND		ug/l	2.0	0.37
Chrysene	ND		ug/l	2.0	0.34
Acenaphthylene	ND		ug/l	2.0	0.46
Anthracene	ND		ug/l	2.0	0.33
Benzo(ghi)perylene	ND		ug/l	2.0	0.30
Fluorene	ND		ug/l	2.0	0.41
Phenanthrene	ND		ug/l	2.0	0.33
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.32
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.40
Pyrene	ND		ug/l	2.0	0.28
Biphenyl	ND		ug/l	2.0	0.46
Aniline	ND		ug/l	2.0	0.68
4-Chloroaniline	ND		ug/l	5.0	1.1
1-Methylnaphthalene	ND		ug/l	2.0	0.45
2-Nitroaniline	ND		ug/l	5.0	0.50
3-Nitroaniline	ND		ug/l	5.0	0.81
4-Nitroaniline	ND		ug/l	5.0	0.80
Dibenzofuran	ND		ug/l	2.0	0.50
2-Methylnaphthalene	ND		ug/l	2.0	0.45
n-Nitrosodimethylamine	ND		ug/l	2.0	0.76
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61
p-Chloro-m-cresol	ND		ug/l	2.0	0.35
2-Chlorophenol	ND		ug/l	2.0	0.48

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/31/19 06:05
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 07/28/19 09:14

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 14-15 Batch: WG1265524-1					
2,4-Dichlorophenol	ND		ug/l	5.0	0.41
2,4-Dimethylphenol	ND		ug/l	5.0	1.8
2-Nitrophenol	ND		ug/l	10	0.85
4-Nitrophenol	ND		ug/l	10	0.67
2,4-Dinitrophenol	ND		ug/l	20	6.6
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8
Pentachlorophenol	ND		ug/l	10	1.8
Phenol	ND		ug/l	5.0	0.57
2-Methylphenol	ND		ug/l	5.0	0.49
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77
Benzoic Acid	ND		ug/l	50	2.6
Benzyl Alcohol	ND		ug/l	2.0	0.59
Carbazole	ND		ug/l	2.0	0.49
Pyridine	ND		ug/l	3.5	1.8

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	54		21-120
Phenol-d6	50		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	63		15-120
2,4,6-Tribromophenol	36		10-120
4-Terphenyl-d14	75		41-149

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/31/19 12:05
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/28/19 09:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 14-15 Batch: WG1265526-1					
Acenaphthene	ND		ug/l	0.10	0.01
2-Chloronaphthalene	ND		ug/l	0.20	0.02
Fluoranthene	ND		ug/l	0.10	0.02
Hexachlorobutadiene	ND		ug/l	0.50	0.05
Naphthalene	ND		ug/l	0.10	0.05
Benzo(a)anthracene	ND		ug/l	0.10	0.02
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01
Chrysene	ND		ug/l	0.10	0.01
Acenaphthylene	ND		ug/l	0.10	0.01
Anthracene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.10	0.02
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
1-Methylnaphthalene	ND		ug/l	0.10	0.02
2-Methylnaphthalene	ND		ug/l	0.10	0.02
Pentachlorophenol	ND		ug/l	0.80	0.01
Hexachlorobenzene	ND		ug/l	0.80	0.01
Hexachloroethane	ND		ug/l	0.80	0.06

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 07/31/19 12:05
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 07/28/19 09:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 14-15 Batch: WG1265526-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	51		21-120
Phenol-d6	43		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	83		10-120
4-Terphenyl-d14	101		41-149

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 08/06/19 22:16
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,08-09,12 Batch: WG1268512-1					
Acenaphthene	ND		ug/kg	130	17.
Benzidine	ND		ug/kg	540	180
1,2,4-Trichlorobenzene	ND		ug/kg	160	19.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	29.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	29.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Azobenzene	ND		ug/kg	160	16.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 08/06/19 22:16
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,08-09,12 Batch: WG1268512-1					
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	62	J	ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
Aniline	ND		ug/kg	200	77.
4-Chloroaniline	ND		ug/kg	160	30.
1-Methylnaphthalene	ND		ug/kg	160	19.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
n-Nitrosodimethylamine	ND		ug/kg	330	31.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 08/06/19 22:16
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,08-09,12 Batch: WG1268512-1					
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	76.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Benzoic Acid	ND		ug/kg	530	160
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.
Pyridine	ND		ug/kg	180	62.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	85		25-120
Phenol-d6	86		10-120
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	88		30-120
2,4,6-Tribromophenol	93		10-136
4-Terphenyl-d14	95		18-120

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 08/07/19 05:06
Analyst: AJ

Extraction Method: EPA 537
Extraction Date: 08/05/19 11:56

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 14-15 Batch: WG1268635-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	0.452
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	0.245
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	1.12
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236
PFAS, Total (5)	ND		ng/l	2.00	0.225

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 08/07/19 05:06
Analyst: AJ

Extraction Method: EPA 537
Extraction Date: 08/05/19 11:56

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 14-15 Batch: WG1268635-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	95		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	104		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	109		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	76		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	100		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	94		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	111		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	102		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	89		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	101		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	89		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	56		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	53		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	59		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	76		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	80		33-143

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 08/07/19 12:25
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 08/06/19 01:21

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 13 Batch: WG1268890-1					
Acenaphthene	ND		ug/kg	130	17.
Benzidine	ND		ug/kg	540	180
1,2,4-Trichlorobenzene	ND		ug/kg	160	19.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	29.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	28.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Azobenzene	ND		ug/kg	160	16.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 08/07/19 12:25
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 08/06/19 01:21

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 13 Batch: WG1268890-1					
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
Aniline	ND		ug/kg	200	77.
4-Chloroaniline	ND		ug/kg	160	30.
1-Methylnaphthalene	ND		ug/kg	160	19.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	200	20.
n-Nitrosodimethylamine	ND		ug/kg	330	31.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 08/07/19 12:25
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 08/06/19 01:21

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 13 Batch: WG1268890-1					
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Benzoic Acid	ND		ug/kg	530	160
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.
Pyridine	ND		ug/kg	180	62.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	87		25-120
Phenol-d6	89		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	79		30-120
2,4,6-Tribromophenol	110		10-136
4-Terphenyl-d14	76		18-120

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 08/08/19 23:17
Analyst: JW

Extraction Method: EPA 537(M)
Extraction Date: 08/07/19 17:02

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 02,05,13 Batch: WG1269730-1					
Perfluorobutanoic Acid (PFBA)	0.095	J	ng/g	1.00	0.023
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	1.00	0.046
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.00	0.039
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.00	0.065
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	1.00	0.053
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.00	0.084
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	1.00	0.045
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	1.00	0.061
Perfluorooctanoic Acid (PFOA)	ND		ng/g	1.00	0.042
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	1.00	0.180
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	1.00	0.136
Perfluorononanoic Acid (PFNA)	ND		ng/g	1.00	0.075
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	1.00	0.130
Perfluorodecanoic Acid (PFDA)	ND		ng/g	1.00	0.067
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	1.00	0.287
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.00	0.299
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	1.00	0.202
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	1.00	0.047
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	1.00	0.153
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	1.00	0.098
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	1.00	0.085
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	1.00	0.070
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	1.00	0.204
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	1.00	0.054
PFOA/PFOS, Total	ND		ng/g	1.00	0.042

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 08/08/19 23:17
Analyst: JW

Extraction Method: EPA 537(M)
Extraction Date: 08/07/19 17:02

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 02,05,13 Batch: WG1269730-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	97		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	104		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	104		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	63		56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	92		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	94		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	105		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	61		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	98		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	70		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	77		45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	99		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	14		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	69		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	91		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	81		26-160

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 14-15 Batch: WG1265524-2 WG1265524-3								
Acenaphthene	70		82		37-111	16		30
Benzidine	**5**	Q	**0**	Q	10-75	**173**	Q	30
1,2,4-Trichlorobenzene	63		76		39-98	19		30
Hexachlorobenzene	57		64		40-140	12		30
Bis(2-chloroethyl)ether	73		85		40-140	15		30
2-Chloronaphthalene	70		80		40-140	13		30
1,2-Dichlorobenzene	64		76		40-140	17		30
1,3-Dichlorobenzene	60		74		40-140	21		30
1,4-Dichlorobenzene	63		74		36-97	16		30
3,3'-Dichlorobenzidine	68		69		40-140	1		30
2,4-Dinitrotoluene	85		98		48-143	14		30
2,6-Dinitrotoluene	83		88		40-140	6		30
Azobenzene	82		92		40-140	11		30
Fluoranthene	76		84		40-140	10		30
4-Chlorophenyl phenyl ether	70		82		40-140	16		30
4-Bromophenyl phenyl ether	60		70		40-140	15		30
Bis(2-chloroisopropyl)ether	57		68		40-140	18		30
Bis(2-chloroethoxy)methane	80		93		40-140	15		30
Hexachlorobutadiene	55		66		40-140	18		30
Hexachlorocyclopentadiene	56		67		40-140	18		30
Hexachloroethane	66		79		40-140	18		30
Isophorone	84		97		40-140	14		30
Naphthalene	69		84		40-140	20		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 14-15 Batch: WG1265524-2 WG1265524-3								
Nitrobenzene	76		92		40-140	19		30
NDPA/DPA	74		80		40-140	8		30
n-Nitrosodi-n-propylamine	87		99		29-132	13		30
Bis(2-ethylhexyl)phthalate	82		91		40-140	10		30
Butyl benzyl phthalate	90		93		40-140	3		30
Di-n-butylphthalate	82		88		40-140	7		30
Di-n-octylphthalate	95		102		40-140	7		30
Diethyl phthalate	87		98		40-140	12		30
Dimethyl phthalate	88		93		40-140	6		30
Benzo(a)anthracene	83		96		40-140	15		30
Benzo(a)pyrene	70		80		40-140	13		30
Benzo(b)fluoranthene	80		89		40-140	11		30
Benzo(k)fluoranthene	77		90		40-140	16		30
Chrysene	71		83		40-140	16		30
Acenaphthylene	77		85		45-123	10		30
Anthracene	79		93		40-140	16		30
Benzo(ghi)perylene	80		96		40-140	18		30
Fluorene	76		90		40-140	17		30
Phenanthrene	73		90		40-140	21		30
Dibenzo(a,h)anthracene	75		91		40-140	19		30
Indeno(1,2,3-cd)pyrene	72		83		40-140	14		30
Pyrene	73		81		26-127	10		30
Biphenyl	70		79		40-140	12		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 14-15 Batch: WG1265524-2 WG1265524-3

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Aniline	56		58		40-140	4		30
4-Chloroaniline	76		76		40-140	0		30
1-Methylnaphthalene	72		83		41-103	14		30
2-Nitroaniline	83		91		52-143	9		30
3-Nitroaniline	73		79		25-145	8		30
4-Nitroaniline	79		87		51-143	10		30
Dibenzofuran	70		83		40-140	17		30
2-Methylnaphthalene	68		79		40-140	15		30
n-Nitrosodimethylamine	62		70		22-74	12		30
2,4,6-Trichlorophenol	73		78		30-130	7		30
p-Chloro-m-cresol	88		92		23-97	4		30
2-Chlorophenol	76		89		27-123	16		30
2,4-Dichlorophenol	78		87		30-130	11		30
2,4-Dimethylphenol	32		**22**	Q	30-130	**37**	Q	30
2-Nitrophenol	81		97		30-130	18		30
4-Nitrophenol	**89**	Q	**99**	Q	10-80	11		30
2,4-Dinitrophenol	84		92		20-130	9		30
4,6-Dinitro-o-cresol	95		105		20-164	10		30
Pentachlorophenol	63		67		9-103	6		30
Phenol	64		74		12-110	14		30
2-Methylphenol	68		67		30-130	1		30
3-Methylphenol/4-Methylphenol	81		85		30-130	5		30
2,4,5-Trichlorophenol	75		82		30-130	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 14-15 Batch: WG1265524-2 WG1265524-3								
Benzoic Acid	76		94		10-164	21		30
Benzyl Alcohol	83		93		26-116	11		30
Carbazole	82		92		55-144	11		30
Pyridine	38		38		10-66	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	68		78		21-120
Phenol-d6	65		75		10-120
Nitrobenzene-d5	88		102		23-120
2-Fluorobiphenyl	71		81		15-120
2,4,6-Tribromophenol	56		57		10-120
4-Terphenyl-d14	69		77		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 14-15 Batch: WG1265526-2 WG1265526-3								
Acenaphthene	80		77		40-140	4		40
2-Chloronaphthalene	83		78		40-140	6		40
Fluoranthene	87		94		40-140	8		40
Hexachlorobutadiene	69		63		40-140	9		40
Naphthalene	77		70		40-140	10		40
Benzo(a)anthracene	85		91		40-140	7		40
Benzo(a)pyrene	87		94		40-140	8		40
Benzo(b)fluoranthene	88		92		40-140	4		40
Benzo(k)fluoranthene	90		96		40-140	6		40
Chrysene	82		90		40-140	9		40
Acenaphthylene	89		87		40-140	2		40
Anthracene	86		90		40-140	5		40
Benzo(ghi)perylene	92		100		40-140	8		40
Fluorene	85		85		40-140	0		40
Phenanthrene	82		88		40-140	7		40
Dibenzo(a,h)anthracene	92		100		40-140	8		40
Indeno(1,2,3-cd)pyrene	90		96		40-140	6		40
Pyrene	86		94		40-140	9		40
1-Methylnaphthalene	82		77		40-140	6		40
2-Methylnaphthalene	82		77		40-140	6		40
Pentachlorophenol	88		92		40-140	4		40
Hexachlorobenzene	85		87		40-140	2		40
Hexachloroethane	73		67		40-140	9		40

Lab Control Sample Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 14-15 Batch: WG1265526-2 WG1265526-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	61		57		21-120
Phenol-d6	52		49		10-120
Nitrobenzene-d5	83		74		23-120
2-Fluorobiphenyl	80		77		15-120
2,4,6-Tribromophenol	89		99		10-120
4-Terphenyl-d14	96		103		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,08-09,12 Batch: WG1268512-2 WG1268512-3								
Acenaphthene	88		85		31-137	3		50
Benzidine	48		44		10-66	9		50
1,2,4-Trichlorobenzene	84		80		38-107	5		50
Hexachlorobenzene	88		85		40-140	3		50
Bis(2-chloroethyl)ether	81		77		40-140	5		50
2-Chloronaphthalene	92		91		40-140	1		50
1,2-Dichlorobenzene	80		77		40-140	4		50
1,3-Dichlorobenzene	79		74		40-140	7		50
1,4-Dichlorobenzene	80		73		28-104	9		50
3,3'-Dichlorobenzidine	69		67		40-140	3		50
2,4-Dinitrotoluene	117		112		40-132	4		50
2,6-Dinitrotoluene	115		114		40-140	1		50
Azobenzene	96		93		40-140	3		50
Fluoranthene	98		93		40-140	5		50
4-Chlorophenyl phenyl ether	94		90		40-140	4		50
4-Bromophenyl phenyl ether	91		88		40-140	3		50
Bis(2-chloroisopropyl)ether	72		69		40-140	4		50
Bis(2-chloroethoxy)methane	87		83		40-117	5		50
Hexachlorobutadiene	84		80		40-140	5		50
Hexachlorocyclopentadiene	72		70		40-140	3		50
Hexachloroethane	83		78		40-140	6		50
Isophorone	85		84		40-140	1		50
Naphthalene	85		81		40-140	5		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
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Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,08-09,12 Batch: WG1268512-2 WG1268512-3								
Nitrobenzene	92		88		40-140	4		50
NDPA/DPA	97		93		36-157	4		50
n-Nitrosodi-n-propylamine	87		85		32-121	2		50
Bis(2-ethylhexyl)phthalate	106		102		40-140	4		50
Butyl benzyl phthalate	109		104		40-140	5		50
Di-n-butylphthalate	101		96		40-140	5		50
Di-n-octylphthalate	108		102		40-140	6		50
Diethyl phthalate	101		96		40-140	5		50
Dimethyl phthalate	104		99		40-140	5		50
Benzo(a)anthracene	95		93		40-140	2		50
Benzo(a)pyrene	93		87		40-140	7		50
Benzo(b)fluoranthene	94		89		40-140	5		50
Benzo(k)fluoranthene	99		94		40-140	5		50
Chrysene	93		88		40-140	6		50
Acenaphthylene	98		96		40-140	2		50
Anthracene	94		89		40-140	5		50
Benzo(ghi)perylene	99		93		40-140	6		50
Fluorene	94		90		40-140	4		50
Phenanthrene	90		86		40-140	5		50
Dibenzo(a,h)anthracene	93		88		40-140	6		50
Indeno(1,2,3-cd)pyrene	96		92		40-140	4		50
Pyrene	96		92		35-142	4		50
Biphenyl	94		94		37-127	0		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,08-09,12 Batch: WG1268512-2 WG1268512-3								
Aniline	70		68		40-140	3		50
4-Chloroaniline	71		73		40-140	3		50
1-Methylnaphthalene	92		90		26-130	2		50
2-Nitroaniline	119		121		47-134	2		50
3-Nitroaniline	85		83		26-129	2		50
4-Nitroaniline	99		96		41-125	3		50
Dibenzofuran	94		91		40-140	3		50
2-Methylnaphthalene	89		88		40-140	1		50
n-Nitrosodimethylamine	80		78		22-100	3		50
2,4,6-Trichlorophenol	105		104		30-130	1		50
p-Chloro-m-cresol	**104**	Q	103		26-103	1		50
2-Chlorophenol	88		82		25-102	7		50
2,4-Dichlorophenol	98		94		30-130	4		50
2,4-Dimethylphenol	101		99		30-130	2		50
2-Nitrophenol	111		109		30-130	2		50
4-Nitrophenol	**128**	Q	**121**	Q	11-114	6		50
2,4-Dinitrophenol	115		114		4-130	1		50
4,6-Dinitro-o-cresol	128		124		10-130	3		50
Pentachlorophenol	105		102		17-109	3		50
Phenol	90		85		26-90	6		50
2-Methylphenol	90		85		30-130.	6		50
3-Methylphenol/4-Methylphenol	90		87		30-130	3		50
2,4,5-Trichlorophenol	107		104		30-130	3		50

Lab Control Sample Analysis

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,08-09,12 Batch: WG1268512-2 WG1268512-3								
Benzoic Acid	78		76		10-110	3		50
Benzyl Alcohol	96		90		40-140	6		50
Carbazole	96		91		54-128	5		50
Pyridine	68		65		10-93	5		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	90		83		25-120
Phenol-d6	93		88		10-120
Nitrobenzene-d5	96		92		23-120
2-Fluorobiphenyl	93		91		30-120
2,4,6-Tribromophenol	95		93		10-136
4-Terphenyl-d14	92		86		18-120

Lab Control Sample Analysis
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Project Name: LONG FALLS PAPERBOARD
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 14-15 Batch: WG1268635-2 WG1268635-3								
Perfluorobutanoic Acid (PFBA)	106		108		67-148	2		30
Perfluoropentanoic Acid (PFPeA)	112		112		63-161	0		30
Perfluorobutanesulfonic Acid (PFBS)	107		108		65-157	1		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	116		104		37-219	11		30
Perfluorohexanoic Acid (PFHxA)	116		119		69-168	3		30
Perfluoropentanesulfonic Acid (PFPeS)	110		110		52-156	0		30
Perfluoroheptanoic Acid (PFHpA)	106		116		58-159	9		30
Perfluorohexanesulfonic Acid (PFHxS)	101		104		69-177	3		30
Perfluorooctanoic Acid (PFOA)	115		102		63-159	12		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	104		106		49-187	2		30
Perfluoroheptanesulfonic Acid (PFHpS)	108		160		61-179	**39**	Q	30
Perfluorononanoic Acid (PFNA)	116		113		68-171	3		30
Perfluorooctanesulfonic Acid (PFOS)	86		126		52-151	**38**	Q	30
Perfluorodecanoic Acid (PFDA)	111		113		63-171	2		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	102		93		56-173	9		30
Perfluorononanesulfonic Acid (PFNS)	91		139		48-150	**42**	Q	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	114		138		60-166	19		30
Perfluoroundecanoic Acid (PFUnA)	112		112		60-153	0		30
Perfluorodecanesulfonic Acid (PFDS)	96		134		38-156	**33**	Q	30
Perfluorooctanesulfonamide (FOSA)	88		98		46-170	11		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	94		96		45-170	2		30
Perfluorododecanoic Acid (PFDoA)	89		86		67-153	3		30

Lab Control Sample Analysis

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Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 14-15 Batch: WG1268635-2 WG1268635-3								
Perfluorotridecanoic Acid (PFTrDA)	92		88		48-158	4		30
Perfluorotetradecanoic Acid (PFTA)	119		98		59-182	19		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		98		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	103		105		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		128		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	64		95		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	96		95		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	97		95		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		135		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		98		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	77		117		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	100		93		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	91		86		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		83		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	75		109		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	67		50		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	80		76		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	57		53		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	71		59		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	85		78		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		71		33-143

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13 Batch: WG1268890-2 WG1268890-3								
Acenaphthene	88		86		31-137	2		50
Benzidine	65		53		10-66	20		50
1,2,4-Trichlorobenzene	91		88		38-107	3		50
Hexachlorobenzene	100		94		40-140	6		50
Bis(2-chloroethyl)ether	82		80		40-140	2		50
2-Chloronaphthalene	97		94		40-140	3		50
1,2-Dichlorobenzene	81		80		40-140	1		50
1,3-Dichlorobenzene	78		77		40-140	1		50
1,4-Dichlorobenzene	78		77		28-104	1		50
3,3'-Dichlorobenzidine	82		74		40-140	10		50
2,4-Dinitrotoluene	97		93		40-132	4		50
2,6-Dinitrotoluene	112		107		40-140	5		50
Azobenzene	86		84		40-140	2		50
Fluoranthene	95		89		40-140	7		50
4-Chlorophenyl phenyl ether	94		89		40-140	5		50
4-Bromophenyl phenyl ether	100		95		40-140	5		50
Bis(2-chloroisopropyl)ether	79		76		40-140	4		50
Bis(2-chloroethoxy)methane	89		87		40-117	2		50
Hexachlorobutadiene	88		82		40-140	7		50
Hexachlorocyclopentadiene	84		80		40-140	5		50
Hexachloroethane	78		75		40-140	4		50
Isophorone	89		85		40-140	5		50
Naphthalene	87		85		40-140	2		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13 Batch: WG1268890-2 WG1268890-3								
Nitrobenzene	92		91		40-140	1		50
NDPA/DPA	95		91		36-157	4		50
n-Nitrosodi-n-propylamine	91		88		32-121	3		50
Bis(2-ethylhexyl)phthalate	98		94		40-140	4		50
Butyl benzyl phthalate	98		94		40-140	4		50
Di-n-butylphthalate	98		89		40-140	10		50
Di-n-octylphthalate	97		91		40-140	6		50
Diethyl phthalate	95		90		40-140	5		50
Dimethyl phthalate	101		97		40-140	4		50
Benzo(a)anthracene	92		87		40-140	6		50
Benzo(a)pyrene	89		85		40-140	5		50
Benzo(b)fluoranthene	93		92		40-140	1		50
Benzo(k)fluoranthene	94		87		40-140	8		50
Chrysene	89		85		40-140	5		50
Acenaphthylene	98		93		40-140	5		50
Anthracene	94		88		40-140	7		50
Benzo(ghi)perylene	94		87		40-140	8		50
Fluorene	91		87		40-140	4		50
Phenanthrene	90		85		40-140	6		50
Dibenzo(a,h)anthracene	94		88		40-140	7		50
Indeno(1,2,3-cd)pyrene	94		88		40-140	7		50
Pyrene	92		88		35-142	4		50
Biphenyl	98		94		37-127	4		50

Lab Control Sample Analysis
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13 Batch: WG1268890-2 WG1268890-3								
Aniline	82		78		40-140	5		50
4-Chloroaniline	79		71		40-140	11		50
1-Methylnaphthalene	90		88		26-130	2		50
2-Nitroaniline	114		111		47-134	3		50
3-Nitroaniline	90		84		26-129	7		50
4-Nitroaniline	100		96		41-125	4		50
Dibenzofuran	91		88		40-140	3		50
2-Methylnaphthalene	93		89		40-140	4		50
n-Nitrosodimethylamine	76		75		22-100	1		50
2,4,6-Trichlorophenol	107		102		30-130	5		50
p-Chloro-m-cresol	102		98		26-103	4		50
2-Chlorophenol	91		89		25-102	2		50
2,4-Dichlorophenol	102		98		30-130	4		50
2,4-Dimethylphenol	95		93		30-130	2		50
2-Nitrophenol	104		102		30-130	2		50
4-Nitrophenol	101		107		11-114	6		50
2,4-Dinitrophenol	99		95		4-130	4		50
4,6-Dinitro-o-cresol	99		98		10-130	1		50
Pentachlorophenol	99		94		17-109	5		50
Phenol	**93**	Q	90		26-90	3		50
2-Methylphenol	96		93		30-130.	3		50
3-Methylphenol/4-Methylphenol	95		93		30-130	2		50
2,4,5-Trichlorophenol	110		105		30-130	5		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 13 Batch: WG1268890-2 WG1268890-3								
Benzoic Acid	58		65		10-110	11		50
Benzyl Alcohol	94		92		40-140	2		50
Carbazole	92		86		54-128	7		50
Pyridine	58		62		10-93	7		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	89		86		25-120
Phenol-d6	92		88		10-120
Nitrobenzene-d5	76		74		23-120
2-Fluorobiphenyl	77		74		30-120
2,4,6-Tribromophenol	112		106		10-136
4-Terphenyl-d14	78		72		18-120

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02,05,13 Batch: WG1269730-2 WG1269730-3								
Perfluorobutanoic Acid (PFBA)	108		111		71-135	3		30
Perfluoropentanoic Acid (PFPeA)	112		116		69-132	4		30
Perfluorobutanesulfonic Acid (PFBS)	110		115		72-128	4		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	125		118		62-145	6		30
Perfluorohexanoic Acid (PFHxA)	118		123		70-132	4		30
Perfluoropentanesulfonic Acid (PFPeS)	104		111		73-123	7		30
Perfluoroheptanoic Acid (PFHpA)	107		113		71-131	5		30
Perfluorohexanesulfonic Acid (PFHxS)	119		123		67-130	3		30
Perfluorooctanoic Acid (PFOA)	112		117		69-133	4		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	114		129		64-140	12		30
Perfluoroheptanesulfonic Acid (PFHpS)	114		126		70-132	10		30
Perfluorononanoic Acid (PFNA)	115		119		72-129	3		30
Perfluorooctanesulfonic Acid (PFOS)	98		113		68-136	14		30
Perfluorodecanoic Acid (PFDA)	115		121		69-133	5		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	105		121		65-137	14		30
Perfluorononanesulfonic Acid (PFNS)	121		123		69-125	2		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	108		113		63-144	5		30
Perfluoroundecanoic Acid (PFUnA)	105		107		64-136	2		30
Perfluorodecanesulfonic Acid (PFDS)	110		127		59-134	14		30
Perfluorooctanesulfonamide (FOSA)	**64**	Q	116		67-137	**58**	Q	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	104		112		61-139	7		30
Perfluorododecanoic Acid (PFDoA)	110		117		69-135	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 02,05,13 Batch: WG1269730-2 WG1269730-3								
Perfluorotridecanoic Acid (PFTrDA)	121		119		66-139	2		30
Perfluorotetradecanoic Acid (PFTA)	122		130		69-133	6		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	95		88		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	102		93		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	106		96		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	67		64		56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	92		84		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		85		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108		95		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		88		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	71		59		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96		91		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		89		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		88		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	84		70		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	79		74		45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		88		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	1		1		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	75		69		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	87		82		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	81		72		26-160

SEMIVOLATILES

High Resolution Mass Spectrometry

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-02
Client ID: IP-12-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/22/19 16:05
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8290A
Analytical Date: 08/16/19 00:15
Analyst: PB
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 08/13/19 15:16
Cleanup Method: EPA 8290A
Cleanup Date: 08/14/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
2,3,7,8-TCDD	ND			pg/g	0.560	0.173	1
1,2,3,7,8-PeCDD	ND			pg/g	2.80	0.411	1
1,2,3,4,7,8-HxCDD	ND			pg/g	2.80	0.619	1
1,2,3,6,7,8-HxCDD	ND			pg/g	2.80	0.481	1
1,2,3,7,8,9-HxCDD	ND			pg/g	2.80	0.429	1
1,2,3,4,6,7,8-HpCDD	ND			pg/g	2.80	0.304	1
OCDD	5.18	J		pg/g	5.60	0.594	1
2,3,7,8-TCDF	ND			pg/g	0.560	0.155	1
1,2,3,7,8-PeCDF	ND			pg/g	2.80	0.336	1
2,3,4,7,8-PeCDF	ND			pg/g	2.80	0.281	1
1,2,3,4,7,8-HxCDF	ND			pg/g	2.80	0.359	1
1,2,3,6,7,8-HxCDF	ND			pg/g	2.80	0.392	1
1,2,3,7,8,9-HxCDF	ND			pg/g	2.80	0.318	1
2,3,4,6,7,8-HxCDF	ND			pg/g	2.80	0.341	1
1,2,3,4,6,7,8-HpCDF	ND			pg/g	2.80	0.444	1
1,2,3,4,7,8,9-HpCDF	ND			pg/g	2.80	0.307	1
OCDF	ND			pg/g	5.60	0.947	1
Total TCDD	ND			pg/g	0.560	0.173	1
Total PeCDD	ND			pg/g	2.80	0.411	1
Total HxCDD	ND			pg/g	2.80	0.619	1
Total HpCDD	ND			pg/g	2.80	0.304	1
Total TCDF	ND			pg/g	0.560	0.155	1
Total PeCDF	ND			pg/g	2.80	0.336	1
Total HxCDF	ND			pg/g	2.80	0.359	1
Total HpCDF	ND			pg/g	2.80	0.444	1
Total PCDD	5.18	J		pg/g	0.560	0.173	1
Total PCDF	ND			pg/g	0.560	0.155	1
Toxic Equivalency (TEQ)	ND			pg/g	0.002	0.002	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID:	L1932777-02	Date Collected:	07/22/19 16:05
Client ID:	IP-12-11.0	Date Received:	07/24/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	58		40-135
13C12-2,3,7,8-TCDD	61		40-135
13C12-1,2,3,7,8-PeCDF	56		40-135
13C12-2,3,4,7,8-PeCDF	57		40-135
13C12-1,2,3,7,8-PeCDD	60		40-135
13C12-1,2,3,4,7,8-HxCDF	70		40-135
13C12-1,2,3,6,7,8-HxCDF	66		40-135
13C12-2,3,4,6,7,8-HxCDF	62		40-135
13C12-1,2,3,7,8,9-HxCDF	68		40-135
13C12-1,2,3,4,7,8-HxCDD	63		40-135
13C12-1,2,3,6,7,8-HxCDD	63		40-135
13C12-1,2,3,4,6,7,8-HpCDF	69		40-135
13C12-1,2,3,4,7,8,9-HpCDF	68		40-135
13C12-1,2,3,4,6,7,8-HpCDD	68		40-135
13C12-OCDD	64		40-135
37CL4-2,3,7,8-TCDD	86		40-135

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-04
Client ID: IP-13-10.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 07:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8290A
Analytical Date: 08/16/19 01:19
Analyst: PB
Percent Solids: 97%

Extraction Method: EPA 3546
Extraction Date: 08/13/19 15:16
Cleanup Method: EPA 8290A
Cleanup Date: 08/14/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
2,3,7,8-TCDD	ND			pg/g	0.451	0.139	1
1,2,3,7,8-PeCDD	ND			pg/g	2.26	0.331	1
1,2,3,4,7,8-HxCDD	ND			pg/g	2.26	0.498	1
1,2,3,6,7,8-HxCDD	ND			pg/g	2.26	0.387	1
1,2,3,7,8,9-HxCDD	ND			pg/g	2.26	0.346	1
1,2,3,4,6,7,8-HpCDD	ND			pg/g	2.26	0.244	1
OCDD	ND			pg/g	4.51	0.478	1
2,3,7,8-TCDF	ND			pg/g	0.451	0.124	1
1,2,3,7,8-PeCDF	ND			pg/g	2.26	0.271	1
2,3,4,7,8-PeCDF	ND			pg/g	2.26	0.226	1
1,2,3,4,7,8-HxCDF	ND			pg/g	2.26	0.289	1
1,2,3,6,7,8-HxCDF	ND			pg/g	2.26	0.316	1
1,2,3,7,8,9-HxCDF	ND			pg/g	2.26	0.256	1
2,3,4,6,7,8-HxCDF	ND			pg/g	2.26	0.274	1
1,2,3,4,6,7,8-HpCDF	ND			pg/g	2.26	0.357	1
1,2,3,4,7,8,9-HpCDF	ND			pg/g	2.26	0.247	1
OCDF	ND			pg/g	4.51	0.762	1
Total TCDD	ND			pg/g	0.451	0.139	1
Total PeCDD	ND			pg/g	2.26	0.331	1
Total HxCDD	ND			pg/g	2.26	0.498	1
Total HpCDD	ND			pg/g	2.26	0.244	1
Total TCDF	ND			pg/g	0.451	0.124	1
Total PeCDF	ND			pg/g	2.26	0.271	1
Total HxCDF	ND			pg/g	2.26	0.289	1
Total HpCDF	ND			pg/g	2.26	0.357	1
Total PCDD	ND			pg/g	0.451	0.139	1
Total PCDF	ND			pg/g	0.451	0.124	1
Toxic Equivalency (TEQ)	ND			pg/g	0.001	0.001	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID:	L1932777-04	Date Collected:	07/23/19 07:55
Client ID:	IP-13-10.5	Date Received:	07/24/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	50		40-135
13C12-2,3,7,8-TCDD	53		40-135
13C12-1,2,3,7,8-PeCDF	51		40-135
13C12-2,3,4,7,8-PeCDF	51		40-135
13C12-1,2,3,7,8-PeCDD	52		40-135
13C12-1,2,3,4,7,8-HxCDF	64		40-135
13C12-1,2,3,6,7,8-HxCDF	64		40-135
13C12-2,3,4,6,7,8-HxCDF	58		40-135
13C12-1,2,3,7,8,9-HxCDF	53		40-135
13C12-1,2,3,4,7,8-HxCDD	60		40-135
13C12-1,2,3,6,7,8-HxCDD	63		40-135
13C12-1,2,3,4,6,7,8-HpCDF	63		40-135
13C12-1,2,3,4,7,8,9-HpCDF	53		40-135
13C12-1,2,3,4,6,7,8-HpCDD	61		40-135
13C12-OCDD	60		40-135
37CL4-2,3,7,8-TCDD	85		40-135

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13
Client ID: IP-25
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 15:30
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8290A
Analytical Date: 08/16/19 13:36
Analyst: PB
Percent Solids: 29%

Extraction Method: EPA 3546
Extraction Date: 08/13/19 15:16
Cleanup Method: EPA 8290A
Cleanup Date: 08/14/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
2,3,7,8-TCDD	1.64			pg/g	1.64	0.505	1
1,2,3,7,8-PeCDD	6.88	J		pg/g	8.20	1.20	1
1,2,3,4,7,8-HxCDD	7.08	J		pg/g	8.20	1.81	1
1,2,3,6,7,8-HxCDD	8.13	J		pg/g	8.20	1.41	1
1,2,3,7,8,9-HxCDD	7.25	J		pg/g	8.20	1.26	1
1,2,3,4,6,7,8-HpCDD	15.9			pg/g	8.20	0.888	1
OCDD	84.4			pg/g	16.4	1.74	1
2,3,7,8-TCDF	35.5			pg/g	1.64	0.452	1
1,2,3,7,8-PeCDF	18.0			pg/g	8.20	0.984	1
2,3,4,7,8-PeCDF	13.1			pg/g	8.20	0.823	1
1,2,3,4,7,8-HxCDF	11.5			pg/g	8.20	1.05	1
1,2,3,6,7,8-HxCDF	8.36			pg/g	8.20	1.15	1
1,2,3,7,8,9-HxCDF	8.82			pg/g	8.20	0.931	1
2,3,4,6,7,8-HxCDF	8.36			pg/g	8.20	0.997	1
1,2,3,4,6,7,8-HpCDF	8.06	J		pg/g	8.20	1.30	1
1,2,3,4,7,8,9-HpCDF	7.11	J		pg/g	8.20	0.898	1
OCDF	16.6			pg/g	16.4	2.77	1
Total TCDD	3.38		5.44	pg/g	1.64	0.505	1
Total PeCDD	ND			pg/g	8.20	1.20	1
Total HxCDD	ND			pg/g	8.20	1.81	1
Total HpCDD	29.9			pg/g	8.20	0.888	1
Total TCDF	62.3			pg/g	1.64	0.452	1
Total PeCDF	30.6			pg/g	8.20	0.984	1
Total HxCDF	28.3			pg/g	8.20	1.05	1
Total HpCDF	8.75			pg/g	8.20	1.30	1
Total PCDD	118		120	pg/g	1.64	0.505	1
Total PCDF	147			pg/g	1.64	0.452	1
Toxic Equivalency (TEQ)	13.6			pg/g	0.005	0.005	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID:	L1932777-13	Date Collected:	07/23/19 15:30
Client ID:	IP-25	Date Received:	07/24/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	60		40-135
13C12-2,3,7,8-TCDD	64		40-135
13C12-1,2,3,7,8-PeCDF	55		40-135
13C12-2,3,4,7,8-PeCDF	52		40-135
13C12-1,2,3,7,8-PeCDD	56		40-135
13C12-1,2,3,4,7,8-HxCDF	64		40-135
13C12-1,2,3,6,7,8-HxCDF	61		40-135
13C12-2,3,4,6,7,8-HxCDF	60		40-135
13C12-1,2,3,7,8,9-HxCDF	64		40-135
13C12-1,2,3,4,7,8-HxCDD	61		40-135
13C12-1,2,3,6,7,8-HxCDD	58		40-135
13C12-1,2,3,4,6,7,8-HpCDF	63		40-135
13C12-1,2,3,4,7,8,9-HpCDF	63		40-135
13C12-1,2,3,4,6,7,8-HpCDD	62		40-135
13C12-OCDD	60		40-135
37CL4-2,3,7,8-TCDD	92		40-135

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8290A
Analytical Date: 08/15/19 19:59
Analyst: PB

Extraction Method: EPA 3546
Extraction Date: 08/13/19 15:16
Cleanup Method: EPA 8290A
Cleanup Date: 08/14/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab for sample(s): 02,04,13 Batch: WG1271761-1						
2,3,7,8-TCDD	ND			pg/g	0.500	0.154
1,2,3,7,8-PeCDD	ND			pg/g	2.50	0.367
1,2,3,4,7,8-HxCDD	ND			pg/g	2.50	0.552
1,2,3,6,7,8-HxCDD	ND			pg/g	2.50	0.429
1,2,3,7,8,9-HxCDD	ND			pg/g	2.50	0.383
1,2,3,4,6,7,8-HpCDD	ND			pg/g	2.50	0.271
OCDD	ND			pg/g	5.00	0.530
2,3,7,8-TCDF	ND			pg/g	0.500	0.138
1,2,3,7,8-PeCDF	ND			pg/g	2.50	0.300
2,3,4,7,8-PeCDF	ND			pg/g	2.50	0.251
1,2,3,4,7,8-HxCDF	ND			pg/g	2.50	0.320
1,2,3,6,7,8-HxCDF	ND			pg/g	2.50	0.350
1,2,3,7,8,9-HxCDF	ND			pg/g	2.50	0.284
2,3,4,6,7,8-HxCDF	ND			pg/g	2.50	0.304
1,2,3,4,6,7,8-HpCDF	ND			pg/g	2.50	0.396
1,2,3,4,7,8,9-HpCDF	ND			pg/g	2.50	0.274
OCDF	ND			pg/g	5.00	0.845
Total TCDD	ND			pg/g	0.500	0.154
Total PeCDD	ND			pg/g	2.50	0.367
Total HxCDD	ND			pg/g	2.50	0.552
Total HpCDD	ND			pg/g	2.50	0.271
Total TCDF	ND			pg/g	0.500	0.138
Total PeCDF	ND			pg/g	2.50	0.300
Total HxCDF	ND			pg/g	2.50	0.320
Total HpCDF	ND			pg/g	2.50	0.396
Total PCDD	ND			pg/g	0.500	0.154
Total PCDF	ND			pg/g	0.500	0.138
Toxic Equivalency (TEQ)	ND			pg/g	0.002	0.002

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8290A
Analytical Date: 08/15/19 19:59
Analyst: PB

Extraction Method: EPA 3546
Extraction Date: 08/13/19 15:16
Cleanup Method: EPA 8290A
Cleanup Date: 08/14/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab for sample(s): 02,04,13 Batch: WG1271761-1						

Surrogate/Cleanup Standard	%Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	61		40-135
13C12-2,3,7,8-TCDD	65		40-135
13C12-1,2,3,7,8-PeCDF	60		40-135
13C12-2,3,4,7,8-PeCDF	60		40-135
13C12-1,2,3,7,8-PeCDD	62		40-135
13C12-1,2,3,4,7,8-HxCDF	74		40-135
13C12-1,2,3,6,7,8-HxCDF	72		40-135
13C12-2,3,4,6,7,8-HxCDF	67		40-135
13C12-1,2,3,7,8,9-HxCDF	71		40-135
13C12-1,2,3,4,7,8-HxCDD	72		40-135
13C12-1,2,3,6,7,8-HxCDD	68		40-135
13C12-1,2,3,4,6,7,8-HpCDF	74		40-135
13C12-1,2,3,4,7,8,9-HpCDF	73		40-135
13C12-1,2,3,4,6,7,8-HpCDD	71		40-135
13C12-OCDD	68		40-135
37CL4-2,3,7,8-TCDD	85		40-135

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 02,04,13 Batch: WG1271761-2								
2,3,7,8-TCDD	89		-		70-128	-		25
1,2,3,7,8-PeCDD	89		-		74-135	-		25
1,2,3,4,7,8-HxCDD	97		-		72-131	-		25
1,2,3,6,7,8-HxCDD	105		-		74-134	-		25
1,2,3,7,8,9-HxCDD	98		-		71-138	-		25
1,2,3,4,6,7,8-HpCDD	95		-		76-125	-		25
OCDD	96		-		73-135	-		25
2,3,7,8-TCDF	101		-		75-135	-		25
1,2,3,7,8-PeCDF	90		-		77-131	-		25
2,3,4,7,8-PeCDF	103		-		75-128	-		25
1,2,3,4,7,8-HxCDF	98		-		77-130	-		25
1,2,3,6,7,8-HxCDF	99		-		73-134	-		25
1,2,3,7,8,9-HxCDF	92		-		74-135	-		25
2,3,4,6,7,8-HxCDF	101		-		74-133	-		25
1,2,3,4,6,7,8-HpCDF	95		-		73-135	-		25
1,2,3,4,7,8,9-HpCDF	95		-		72-131	-		25
OCDF	96		-		66-144	-		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 02,04,13 Batch: WG1271761-2								

Surrogate/Cleanup Standard	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
13C12-2,3,7,8-TCDF	62				40-135
13C12-2,3,7,8-TCDD	63				40-135
13C12-1,2,3,7,8-PeCDF	57				40-135
13C12-2,3,4,7,8-PeCDF	59				40-135
13C12-1,2,3,7,8-PeCDD	62				40-135
13C12-1,2,3,4,7,8-HxCDF	74				40-135
13C12-1,2,3,6,7,8-HxCDF	72				40-135
13C12-2,3,4,6,7,8-HxCDF	70				40-135
13C12-1,2,3,7,8,9-HxCDF	74				40-135
13C12-1,2,3,4,7,8-HxCDD	71				40-135
13C12-1,2,3,6,7,8-HxCDD	70				40-135
13C12-1,2,3,4,6,7,8-HpCDF	73				40-135
13C12-1,2,3,4,7,8,9-HpCDF	73				40-135
13C12-1,2,3,4,6,7,8-HpCDD	71				40-135
13C12-OCDD	67				40-135
37CL4-2,3,7,8-TCDD	80				40-135

Matrix Spike Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 02,04,13 QC Batch ID: WG1271761-3 WG1271761-4 QC Sample: L1932777-02 Client ID: IP-12-11.0												
2,3,7,8-TCDD	ND	11.1	9.57	86		9.52	85		70-128	1		25
1,2,3,7,8-PeCDD	ND	55.6	49.1	88		47.6	85		74-135	3		25
1,2,3,4,7,8-HxCDD	ND	55.6	56.8	102		53.8	96		72-131	5		25
1,2,3,6,7,8-HxCDD	ND	55.6	57.7	104		57.6	103		74-134	0		25
1,2,3,7,8,9-HxCDD	ND	55.6	54.1	97		52.9	95		71-138	2		25
1,2,3,4,6,7,8-HpCDD	ND	55.6	54.4	98		53.5	96		76-125	2		25
OCDD	5.18J	111	123	111		110	98		73-135	11		25
2,3,7,8-TCDF	ND	11.1	11.2	101		11.0	98		75-135	2		25
1,2,3,7,8-PeCDF	ND	55.6	48.3	87		49.0	88		77-131	1		25
2,3,4,7,8-PeCDF	ND	55.6	57.9	104		56.3	101		75-128	3		25
1,2,3,4,7,8-HxCDF	ND	55.6	56.7	102		52.8	94		77-130	7		25
1,2,3,6,7,8-HxCDF	ND	55.6	55.6	100		56.2	100		73-134	1		25
1,2,3,7,8,9-HxCDF	ND	55.6	53.2	96		51.5	92		74-135	3		25
2,3,4,6,7,8-HxCDF	ND	55.6	58.8	106		55.8	100		74-133	5		25
1,2,3,4,6,7,8-HpCDF	ND	55.6	54.4	98		53.0	95		73-135	3		25
1,2,3,4,7,8,9-HpCDF	ND	55.6	54.5	98		52.5	94		72-131	4		25
OCDF	ND	111	113	102		108	97		66-144	5		25

Surrogate/Cleanup Standard	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
13C12-1,2,3,4,6,7,8-HpCDD	77		73		40-135
13C12-1,2,3,4,6,7,8-HpCDF	77		75		40-135
13C12-1,2,3,4,7,8,9-HpCDF	78		77		40-135

Matrix Spike Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 02,04,13 QC Batch ID: WG1271761-3 WG1271761-4 QC Sample: L1932777-02 Client ID: IP-12-11.0												

Surrogate/Cleanup Standard	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
13C12-1,2,3,4,7,8-HxCDD	70		72		40-135
13C12-1,2,3,4,7,8-HxCDF	75		79		40-135
13C12-1,2,3,6,7,8-HxCDD	70		71		40-135
13C12-1,2,3,6,7,8-HxCDF	73		73		40-135
13C12-1,2,3,7,8,9-HxCDF	74		75		40-135
13C12-1,2,3,7,8-PeCDD	65		69		40-135
13C12-1,2,3,7,8-PeCDF	61		63		40-135
13C12-2,3,4,6,7,8-HxCDF	69		72		40-135
13C12-2,3,4,7,8-PeCDF	61		64		40-135
13C12-2,3,7,8-TCDD	64		68		40-135
13C12-2,3,7,8-TCDF	61		63		40-135
13C12-OCDD	73		70		40-135
37CL4-2,3,7,8-TCDD	87		82		40-135

PCBS

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-01
Client ID: IP-12-7.5
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 08/13/19 21:25
Analyst: KB
Percent Solids: 87%

Date Collected: 07/22/19 16:00
Date Received: 07/24/19
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:25
Cleanup Method: EPA 3665A
Cleanup Date: 08/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 08/11/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.5	3.33	1	A
Aroclor 1221	ND		ug/kg	37.5	3.76	1	A
Aroclor 1232	ND		ug/kg	37.5	7.96	1	A
Aroclor 1242	ND		ug/kg	37.5	5.06	1	A
Aroclor 1248	ND		ug/kg	37.5	5.63	1	A
Aroclor 1254	ND		ug/kg	37.5	4.11	1	A
Aroclor 1260	ND		ug/kg	37.5	6.94	1	A
Aroclor 1262	ND		ug/kg	37.5	4.77	1	A
Aroclor 1268	ND		ug/kg	37.5	3.89	1	A
PCBs, Total	ND		ug/kg	37.5	3.33	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	B
Decachlorobiphenyl	72		30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	65		30-150	A

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-04
Client ID: IP-13-10.5
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 08/13/19 21:37
Analyst: KB
Percent Solids: 97%

Date Collected: 07/23/19 07:55
Date Received: 07/24/19
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:25
Cleanup Method: EPA 3665A
Cleanup Date: 08/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 08/11/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	33.0	2.93	1	A
Aroclor 1221	ND		ug/kg	33.0	3.31	1	A
Aroclor 1232	ND		ug/kg	33.0	7.00	1	A
Aroclor 1242	ND		ug/kg	33.0	4.45	1	A
Aroclor 1248	ND		ug/kg	33.0	4.95	1	A
Aroclor 1254	ND		ug/kg	33.0	3.61	1	A
Aroclor 1260	ND		ug/kg	33.0	6.10	1	A
Aroclor 1262	ND		ug/kg	33.0	4.19	1	A
Aroclor 1268	ND		ug/kg	33.0	3.42	1	A
PCBs, Total	ND		ug/kg	33.0	2.93	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	75		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	72		30-150	A

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13
Client ID: IP-25
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 08/13/19 20:48
Analyst: KB
Percent Solids: 29%

Date Collected: 07/23/19 15:30
Date Received: 07/24/19
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/06/19 12:26
Cleanup Method: EPA 3665A
Cleanup Date: 08/07/19
Cleanup Method: EPA 3660B
Cleanup Date: 08/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	338	30.0	1	A
Aroclor 1221	ND		ug/kg	338	33.8	1	A
Aroclor 1232	ND		ug/kg	338	71.6	1	A
Aroclor 1242	ND		ug/kg	338	45.5	1	A
Aroclor 1248	ND		ug/kg	338	50.7	1	A
Aroclor 1254	ND		ug/kg	338	37.0	1	A
Aroclor 1260	ND		ug/kg	338	62.4	1	A
Aroclor 1262	ND		ug/kg	338	42.9	1	A
Aroclor 1268	ND		ug/kg	338	35.0	1	A
PCBs, Total	ND		ug/kg	338	30.0	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	57		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	62		30-150	A

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/13/19 22:14
Analyst: KB

Extraction Method: EPA 3546
Extraction Date: 08/04/19 23:25
Cleanup Method: EPA 3665A
Cleanup Date: 08/10/19
Cleanup Method: EPA 3660B
Cleanup Date: 08/11/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01,04 Batch: WG1268510-1						
Aroclor 1016	ND		ug/kg	32.6	2.89	A
Aroclor 1221	ND		ug/kg	32.6	3.26	A
Aroclor 1232	ND		ug/kg	32.6	6.90	A
Aroclor 1242	ND		ug/kg	32.6	4.39	A
Aroclor 1248	ND		ug/kg	32.6	4.88	A
Aroclor 1254	ND		ug/kg	32.6	3.56	A
Aroclor 1260	ND		ug/kg	32.6	6.02	A
Aroclor 1262	ND		ug/kg	32.6	4.13	A
Aroclor 1268	ND		ug/kg	32.6	3.37	A
PCBs, Total	ND		ug/kg	32.6	2.89	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	B
Decachlorobiphenyl	74		30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	67		30-150	A

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/09/19 12:00
Analyst: AWS

Extraction Method: EPA 3546
Extraction Date: 08/06/19 12:26
Cleanup Method: EPA 3665A
Cleanup Date: 08/07/19
Cleanup Method: EPA 3660B
Cleanup Date: 08/07/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 13 Batch: WG1269162-1						
Aroclor 1016	ND		ug/kg	32.9	2.92	A
Aroclor 1221	ND		ug/kg	32.9	3.30	A
Aroclor 1232	ND		ug/kg	32.9	6.97	A
Aroclor 1242	ND		ug/kg	32.9	4.43	A
Aroclor 1248	ND		ug/kg	32.9	4.93	A
Aroclor 1254	ND		ug/kg	32.9	3.60	A
Aroclor 1260	ND		ug/kg	32.9	6.08	A
Aroclor 1262	ND		ug/kg	32.9	4.18	A
Aroclor 1268	ND		ug/kg	32.9	3.41	A
PCBs, Total	ND		ug/kg	32.9	2.92	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	73		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		30-150	A
Decachlorobiphenyl	79		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01,04 Batch: WG1268510-2 WG1268510-3									
Aroclor 1016	87		89		40-140	2		50	A
Aroclor 1260	85		86		40-140	1		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		74		30-150	B
Decachlorobiphenyl	76		75		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		75		30-150	A
Decachlorobiphenyl	68		68		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 13 Batch: WG1269162-2 WG1269162-3									
Aroclor 1016	62		61		40-140	2		50	A
Aroclor 1260	59		60		40-140	2		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		70		30-150	B
Decachlorobiphenyl	68		66		30-150	B
2,4,5,6-Tetrachloro-m-xylene	73		69		30-150	A
Decachlorobiphenyl	74		72		30-150	A

PESTICIDES

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-16
Client ID: DU1-A
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 10:35
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 08/11/19 17:50
Analyst: DGM
Percent Solids: 90%
Methylation Date: 08/08/19 11:47

Extraction Method: EPA 8151A
Extraction Date: 08/07/19 08:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3610	1140	1	A
MCPA	ND		ug/kg	3610	1020	1	A
Dalapon	ND		ug/kg	36.1	11.8	1	A
Dicamba	ND		ug/kg	36.1	6.06	1	A
Dichloroprop	ND		ug/kg	36.1	10.4	1	A
2,4-D	ND		ug/kg	180	11.4	1	A
2,4-DB	ND		ug/kg	180	9.27	1	A
2,4,5-T	ND		ug/kg	180	5.59	1	A
2,4,5-TP (Silvex)	ND		ug/kg	180	4.80	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	83		30-150	A
DCAA	71		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-17
Client ID: DU1-B
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 10:40
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 08/11/19 18:08
Analyst: DGM
Percent Solids: 91%
Methylation Date: 08/08/19 11:47

Extraction Method: EPA 8151A
Extraction Date: 08/07/19 08:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3600	1130	1	A
MCPA	ND		ug/kg	3600	1020	1	A
Dalapon	ND		ug/kg	36.0	11.8	1	A
Dicamba	ND		ug/kg	36.0	6.04	1	A
Dichloroprop	ND		ug/kg	36.0	10.3	1	A
2,4-D	ND		ug/kg	180	11.3	1	A
2,4-DB	ND		ug/kg	180	9.24	1	A
2,4,5-T	ND		ug/kg	180	5.57	1	A
2,4,5-TP (Silvex)	ND		ug/kg	180	4.78	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	93		30-150	A
DCAA	78		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-18
Client ID: DU1-C
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 10:45
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 08/11/19 18:44
Analyst: DGM
Percent Solids: 91%
Methylation Date: 08/08/19 11:47

Extraction Method: EPA 8151A
Extraction Date: 08/07/19 08:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3960	1250	1	A
MCPA	ND		ug/kg	3960	1120	1	A
Dalapon	ND		ug/kg	39.6	12.9	1	A
Dicamba	ND		ug/kg	39.6	6.65	1	A
Dichloroprop	ND		ug/kg	39.6	11.4	1	A
2,4-D	ND		ug/kg	198	12.5	1	A
2,4-DB	ND		ug/kg	198	10.2	1	A
2,4,5-T	ND		ug/kg	198	6.14	1	A
2,4,5-TP (Silvex)	ND		ug/kg	198	5.26	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	90		30-150	A
DCAA	77		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-19
Client ID: DU2-A
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 13:39
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 08/11/19 19:02
Analyst: DGM
Percent Solids: 88%
Methylation Date: 08/08/19 11:47

Extraction Method: EPA 8151A
Extraction Date: 08/07/19 08:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3710	1170	1	A
MCPA	ND		ug/kg	3710	1050	1	A
Dalapon	ND		ug/kg	37.1	12.1	1	A
Dicamba	ND		ug/kg	37.1	6.23	1	A
Dichloroprop	ND		ug/kg	37.1	10.6	1	A
2,4-D	ND		ug/kg	185	11.7	1	A
2,4-DB	ND		ug/kg	185	9.53	1	A
2,4,5-T	ND		ug/kg	185	5.75	1	A
2,4,5-TP (Silvex)	ND		ug/kg	185	4.93	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	94		30-150	A
DCAA	80		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-20
Client ID: DU2-B
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 13:52
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 08/11/19 19:21
Analyst: DGM
Percent Solids: 87%
Methylation Date: 08/08/19 11:47

Extraction Method: EPA 8151A
Extraction Date: 08/07/19 08:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3810	1200	1	A
MCPA	ND		ug/kg	3810	1080	1	A
Dalapon	ND		ug/kg	38.1	12.5	1	A
Dicamba	ND		ug/kg	38.1	6.40	1	A
Dichloroprop	ND		ug/kg	38.1	10.9	1	A
2,4-D	ND		ug/kg	191	12.0	1	A
2,4-DB	ND		ug/kg	191	9.80	1	A
2,4,5-T	ND		ug/kg	191	5.91	1	A
2,4,5-TP (Silvex)	ND		ug/kg	191	5.07	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	94		30-150	A
DCAA	82		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-21
Client ID: DU2-C
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 13:41
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 08/11/19 19:39
Analyst: DGM
Percent Solids: 89%
Methylation Date: 08/08/19 11:47

Extraction Method: EPA 8151A
Extraction Date: 08/07/19 08:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3710	1170	1	A
MCPA	ND		ug/kg	3710	1050	1	A
Dalapon	ND		ug/kg	37.1	12.1	1	A
Dicamba	ND		ug/kg	37.1	6.23	1	A
Dichloroprop	ND		ug/kg	37.1	10.6	1	A
2,4-D	ND		ug/kg	185	11.7	1	A
2,4-DB	ND		ug/kg	185	9.53	1	A
2,4,5-T	ND		ug/kg	185	5.75	1	A
2,4,5-TP (Silvex)	ND		ug/kg	185	4.93	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	91		30-150	A
DCAA	86		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8151A
Analytical Date: 08/08/19 09:44
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 08/06/19 20:32

Methylation Date: 08/07/19 11:17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 16-21 Batch: WG1269337-1						
MCPP	ND		ug/kg	3240	1020	A
MCPA	ND		ug/kg	3240	917.	A
Dalapon	ND		ug/kg	32.4	10.6	A
Dicamba	ND		ug/kg	32.4	5.44	A
Dichloroprop	ND		ug/kg	32.4	9.30	A
2,4-D	ND		ug/kg	162	10.2	A
2,4-DB	ND		ug/kg	162	8.33	A
2,4,5-T	ND		ug/kg	162	5.02	A
2,4,5-TP (Silvex)	ND		ug/kg	162	4.31	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	93		30-150	A
DCAA	103		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 16-21 Batch: WG1269337-2 WG1269337-3									
MCPP	133		141		30-150	6		30	A
MCPA	98		102		30-150	4		30	A
Dalapon	92		94		30-150	2		30	A
Dicamba	103		106		30-150	3		30	A
Dichloroprop	145		142		30-150	2		30	A
2,4-D	117		130		30-150	11		30	A
2,4-DB	85		87		30-150	2		30	A
2,4,5-T	97		104		30-150	7		30	A
2,4,5-TP (Silvex)	101		107		30-150	6		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	100		111		30-150	A
DCAA	98		107		30-150	B

METALS

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-01
Client ID: IP-12-7.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/22/19 16:00
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	6340		mg/kg	8.94	2.41	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Antimony, Total	ND		mg/kg	4.47	0.340	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Arsenic, Total	2.75		mg/kg	0.894	0.186	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Barium, Total	18.1		mg/kg	0.894	0.156	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Beryllium, Total	0.224	J	mg/kg	0.447	0.030	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Cadmium, Total	0.688	J	mg/kg	0.894	0.088	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Calcium, Total	728		mg/kg	8.94	3.13	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Chromium, Total	12.2		mg/kg	0.894	0.086	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Cobalt, Total	7.08		mg/kg	1.79	0.148	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Copper, Total	12.8		mg/kg	0.894	0.231	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Iron, Total	11500		mg/kg	4.47	0.807	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Lead, Total	3.24	J	mg/kg	4.47	0.240	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Magnesium, Total	2810		mg/kg	8.94	1.38	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Manganese, Total	300		mg/kg	0.894	0.142	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Mercury, Total	ND		mg/kg	0.073	0.048	1	08/13/19 08:00	08/13/19 18:10	EPA 7471B	1,7471B	GD
Nickel, Total	12.9		mg/kg	2.24	0.216	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Potassium, Total	898		mg/kg	224	12.9	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Selenium, Total	0.572	J	mg/kg	1.79	0.231	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	0.894	0.253	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Sodium, Total	46.7	J	mg/kg	179	2.82	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	1.79	0.282	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Vanadium, Total	15.8		mg/kg	0.894	0.182	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC
Zinc, Total	24.2		mg/kg	4.47	0.262	2	08/13/19 09:10	08/13/19 13:47	EPA 3050B	1,6010D	LC

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-03 Date Collected: 07/23/19 07:45

Client ID: IP-13-7.5 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5410		mg/kg	9.14	2.47	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Antimony, Total	0.393	J	mg/kg	4.57	0.347	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Arsenic, Total	2.28		mg/kg	0.914	0.190	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Barium, Total	24.2		mg/kg	0.914	0.159	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Beryllium, Total	0.247	J	mg/kg	0.457	0.030	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Cadmium, Total	0.612	J	mg/kg	0.914	0.090	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Calcium, Total	876		mg/kg	9.14	3.20	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Chromium, Total	9.79		mg/kg	0.914	0.088	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Cobalt, Total	5.86		mg/kg	1.83	0.152	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Copper, Total	11.8		mg/kg	0.914	0.236	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Iron, Total	10400		mg/kg	4.57	0.825	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Lead, Total	2.45	J	mg/kg	4.57	0.245	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Magnesium, Total	2670		mg/kg	9.14	1.41	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Manganese, Total	203		mg/kg	0.914	0.145	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Mercury, Total	ND		mg/kg	0.075	0.049	1	08/13/19 08:00	08/13/19 18:12	EPA 7471B	1,7471B	GD
Nickel, Total	11.6		mg/kg	2.28	0.221	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Potassium, Total	812		mg/kg	228	13.2	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Selenium, Total	0.567	J	mg/kg	1.83	0.236	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	0.914	0.259	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Sodium, Total	41.8	J	mg/kg	183	2.88	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	1.83	0.288	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Vanadium, Total	14.0		mg/kg	0.914	0.186	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC
Zinc, Total	23.0		mg/kg	4.57	0.268	2	08/13/19 09:10	08/13/19 14:01	EPA 3050B	1,6010D	LC

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-10 Date Collected: 07/23/19 10:21

Client ID: IP-15-6.0 Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7100		mg/kg	8.75	2.36	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Antimony, Total	0.402	J	mg/kg	4.38	0.332	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Arsenic, Total	2.53		mg/kg	0.875	0.182	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Barium, Total	16.8		mg/kg	0.875	0.152	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Beryllium, Total	0.228	J	mg/kg	0.438	0.029	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Cadmium, Total	0.700	J	mg/kg	0.875	0.086	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Calcium, Total	880		mg/kg	8.75	3.06	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Chromium, Total	10.3		mg/kg	0.875	0.084	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Cobalt, Total	6.46		mg/kg	1.75	0.145	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Copper, Total	15.7		mg/kg	0.875	0.226	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Iron, Total	11500		mg/kg	4.38	0.790	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Lead, Total	3.60	J	mg/kg	4.38	0.234	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Magnesium, Total	2880		mg/kg	8.75	1.35	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Manganese, Total	287		mg/kg	0.875	0.139	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Mercury, Total	ND		mg/kg	0.072	0.047	1	08/13/19 08:00	08/13/19 18:14	EPA 7471B	1,7471B	GD
Nickel, Total	12.7		mg/kg	2.19	0.212	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Potassium, Total	867		mg/kg	219	12.6	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Selenium, Total	0.682	J	mg/kg	1.75	0.226	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	0.875	0.248	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Sodium, Total	32.8	J	mg/kg	175	2.76	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	1.75	0.276	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Vanadium, Total	15.3		mg/kg	0.875	0.178	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC
Zinc, Total	26.0		mg/kg	4.38	0.256	2	08/13/19 09:10	08/13/19 14:06	EPA 3050B	1,6010D	LC

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-11
Client ID: IP-15-6.0-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:21
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	8380		mg/kg	9.08	2.45	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Antimony, Total	0.445	J	mg/kg	4.54	0.345	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Arsenic, Total	2.56		mg/kg	0.908	0.189	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Barium, Total	23.0		mg/kg	0.908	0.158	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Beryllium, Total	0.263	J	mg/kg	0.454	0.030	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Cadmium, Total	0.772	J	mg/kg	0.908	0.089	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Calcium, Total	871		mg/kg	9.08	3.18	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Chromium, Total	11.0		mg/kg	0.908	0.087	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Cobalt, Total	7.41		mg/kg	1.82	0.151	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Copper, Total	18.0		mg/kg	0.908	0.234	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Iron, Total	12800		mg/kg	4.54	0.820	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Lead, Total	4.06	J	mg/kg	4.54	0.243	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Magnesium, Total	3140		mg/kg	9.08	1.40	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Manganese, Total	338		mg/kg	0.908	0.144	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Mercury, Total	ND		mg/kg	0.077	0.050	1	08/13/19 08:00	08/13/19 18:16	EPA 7471B	1,7471B	GD
Nickel, Total	14.4		mg/kg	2.27	0.220	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Potassium, Total	870		mg/kg	227	13.1	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Selenium, Total	0.636	J	mg/kg	1.82	0.234	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	0.908	0.257	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Sodium, Total	39.0	J	mg/kg	182	2.86	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	1.82	0.286	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Vanadium, Total	16.8		mg/kg	0.908	0.184	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC
Zinc, Total	38.2		mg/kg	4.54	0.266	2	08/13/19 09:10	08/13/19 14:10	EPA 3050B	1,6010D	LC

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-12
Client ID: IP-14-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:20
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5400		mg/kg	8.24	2.22	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Antimony, Total	0.412	J	mg/kg	4.12	0.313	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Arsenic, Total	5.17		mg/kg	0.824	0.171	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Barium, Total	23.9		mg/kg	0.824	0.143	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Beryllium, Total	0.190	J	mg/kg	0.412	0.027	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Cadmium, Total	0.717	J	mg/kg	0.824	0.081	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Calcium, Total	330		mg/kg	8.24	2.88	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Chromium, Total	8.43		mg/kg	0.824	0.079	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Cobalt, Total	7.27		mg/kg	1.65	0.137	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Copper, Total	20.9		mg/kg	0.824	0.213	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Iron, Total	12000		mg/kg	4.12	0.744	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Lead, Total	5.22		mg/kg	4.12	0.221	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Magnesium, Total	2360		mg/kg	8.24	1.27	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Manganese, Total	211		mg/kg	0.824	0.131	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Mercury, Total	ND		mg/kg	0.069	0.045	1	08/13/19 08:00	08/13/19 18:18	EPA 7471B	1,7471B	GD
Nickel, Total	14.4		mg/kg	2.06	0.199	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Potassium, Total	746		mg/kg	206	11.9	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Selenium, Total	0.799	J	mg/kg	1.65	0.213	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	0.824	0.233	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Sodium, Total	19.4	J	mg/kg	165	2.60	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	1.65	0.260	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Vanadium, Total	14.6		mg/kg	0.824	0.167	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC
Zinc, Total	32.6		mg/kg	4.12	0.241	2	08/13/19 09:10	08/13/19 14:15	EPA 3050B	1,6010D	LC

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13
Client ID: IP-25
Sample Location: BRATTLEBORO, VT
Date Collected: 07/23/19 15:30
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 29%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1860		mg/kg	27.1	7.33	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Antimony, Total	ND		mg/kg	13.6	1.03	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Arsenic, Total	ND		mg/kg	2.71	0.565	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Barium, Total	4.91		mg/kg	2.71	0.472	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Beryllium, Total	ND		mg/kg	1.36	0.090	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Cadmium, Total	ND		mg/kg	2.71	0.266	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Calcium, Total	6520		mg/kg	27.1	9.50	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Chromium, Total	3.18		mg/kg	2.71	0.261	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Cobalt, Total	ND		mg/kg	5.43	0.451	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Copper, Total	125		mg/kg	2.71	0.700	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Iron, Total	495		mg/kg	13.6	2.45	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Lead, Total	2.20	J	mg/kg	13.6	0.728	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Magnesium, Total	396		mg/kg	27.1	4.18	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Manganese, Total	15.5		mg/kg	2.71	0.432	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Mercury, Total	ND		mg/kg	0.220	0.144	1	08/13/19 08:00	08/13/19 18:23	EPA 7471B	1,7471B	GD
Nickel, Total	1.44	J	mg/kg	6.79	0.657	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Potassium, Total	59.1	J	mg/kg	679	39.1	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Selenium, Total	0.977	J	mg/kg	5.43	0.700	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	2.71	0.768	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Sodium, Total	358	J	mg/kg	543	8.55	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	5.43	0.855	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Vanadium, Total	1.41	J	mg/kg	2.71	0.551	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC
Zinc, Total	12.9	J	mg/kg	13.6	0.795	2	08/13/19 09:10	08/13/19 14:20	EPA 3050B	1,6010D	LC

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14 Date Collected: 07/23/19 16:55

Client ID: SHALLOW WELL Date Received: 07/24/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	ND		mg/l	0.100	0.032	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Antimony, Total	0.00089	J	mg/l	0.00400	0.00042	1	08/08/19 09:10	08/08/19 17:12	EPA 3005A	1,6020B	AM
Arsenic, Total	0.00064		mg/l	0.00050	0.00016	1	08/08/19 09:10	08/08/19 17:12	EPA 3005A	1,6020B	AM
Barium, Total	0.049		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Beryllium, Total	ND		mg/l	0.005	0.001	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Cadmium, Total	ND		mg/l	0.005	0.001	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Calcium, Total	56.7		mg/l	0.100	0.035	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Chromium, Total	ND		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Cobalt, Total	ND		mg/l	0.020	0.002	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Copper, Total	0.020		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Iron, Total	0.065		mg/l	0.050	0.009	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Lead, Total	0.003	J	mg/l	0.010	0.003	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Magnesium, Total	17.1		mg/l	0.100	0.015	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Manganese, Total	0.267		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Mercury, Total	ND		mg/l	0.00020	0.00009	1	08/13/19 11:04	08/13/19 22:59	EPA 7470A	1,7470A	MG
Nickel, Total	ND		mg/l	0.025	0.002	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Potassium, Total	4.49		mg/l	2.50	0.237	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Selenium, Total	ND		mg/l	0.010	0.004	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Silver, Total	ND		mg/l	0.007	0.003	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Sodium, Total	40.4		mg/l	2.00	0.120	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Thallium, Total	0.00019	J	mg/l	0.00050	0.00014	1	08/08/19 09:10	08/08/19 17:12	EPA 3005A	1,6020B	AM
Vanadium, Total	ND		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB
Zinc, Total	0.030	J	mg/l	0.050	0.002	1	08/08/19 09:10	08/13/19 17:21	EPA 3005A	1,6010D	AB

Project Name: LONG FALLS PAPERBOARD
Lab Number: L1932777
Project Number: 19-015
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15
Client ID: DEEP WELL
Sample Location: BRATTLEBORO, VT
Date Collected: 07/23/19 17:15
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	ND		mg/l	0.100	0.032	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Antimony, Total	0.00047	J	mg/l	0.00400	0.00042	1	08/08/19 09:10	08/08/19 17:16	EPA 3005A	1,6020B	AM
Arsenic, Total	0.00037	J	mg/l	0.00050	0.00016	1	08/08/19 09:10	08/08/19 17:16	EPA 3005A	1,6020B	AM
Barium, Total	0.064		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Beryllium, Total	ND		mg/l	0.005	0.001	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Cadmium, Total	ND		mg/l	0.005	0.001	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Calcium, Total	52.3		mg/l	0.100	0.035	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Chromium, Total	ND		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Cobalt, Total	ND		mg/l	0.020	0.002	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Copper, Total	0.088		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Iron, Total	0.015	J	mg/l	0.050	0.009	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Lead, Total	0.027		mg/l	0.010	0.003	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Magnesium, Total	17.1		mg/l	0.100	0.015	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Manganese, Total	0.031		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Mercury, Total	ND		mg/l	0.00020	0.00009	1	08/13/19 11:04	08/13/19 23:01	EPA 7470A	1,7470A	MG
Nickel, Total	0.005	J	mg/l	0.025	0.002	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Potassium, Total	3.79		mg/l	2.50	0.237	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Selenium, Total	ND		mg/l	0.010	0.004	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Silver, Total	ND		mg/l	0.007	0.003	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Sodium, Total	99.7		mg/l	2.00	0.120	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Thallium, Total	ND		mg/l	0.00050	0.00014	1	08/08/19 09:10	08/08/19 17:16	EPA 3005A	1,6020B	AM
Vanadium, Total	ND		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB
Zinc, Total	0.187		mg/l	0.050	0.002	1	08/08/19 09:10	08/13/19 17:37	EPA 3005A	1,6010D	AB

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 14-15 Batch: WG1269968-1										
Antimony, Total	ND		mg/l	0.00400	0.00042	1	08/08/19 09:10	08/08/19 16:44	1,6020B	AM
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	08/08/19 09:10	08/08/19 16:44	1,6020B	AM
Thallium, Total	ND		mg/l	0.00050	0.00014	1	08/08/19 09:10	08/08/19 16:44	1,6020B	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 14-15 Batch: WG1270207-1										
Aluminum, Total	ND		mg/l	0.100	0.032	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Barium, Total	ND		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Beryllium, Total	ND		mg/l	0.005	0.001	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Cadmium, Total	ND		mg/l	0.005	0.001	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Calcium, Total	ND		mg/l	0.100	0.035	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Chromium, Total	ND		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Cobalt, Total	ND		mg/l	0.020	0.002	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Copper, Total	ND		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Iron, Total	ND		mg/l	0.050	0.009	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Lead, Total	ND		mg/l	0.010	0.003	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Magnesium, Total	ND		mg/l	0.100	0.015	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Manganese, Total	ND		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Nickel, Total	ND		mg/l	0.025	0.002	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	0.237	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Selenium, Total	ND		mg/l	0.010	0.004	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Silver, Total	ND		mg/l	0.007	0.003	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Sodium, Total	ND		mg/l	2.00	0.120	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Vanadium, Total	ND		mg/l	0.010	0.002	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB
Zinc, Total	ND		mg/l	0.050	0.002	1	08/08/19 09:10	08/13/19 17:54	1,6010D	AB

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03,10-13 Batch: WG1271619-1										
Mercury, Total	ND		mg/kg	0.083	0.054	1	08/13/19 08:00	08/13/19 11:00	1,7471B	GD

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03,10-13 Batch: WG1271623-1										
Aluminum, Total	ND		mg/kg	0.235	0.064	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Antimony, Total	ND		mg/kg	0.118	0.009	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Arsenic, Total	ND		mg/kg	0.024	0.005	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Barium, Total	ND		mg/kg	0.024	0.004	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Beryllium, Total	ND		mg/kg	0.012	0.001	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Cadmium, Total	ND		mg/kg	0.024	0.002	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Calcium, Total	ND		mg/kg	0.235	0.082	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Chromium, Total	ND		mg/kg	0.024	0.002	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Cobalt, Total	ND		mg/kg	0.047	0.004	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Copper, Total	ND		mg/kg	0.024	0.006	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Iron, Total	ND		mg/kg	0.118	0.021	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Lead, Total	ND		mg/kg	0.118	0.006	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Magnesium, Total	ND		mg/kg	0.235	0.036	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Manganese, Total	0.007	J	mg/kg	0.024	0.004	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Nickel, Total	ND		mg/kg	0.059	0.006	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Potassium, Total	ND		mg/kg	5.88	0.339	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Selenium, Total	ND		mg/kg	0.047	0.006	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Silver, Total	ND		mg/kg	0.024	0.007	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Sodium, Total	ND		mg/kg	4.70	0.074	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Thallium, Total	ND		mg/kg	0.047	0.007	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Vanadium, Total	ND		mg/kg	0.024	0.005	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC
Zinc, Total	0.030	J	mg/kg	0.118	0.007	1	08/13/19 09:10	08/13/19 12:06	1,6010D	LC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 14-15 Batch: WG1271723-1										
Mercury, Total	ND		mg/l	0.00020	0.00009	1	08/13/19 11:04	08/13/19 22:46	1,7470A	MG

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 14-15 Batch: WG1269968-2								
Antimony, Total	105		-		80-120	-		
Arsenic, Total	108		-		80-120	-		
Thallium, Total	108		-		80-120	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 14-15 Batch: WG1270207-2					
Aluminum, Total	109	-	80-120	-	
Barium, Total	105	-	80-120	-	
Beryllium, Total	112	-	80-120	-	
Cadmium, Total	113	-	80-120	-	
Calcium, Total	107	-	80-120	-	
Chromium, Total	106	-	80-120	-	
Cobalt, Total	105	-	80-120	-	
Copper, Total	100	-	80-120	-	
Iron, Total	116	-	80-120	-	
Lead, Total	110	-	80-120	-	
Magnesium, Total	114	-	80-120	-	
Manganese, Total	106	-	80-120	-	
Nickel, Total	105	-	80-120	-	
Potassium, Total	115	-	80-120	-	
Selenium, Total	110	-	80-120	-	
Silver, Total	102	-	80-120	-	
Sodium, Total	112	-	80-120	-	
Vanadium, Total	108	-	80-120	-	
Zinc, Total	111	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,10-13 Batch: WG1271619-2 SRM Lot Number: D105-540					
Mercury, Total	89	-	60-141	-	

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,10-13 Batch: WG1271623-2 SRM Lot Number: D105-540					
Aluminum, Total	59	-	51-149	-	
Antimony, Total	164	-	19-249	-	
Arsenic, Total	101	-	70-130	-	
Barium, Total	97	-	75-125	-	
Beryllium, Total	105	-	75-125	-	
Cadmium, Total	102	-	75-125	-	
Calcium, Total	88	-	73-127	-	
Chromium, Total	91	-	70-130	-	
Cobalt, Total	96	-	75-125	-	
Copper, Total	103	-	75-125	-	
Iron, Total	80	-	38-162	-	
Lead, Total	91	-	71-128	-	
Magnesium, Total	78	-	63-137	-	
Manganese, Total	98	-	76-124	-	
Nickel, Total	98	-	70-131	-	
Potassium, Total	80	-	60-140	-	
Selenium, Total	100	-	63-137	-	
Silver, Total	93	-	69-131	-	
Sodium, Total	106	-	37-162	-	
Thallium, Total	96	-	68-132	-	
Vanadium, Total	92	-	65-135	-	

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,10-13 Batch: WG1271623-2 SRM Lot Number: D105-540					
Zinc, Total	93	-	70-130	-	
Total Metals - Mansfield Lab Associated sample(s): 14-15 Batch: WG1271723-2					
Mercury, Total	102	-	80-120	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 14-15 QC Batch ID: WG1269968-3 QC Sample: L1932777-14 Client ID: SHALLOW WELL												
Antimony, Total	0.00089J	0.5	0.4133	83		-	-		75-125	-		20
Arsenic, Total	0.00064	0.12	0.1146	95		-	-		75-125	-		20
Thallium, Total	0.00019J	0.12	0.1314	110		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 14-15 QC Batch ID: WG1270207-3 QC Sample: L1932777-14 Client ID: SHALLOW WELL									
Aluminum, Total	ND	2	2.13	106	-	-	75-125	-	20
Barium, Total	0.049	2	2.08	102	-	-	75-125	-	20
Beryllium, Total	ND	0.05	0.055	110	-	-	75-125	-	20
Cadmium, Total	ND	0.051	0.057	111	-	-	75-125	-	20
Calcium, Total	56.7	10	64.4	77	-	-	75-125	-	20
Chromium, Total	ND	0.2	0.204	102	-	-	75-125	-	20
Cobalt, Total	ND	0.5	0.514	103	-	-	75-125	-	20
Copper, Total	0.020	0.25	0.265	98	-	-	75-125	-	20
Iron, Total	0.065	1	1.18	112	-	-	75-125	-	20
Lead, Total	0.003J	0.51	0.552	108	-	-	75-125	-	20
Magnesium, Total	17.1	10	27.6	105	-	-	75-125	-	20
Manganese, Total	0.267	0.5	0.765	100	-	-	75-125	-	20
Nickel, Total	ND	0.5	0.510	102	-	-	75-125	-	20
Potassium, Total	4.49	10	15.5	110	-	-	75-125	-	20
Selenium, Total	ND	0.12	0.134	112	-	-	75-125	-	20
Silver, Total	ND	0.05	0.051	102	-	-	75-125	-	20
Sodium, Total	40.4	10	49.2	88	-	-	75-125	-	20
Vanadium, Total	ND	0.5	0.528	106	-	-	75-125	-	20
Zinc, Total	0.030J	0.5	0.580	116	-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 01,03,10-13 QC Batch ID: WG1271619-3 WG1271619-4 QC Sample: L1935092-08 Client ID: MS Sample									
Mercury, Total	ND	0.154	0.134	87	0.132	87	80-120	2	20

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,10-13 QC Batch ID: WG1271623-3 WG1271623-4 QC Sample: L1936155-01 Client ID: MS Sample											
Aluminum, Total	7790	285	8340	**193**	Q	8590	**283**	Q	75-125	3	20
Antimony, Total	0.777J	71.3	56.2	79		55.9	79		75-125	1	20
Arsenic, Total	6.08	17.1	22.0	93		22.4	96		75-125	2	20
Barium, Total	36.9	285	278	84		270	82		75-125	3	20
Beryllium, Total	0.424	7.13	6.31	82		6.32	84		75-125	0	20
Cadmium, Total	1.48	7.27	7.24	79		7.20	79		75-125	1	20
Calcium, Total	3750	1430	4720	**68**	Q	5070	94		75-125	7	20
Chromium, Total	51.4	28.5	76.8	89		81.4	106		75-125	6	20
Cobalt, Total	17.7	71.3	71.9	76		72.5	78		75-125	1	20
Copper, Total	34.0	35.6	64.9	87		64.9	88		75-125	0	20
Iron, Total	20100	143	20200	**70**	Q	21200	**779**	Q	75-125	5	20
Lead, Total	14.0	72.7	67.7	**74**	Q	67.6	**74**	Q	75-125	0	20
Magnesium, Total	2650	1430	3840	83		3970	94		75-125	3	20
Manganese, Total	350	71.3	445	**133**	Q	524	**247**	Q	75-125	16	20
Nickel, Total	144	71.3	204	84		219	106		75-125	7	20
Potassium, Total	648	1430	1790	80		1760	79		75-125	2	20
Selenium, Total	1.68	17.1	16.7	88		16.5	88		75-125	1	20
Silver, Total	ND	42.8	36.5	85		35.9	85		75-125	2	20
Sodium, Total	299	1430	1560	88		1620	94		75-125	4	20
Thallium, Total	ND	17.1	11.6	**68**	Q	11.5	**68**	Q	75-125	1	20
Vanadium, Total	17.2	71.3	75.4	82		74.4	81		75-125	1	20

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,10-13 QC Batch ID: WG1271623-3 WG1271623-4 QC Sample: L1936155-01 Client ID: MS Sample									
Zinc, Total	64.9	71.3	124	83	126	86	75-125	2	20
Total Metals - Mansfield Lab Associated sample(s): 14-15 QC Batch ID: WG1271723-3 WG1271723-4 QC Sample: L1935323-04 Client ID: MS Sample									
Mercury, Total	ND	0.005	0.00515	103	0.00495	99	75-125	4	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 14-15 QC Batch ID: WG1269968-4 QC Sample: L1932777-14 Client ID: SHALLOW WELL						
Antimony, Total	0.00089J	0.00205J	mg/l	NC		20
Arsenic, Total	0.00064	0.00070	mg/l	8		20
Thallium, Total	0.00019J	0.00091	mg/l	NC		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Total Metals - Mansfield Lab Associated sample(s): 14-15 QC Batch ID: WG1270207-4 QC Sample: L1932777-14 Client ID: SHALLOW WELL

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Aluminum, Total	ND	ND	mg/l	NC	20
Barium, Total	0.049	0.048	mg/l	3	20
Beryllium, Total	ND	ND	mg/l	NC	20
Cadmium, Total	ND	ND	mg/l	NC	20
Calcium, Total	56.7	55.5	mg/l	2	20
Chromium, Total	ND	ND	mg/l	NC	20
Cobalt, Total	ND	ND	mg/l	NC	20
Copper, Total	0.020	0.020	mg/l	2	20
Iron, Total	0.065	0.062	mg/l	4	20
Lead, Total	0.003J	ND	mg/l	NC	20
Magnesium, Total	17.1	16.8	mg/l	2	20
Manganese, Total	0.267	0.260	mg/l	3	20
Nickel, Total	ND	ND	mg/l	NC	20
Potassium, Total	4.49	4.37	mg/l	3	20
Selenium, Total	ND	ND	mg/l	NC	20
Silver, Total	ND	ND	mg/l	NC	20
Sodium, Total	40.4	39.6	mg/l	2	20
Vanadium, Total	ND	ND	mg/l	NC	20
Zinc, Total	0.030J	0.029J	mg/l	NC	20

INORGANICS
&
MISCELLANEOUS

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-01
Client ID: IP-12-7.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/22/19 16:00
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	07/25/19 11:10	07/25/19 14:27	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-02
Client ID: IP-12-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/22/19 16:05
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.6		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-03
Client ID: IP-13-7.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 07:45
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.4		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.24	1	07/25/19 11:10	07/25/19 14:30	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-04
Client ID: IP-13-10.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 07:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	97.2		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-05
Client ID: IP-13-13.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 08:05
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.3		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-06
Client ID: IP-15-8.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 09:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	95.9		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-07
Client ID: IP-15-8.0-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 09:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.6		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-08
Client ID: IP-15-7.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:12
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.2		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-09
Client ID: IP-15-7.0-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:12
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.8		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-10
Client ID: IP-15-6.0
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:21
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.9		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.22	1	07/25/19 11:10	07/25/19 14:31	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-11
Client ID: IP-15-6.0-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:21
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.8		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.2	0.25	1	07/25/19 11:10	07/25/19 14:32	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-12
Client ID: IP-14-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 10:20
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.1		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.0	0.22	1	07/25/19 11:10	07/25/19 14:33	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-13
Client ID: IP-25
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 15:30
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	28.8		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI
Cyanide, Total	ND		mg/kg	3.2	0.68	1	07/25/19 11:10	07/25/19 14:53	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-14
Client ID: SHALLOW WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 16:55
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	07/25/19 12:40	07/25/19 15:32	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-15
Client ID: DEEP WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 07/23/19 17:15
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	07/25/19 12:40	07/25/19 15:33	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-16
Client ID: DU1-A
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 10:35
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.9		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-17
Client ID: DU1-B
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 10:40
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.5		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-18
Client ID: DU1-C
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 10:45
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.5		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-19
Client ID: DU2-A
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 13:39
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.2		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-20
Client ID: DU2-B
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 13:52
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

SAMPLE RESULTS

Lab ID: L1932777-21
Client ID: DU2-C
Sample Location: BRATTLEBORO, VT

Date Collected: 07/24/19 13:41
Date Received: 07/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.3		%	0.100	NA	1	-	07/25/19 14:07	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1932777

Project Number: 19-015 **Report Date:** 09/04/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03,10-13 Batch: WG1264276-1										
Cyanide, Total	ND		mg/kg	0.89	0.19	1	07/25/19 11:10	07/25/19 13:56	1,9010C/9012B	LH
General Chemistry - Westborough Lab for sample(s): 14-15 Batch: WG1264460-1										
Cyanide, Total	ND		mg/l	0.005	0.001	1	07/25/19 12:40	07/25/19 15:19	1,9010C/9012B	LH

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,10-13 Batch: WG1264276-2 WG1264276-3								
Cyanide, Total	**68**	Q	86		80-120	**37**	Q	35
General Chemistry - Westborough Lab Associated sample(s): 14-15 Batch: WG1264460-2 WG1264460-3								
Cyanide, Total	95		96		85-115	1		20

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1932777
Report Date: 09/04/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,10-13 QC Batch ID: WG1264276-4 WG1264276-5 QC Sample: L1932777-01 Client ID: IP-12-7.5												
Cyanide, Total	ND	11	11	98		11	97		75-125	0		35
General Chemistry - Westborough Lab Associated sample(s): 14-15 QC Batch ID: WG1264460-4 WG1264460-5 QC Sample: L1932802-11 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.194	97		0.192	96		80-120	1		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1932777

Report Date: 09/04/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-13,16-21 QC Batch ID: WG1264497-1 QC Sample: L1932777-01 Client ID: IP-12-7.5						
Solids, Total	87.1	85.3	%	2		20

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1932777-01A	Vial MeOH preserved	A	NA		3.7	Y	Absent		8260HLW(14)
L1932777-01B	Vial water preserved	A	NA		3.7	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-01C	Vial water preserved	A	NA		3.7	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-01D	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-01D1	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-01D2	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-01D3	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.7	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1932777-01F	Glass 60mL/2oz unpreserved	A	NA		3.7	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1932777-01G	Glass 120ml/4oz unpreserved	A	NA		3.7	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1932777-01H	Glass 250ml/8oz unpreserved	A	NA		3.7	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1932777-02A	Plastic 2oz unpreserved for TS	A	NA		3.7	Y	Absent		TS(7)
L1932777-02A1	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-02B	Plastic 8oz unpreserved	A	NA		3.7	Y	Absent		A2-537-ISOTOPE(28)
L1932777-02C	Glass 250ml/8oz unpreserved	A	NA		3.7	Y	Absent		A2-DIOXIN-8290(365)
L1932777-03A	Vial MeOH preserved	A	NA		3.7	Y	Absent		8260HLW(14)
L1932777-03B	Vial water preserved	A	NA		3.7	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-03C	Vial water preserved	A	NA		3.7	Y	Absent	23-JUL-19 17:40	8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1932777-03D	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-03D1	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-03D2	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.7	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1932777-03F	Glass 60mL/2oz unpreserved	A	NA		3.7	Y	Absent		8270TCL(14),TCN-9010(14)
L1932777-03G	Glass 120ml/4oz unpreserved	A	NA		3.7	Y	Absent		8270TCL(14),TCN-9010(14)
L1932777-04A	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-04B	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-04C	Glass 60mL/2oz unpreserved	A	NA		3.7	Y	Absent		PCB-8082(14)
L1932777-04D	Glass 250ml/8oz unpreserved	A	NA		3.7	Y	Absent		A2-DIOXIN-8290(365)
L1932777-05A	Plastic 2oz unpreserved for TS	A	NA		3.7	Y	Absent		TS(7)
L1932777-05B	Plastic 8oz unpreserved	A	NA		3.7	Y	Absent		A2-537-ISOTOPE(28)
L1932777-06A	Vial MeOH preserved	A	NA		3.7	Y	Absent		8260HLW(14)
L1932777-06B	Vial water preserved	A	NA		3.7	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-06C	Vial water preserved	A	NA		3.7	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-06D	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-07A	Vial MeOH preserved	A	NA		3.7	Y	Absent		8260HLW(14)
L1932777-07B	Vial water preserved	A	NA		3.7	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-07C	Vial water preserved	A	NA		3.7	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-07D	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-08A	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-08B	Glass 120ml/4oz unpreserved	A	NA		3.7	Y	Absent		8270TCL(14)
L1932777-09A	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-09B	Glass 120ml/4oz unpreserved	A	NA		3.7	Y	Absent		8270TCL(14)
L1932777-10A	Plastic 60ml unpreserved	C	NA		2.9	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1932777-10B	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1932777-10C	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		TCN-9010(14)
L1932777-11A	Plastic 60ml unpreserved	C	NA		2.9	Y	Absent		TS(7)
L1932777-11B	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1932777-11C	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		TCN-9010(14)
L1932777-12A	Vial MeOH preserved	C	NA		2.9	Y	Absent		8260HLW(14)
L1932777-12B	Vial water preserved	C	NA		2.9	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-12C	Vial water preserved	C	NA		2.9	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-12D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L1932777-12D1	Plastic 60ml unpreserved	C	NA		2.9	Y	Absent		TS(7)
L1932777-12D2	Plastic 60ml unpreserved	C	NA		2.9	Y	Absent		TS(7)
L1932777-12E	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1932777-12F	Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		8270TCL(14),TCN-9010(14)
L1932777-12G	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		8270TCL(14),TCN-9010(14)
L1932777-13A	Vial MeOH preserved	C	NA		2.9	Y	Absent		8260HLW(14)
L1932777-13B	Vial water preserved	C	NA		2.9	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-13C	Vial water preserved	C	NA		2.9	Y	Absent	23-JUL-19 17:40	8260HLW(14)
L1932777-13D	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L1932777-13D1	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L1932777-13D2	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L1932777-13D3	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)

*Values in parentheses indicate holding time in days

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1932777-13D4	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L1932777-13D5	Plastic 2oz unpreserved for TS	C	NA		2.9	Y	Absent		TS(7)
L1932777-13E	Plastic 8oz unpreserved	C	NA		2.9	Y	Absent		A2-537-ISOTOPE(28)
L1932777-13F	Metals Only-Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1932777-13G	Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1932777-13H	Glass 60mL/2oz unpreserved	C	NA		2.9	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1932777-13I	Glass 120ml/4oz unpreserved	C	NA		2.9	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1932777-13J	Glass 250ml/8oz unpreserved	C	NA		2.9	Y	Absent		A2-DIOXIN-8290(365)
L1932777-14A	Vial HCl preserved	B	NA		2.4	Y	Absent		8260(14)
L1932777-14B	Vial HCl preserved	B	NA		2.4	Y	Absent		8260(14)
L1932777-14C	Vial HCl preserved	B	NA		2.4	Y	Absent		8260(14)
L1932777-14D	Plastic 250ml Trizma preserved	B	NA		2.4	Y	Absent		A2-537-ISOTOPE(14)
L1932777-14E	Plastic 250ml Trizma preserved	B	NA		2.4	Y	Absent		A2-537-ISOTOPE(14)
L1932777-14F	Plastic 250ml NaOH preserved	B	>12	>12	2.4	Y	Absent		TCN-9010(14)
L1932777-14G	Plastic 250ml HNO3 preserved	B	<2	<2	2.4	Y	Absent		BE-TI(180),TL-6020T(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),AS-6020T(180),CO-TI(180),SB-6020T(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1932777-14H	Amber 120ml unpreserved	B	7	7	2.4	Y	Absent		HOLD-8082(7)
L1932777-14I	Amber 120ml unpreserved	B	7	7	2.4	Y	Absent		HOLD-8082(7)
L1932777-14J	Amber 250ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1932777-14K	Amber 250ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1932777-14L	Amber 250ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1932777-14M	Amber 250ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1932777-14N	Amber 500ml unpreserved	B	7	7	2.4	Y	Absent		HOLD-1,4DIOX(7)
L1932777-14O	Amber 500ml unpreserved	B	7	7	2.4	Y	Absent		HOLD-1,4DIOX(7)

*Values in parentheses indicate holding time in days

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1932777-15A	Vial HCl preserved	B	NA		2.4	Y	Absent		8260(14)
L1932777-15B	Vial HCl preserved	B	NA		2.4	Y	Absent		8260(14)
L1932777-15C	Vial HCl preserved	B	NA		2.4	Y	Absent		8260(14)
L1932777-15D	Plastic 250ml Trizma preserved	B	NA		2.4	Y	Absent		A2-537-ISOTOPE(14)
L1932777-15E	Plastic 250ml Trizma preserved	B	NA		2.4	Y	Absent		A2-537-ISOTOPE(14)
L1932777-15F	Plastic 250ml NaOH preserved	B	>12	>12	2.4	Y	Absent		TCN-9010(14)
L1932777-15G	Plastic 250ml HNO3 preserved	B	<2	<2	2.4	Y	Absent		BE-TI(180),TL-6020T(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),ZN-TI(180),AS-6020T(180),CO-TI(180),SB-6020T(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1932777-15H	Amber 120ml unpreserved	B	7	7	2.4	Y	Absent		HOLD-8082(7)
L1932777-15I	Amber 120ml unpreserved	B	7	7	2.4	Y	Absent		HOLD-8082(7)
L1932777-15J	Amber 250ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1932777-15K	Amber 250ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1932777-15L	Amber 250ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1932777-15M	Amber 250ml unpreserved	B	7	7	2.4	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1932777-15N	Amber 500ml unpreserved	B	7	7	2.4	Y	Absent		HOLD-1,4DIOX(7)
L1932777-15O	Amber 500ml unpreserved	B	7	7	2.4	Y	Absent		HOLD-1,4DIOX(7)
L1932777-16A	Plastic 60ml unpreserved	C	NA		2.9	Y	Absent		TS(7)
L1932777-16B	Glass 250ml/8oz unpreserved	C	NA		2.9	Y	Absent		HERB-8151(14)
L1932777-17A	Plastic 60ml unpreserved	C	NA		2.9	Y	Absent		TS(7)
L1932777-17B	Glass 250ml/8oz unpreserved	C	NA		2.9	Y	Absent		HERB-8151(14)
L1932777-18A	Plastic 60ml unpreserved	C	NA		2.9	Y	Absent		TS(7)
L1932777-18B	Glass 250ml/8oz unpreserved	C	NA		2.9	Y	Absent		HERB-8151(14)
L1932777-19A	Plastic 60ml unpreserved	C	NA		2.9	Y	Absent		TS(7)
L1932777-19B	Glass 250ml/8oz unpreserved	C	NA		2.9	Y	Absent		HERB-8151(14)
L1932777-20A	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-20B	Glass 250ml/8oz unpreserved	A	NA		3.7	Y	Absent		HERB-8151(14)

*Values in parentheses indicate holding time in days

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1932777
Report Date: 09/04/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1932777-21A	Plastic 60ml unpreserved	A	NA		3.7	Y	Absent		TS(7)
L1932777-21B	Glass 250ml/8oz unpreserved	A	NA		3.7	Y	Absent		HERB-8151(14)
L1932777-22A	Plastic 250ml Trizma preserved	A	NA		3.7	Y	Absent		ARCHIVE()
L1932777-22B	Plastic 250ml Trizma preserved	A	NA		3.7	Y	Absent		ARCHIVE()

*Values in parentheses indicate holding time in days

Project Name:	LONG FALLS PAPERBOARD	**Lab Number:**	L1932777
Project Number:	19-015	**Report Date:**	09/04/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	LONG FALLS PAPERBOARD	**Lab Number:**	L1932777
Project Number:	19-015	**Report Date:**	09/04/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	LONG FALLS PAPERBOARD	**Lab Number:**	L1932777
Project Number:	19-015	**Report Date:**	09/04/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

122 Determination of Selected Perfluorintated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537, EPA/600/R-08/092. Version 1.1, September 2009.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 7/25/19

ALPHA Job #: L1932777

ALPHA Analytical
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: Stone Environmental, Inc.
Address: 535 Stone Cutters Way, Montpelier, VT 05602
Phone: 802-778-0428
Email: dalabrahamson@stone-env.com

Project Information

Project Name: Long Falls Paperboard
Project Location: Brattleboro, VT
Project #: 19-015
Project Manager: David Abrahamson
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☑ EMAIL

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

ANALYSIS: VOC: ☑ 8260 ☐ 624 ☐ 524.2; SVOC: ☑ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRAS ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☑ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; Dioxin/Furan 8290A; PFAS 537 (mod)

SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	SVOC	METALS	METALS	EPH	VPH	PCB	TPH	Dioxin/Furan	PFAS					Sample Comments	TOTAL # BOTTLES
32777-01	IP-12-7.5	7/22/19	16:00	Soil	SR	X	X	X				X								23 TAL Metals + Cl	10
-02	IP-12-11.0	7/22/19	16:05	Soil	SR									X	X					All VOC Soil	
-03	IP-13-7.5	7/23/19	07:45		SR	X	X	X												Samples Grouped	
-04	IP-13-10.5		07:55		SR							X		X						17:40 7/23/19	
-05	IP-13-13.0		08:05		SR										X						
-06	IP-15-8.0		09:55		SR	X															
-07	IP-15-8.0-FD		09:55		SR	X															
-08	IP-15-7.0		10:12		SR		X														
-09	IP-15-7.0-FD		10:12		SR		X														
-10	IP-15-6.0		10:21		SR			X													
					Container Type	V	GP	P/A				A		A	A						
					Preservative	F/O	A	A				A		A	A						

Container Type: P= Plastic, A= Amber glass, V= Vial, G= Glass, B= Bacteria cup, C= Cube, O= Other, E= Encore, D= BOD Bottle

Preservative: A= None, B= HCl, C= HNO_3, D= H_2SO_4, E= NaOH, F= MeOH, G= $NaHSO_4$, H= $Na_2S_2O_3$, I= Ascorbic Acid, J= NH_4Cl, K= Zn Acetate, O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
SR	7/24/19 14:30	Tony Cory	7/24/19 14:30
Tony Cory	7/24/19 16:45	[signature]	7/25/19 01:10

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

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Date Rec'd in Lab: 7/25/19

ALPHA Job #: L1932777

ALPHA Analytical Laboratories
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: Stone Environmental, Inc.
Address: 535 Stone Cutters Way, Montpelier, VT 05602
Phone: 802-778-0428
Email: dabrahamson@stone-env.com

Project Information

Project Name: Lows Falls Paperboard
Project Location: Brattleboro, VT
Project #: 19-015
Project Manager: David Abrahamson
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☑ EMAIL

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; Dioxins (Furans 8290A); PFAS 537(M); PAH (8270); Herbicides

SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC 8260	VOC 624	VOC 524.2	SVOC ABN	SVOC PAH	METALS MCP 13	METALS MCP 14	METALS RCP 15	METALS RCRA5	METALS RCRA8	METALS PP13	EPH Ranges & Targets	EPH Ranges Only	VPH Ranges & Targets	VPH Ranges Only	PCB	PEST	TPH Quant Only	TPH Fingerprint	Dioxins (Furans 8290A)	PFAS 537(M)	PAH (8270)	Herbicides	Sample Comments	TOTAL # BOTTLES
32777-11	IP-15-6.0-FD	7/23/19	10:21	Soil	SR				X																				TAL + CN	
-12	IP-14-0.5	↓	10:30	Soil	SR	X	X		X																				VOC Freeze @ 17:40 7/23/19	
-13	IP-35	↓	15:30	Solid	SR	X	X		X									X				X		X					Wastewater treatment sludge	
-14	Shallow Well	↓	16:55	Water	SR	X	X		X															X						
-15	Deep Well	↓	17:15	↓	SR	X	X		X															X						
-16	DU1-A	7/24/19	10:35	Soil	SR																					X	X			2
-17	DU1-B	↓	10:40	↓	SR																					X	X			2
-18	DU1-C	↓	10:45	↓	SR																					X	X			2
-19	DU2-A	7/24/19	13:39	Soil	SR																					X	X			2
-20	DU2-B	7/24/19	13:52	Soil	SR																					X	X			2
						Container Type			V	AP	AP							A			A		A	A	AP	AP				
						Preservative			F/O	A	A							A			A		A	A	A	A				

Container Type: P= Plastic, A= Amber glass, V= Vial, G= Glass, B= Bacteria cup, C= Cube, O= Other, E= Encore, D= BOD Bottle

Preservative: A= None, B= HCl, C= HNO_3, D= H_2SO_4, E= NaOH, F= MeOH, G= $NaHSO_4$, H= $Na_2S_2O_3$, I= Ascorbic Acid, J= NH_4Cl, K= Zn Acetate, O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
SR	7/24/14:30	Amy Leary AHL	7/24/19 14:30
Amy Leary	7/24/19 16:40	[signature]	7/25/19 01:40

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 3 OF 3

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab:

ALPHA Job #:

Client Information

Client: Stone Environmental, Inc.
Address: 535 Stone Cutters Way, Montpelier, VT 05602
Phone: 802-778-0428
Email: dabrahamson@stone-env.com

Project Information

Project Name: Lower Falls Riverbend
Project Location: Brattleboro, VT
Project #: 19-015
Project Manager: David Abrahamson
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☑ EMAIL

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Herbicides	Sample Comments	TOTAL # BOTTLES
32777-21	DU2-C	7/24/19	13:41	Soil	SK		X							X		2

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type	NP
Preservative	A

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
SKP	7/24/19 14:30	Samylaury ATL	7/24/19 17:30
Samylaury	7/24/19 16:45	[illegible]	7/25/19 01:10

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1938090
Client:	Stone Environmental 535 Stone Cutters Way Montpelier, VT 05602
ATTN:	Dan Voisin
Phone:	(802) 229-1875
Project Name:	LONG FALLS PAPERBOARD
Project Number:	19-015
Report Date:	09/05/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1938090-01	IP-3A-70.5	SOIL	BRATTLEBORO, VT	08/22/19 10:55	08/22/19
L1938090-02	IP-07-71	SOIL	BRATTLEBORO, VT	08/21/19 12:42	08/22/19
L1938090-03	IP-02-66	SOIL	BRATTLEBORO, VT	08/21/19 07:45	08/22/19
L1938090-04	IP-07-66.5	SOIL	BRATTLEBORO, VT	08/21/19 12:30	08/22/19
L1938090-05	TRIP BLANK 082219	SOIL	BRATTLEBORO, VT	08/22/19 00:00	08/22/19
L1938090-06	DU-1-C	SOIL	BRATTLEBORO, VT	08/21/19 18:15	08/22/19
L1938090-07	DU-1-B	SOIL	BRATTLEBORO, VT	08/21/19 18:15	08/22/19
L1938090-08	DU-1-A	SOIL	BRATTLEBORO, VT	08/21/19 18:15	08/22/19
L1938090-09	DU-2-A	SOIL	BRATTLEBORO, VT	08/22/19 12:40	08/22/19
L1938090-10	DU-2-B	SOIL	BRATTLEBORO, VT	08/22/19 12:42	08/22/19
L1938090-11	DU-2-C	SOIL	BRATTLEBORO, VT	08/22/19 12:45	08/22/19

Project Name:	LONG FALLS PAPERBOARD	**Lab Number:**	L1938090
Project Number:	19-015	**Report Date:**	09/05/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090
Project Number: 19-015 **Report Date:** 09/05/19

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics

L1938090-06, -07, -08, -09, -10, and -11: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

Total Metals

L1938090-01 and -03: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

Cyanide, Total

The WG1276552-2/-3 LCS/LCSD recoveries (59%/71%), associated with L1938090-01 and -03, are outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 09/05/19

ORGANICS

VOLATILES

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-01
Client ID: IP-3A-70.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 10:55
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 09/03/19 09:54
Analyst: AD
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.7	1.7	1
1,1-Dichloroethane	ND		ug/kg	0.75	0.11	1
Chloroform	0.49	J	ug/kg	1.1	0.10	1
Carbon tetrachloride	ND		ug/kg	0.75	0.17	1
1,2-Dichloropropane	ND		ug/kg	0.75	0.09	1
Dibromochloromethane	ND		ug/kg	0.75	0.10	1
1,1,2-Trichloroethane	ND		ug/kg	0.75	0.20	1
Tetrachloroethene	0.29	J	ug/kg	0.37	0.15	1
Chlorobenzene	ND		ug/kg	0.37	0.10	1
Trichlorofluoromethane	ND		ug/kg	3.0	0.52	1
1,2-Dichloroethane	ND		ug/kg	0.75	0.19	1
1,1,1-Trichloroethane	ND		ug/kg	0.37	0.12	1
Bromodichloromethane	ND		ug/kg	0.37	0.08	1
trans-1,3-Dichloropropene	ND		ug/kg	0.75	0.20	1
cis-1,3-Dichloropropene	ND		ug/kg	0.37	0.12	1
1,3-Dichloropropene, Total	ND		ug/kg	0.37	0.12	1
1,1-Dichloropropene	ND		ug/kg	0.37	0.12	1
Bromoform	ND		ug/kg	3.0	0.18	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.37	0.12	1
Benzene	ND		ug/kg	0.37	0.12	1
Toluene	ND		ug/kg	0.75	0.41	1
Ethylbenzene	ND		ug/kg	0.75	0.10	1
Chloromethane	ND		ug/kg	3.0	0.70	1
Bromomethane	ND		ug/kg	1.5	0.44	1
Vinyl chloride	ND		ug/kg	0.75	0.25	1
Chloroethane	ND		ug/kg	1.5	0.34	1
1,1-Dichloroethene	ND		ug/kg	0.75	0.18	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	0.10	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-01 Date Collected: 08/22/19 10:55

Client ID: IP-3A-70.5 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.37	0.10	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	0.11	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	0.11	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	0.13	1
Methyl tert butyl ether	ND		ug/kg	1.5	0.15	1
p/m-Xylene	ND		ug/kg	1.5	0.42	1
o-Xylene	ND		ug/kg	0.75	0.22	1
Xylenes, Total	ND		ug/kg	0.75	0.22	1
cis-1,2-Dichloroethene	ND		ug/kg	0.75	0.13	1
1,2-Dichloroethene, Total	ND		ug/kg	0.75	0.10	1
Dibromomethane	ND		ug/kg	1.5	0.18	1
1,4-Dichlorobutane	ND		ug/kg	7.5	0.17	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	0.10	1
Styrene	ND		ug/kg	0.75	0.15	1
Dichlorodifluoromethane	ND		ug/kg	7.5	0.68	1
Acetone	3.6	J	ug/kg	7.5	3.6	1
Carbon disulfide	ND		ug/kg	7.5	3.4	1
2-Butanone	ND		ug/kg	7.5	1.7	1
Vinyl acetate	ND		ug/kg	7.5	1.6	1
4-Methyl-2-pentanone	ND		ug/kg	7.5	0.96	1
2-Hexanone	ND		ug/kg	7.5	0.88	1
Ethyl methacrylate	ND		ug/kg	7.5	1.2	1
Acrylonitrile	ND		ug/kg	3.0	0.86	1
Bromochloromethane	ND		ug/kg	1.5	0.15	1
Tetrahydrofuran	1.5	J	ug/kg	3.0	1.2	1
2,2-Dichloropropane	ND		ug/kg	1.5	0.15	1
1,2-Dibromoethane	ND		ug/kg	0.75	0.21	1
1,3-Dichloropropane	ND		ug/kg	1.5	0.12	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.37	0.10	1
Bromobenzene	ND		ug/kg	1.5	0.11	1
n-Butylbenzene	ND		ug/kg	0.75	0.12	1
sec-Butylbenzene	ND		ug/kg	0.75	0.11	1
tert-Butylbenzene	ND		ug/kg	1.5	0.09	1
o-Chlorotoluene	ND		ug/kg	1.5	0.14	1
p-Chlorotoluene	ND		ug/kg	1.5	0.08	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	0.75	1
Hexachlorobutadiene	ND		ug/kg	3.0	0.13	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-01 Date Collected: 08/22/19 10:55

Client ID: IP-3A-70.5 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	0.75	0.08	1
p-Isopropyltoluene	ND		ug/kg	0.75	0.08	1
Naphthalene	ND		ug/kg	3.0	0.49	1
n-Propylbenzene	ND		ug/kg	0.75	0.13	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	0.24	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	0.20	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	0.14	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	0.25	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	3.7	1.1	1
Ethyl ether	ND		ug/kg	1.5	0.26	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	103		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-02
Client ID: IP-07-71
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 12:42
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 09/03/19 20:48
Analyst: MV
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.8	1.7	1
1,1-Dichloroethane	ND		ug/kg	0.76	0.11	1
Chloroform	0.88	J	ug/kg	1.1	0.11	1
Carbon tetrachloride	ND		ug/kg	0.76	0.18	1
1,2-Dichloropropane	ND		ug/kg	0.76	0.10	1
Dibromochloromethane	ND		ug/kg	0.76	0.11	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	0.20	1
Tetrachloroethene	ND		ug/kg	0.38	0.15	1
Chlorobenzene	ND		ug/kg	0.38	0.10	1
Trichlorofluoromethane	ND		ug/kg	3.0	0.53	1
1,2-Dichloroethane	ND		ug/kg	0.76	0.20	1
1,1,1-Trichloroethane	ND		ug/kg	0.38	0.13	1
Bromodichloromethane	ND		ug/kg	0.38	0.08	1
trans-1,3-Dichloropropene	ND		ug/kg	0.76	0.21	1
cis-1,3-Dichloropropene	ND		ug/kg	0.38	0.12	1
1,3-Dichloropropene, Total	ND		ug/kg	0.38	0.12	1
1,1-Dichloropropene	ND		ug/kg	0.38	0.12	1
Bromoform	ND		ug/kg	3.0	0.19	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.38	0.13	1
Benzene	ND		ug/kg	0.38	0.13	1
Toluene	ND		ug/kg	0.76	0.41	1
Ethylbenzene	ND		ug/kg	0.76	0.11	1
Chloromethane	ND		ug/kg	3.0	0.71	1
Bromomethane	ND		ug/kg	1.5	0.44	1
Vinyl chloride	ND		ug/kg	0.76	0.26	1
Chloroethane	ND		ug/kg	1.5	0.34	1
1,1-Dichloroethene	ND		ug/kg	0.76	0.18	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	0.10	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-02 Date Collected: 08/21/19 12:42

Client ID: IP-07-71 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.38	0.10	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	0.11	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	0.11	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	0.13	1
Methyl tert butyl ether	ND		ug/kg	1.5	0.15	1
p/m-Xylene	ND		ug/kg	1.5	0.43	1
o-Xylene	ND		ug/kg	0.76	0.22	1
Xylenes, Total	ND		ug/kg	0.76	0.22	1
cis-1,2-Dichloroethene	ND		ug/kg	0.76	0.13	1
1,2-Dichloroethene, Total	ND		ug/kg	0.76	0.10	1
Dibromomethane	ND		ug/kg	1.5	0.18	1
1,4-Dichlorobutane	ND		ug/kg	7.6	0.17	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	0.10	1
Styrene	ND		ug/kg	0.76	0.15	1
Dichlorodifluoromethane	ND		ug/kg	7.6	0.70	1
Acetone	ND		ug/kg	7.6	3.7	1
Carbon disulfide	ND		ug/kg	7.6	3.5	1
2-Butanone	ND		ug/kg	7.6	1.7	1
Vinyl acetate	ND		ug/kg	7.6	1.6	1
4-Methyl-2-pentanone	ND		ug/kg	7.6	0.97	1
2-Hexanone	ND		ug/kg	7.6	0.90	1
Ethyl methacrylate	ND		ug/kg	7.6	1.2	1
Acrylonitrile	ND		ug/kg	3.0	0.88	1
Bromochloromethane	ND		ug/kg	1.5	0.16	1
Tetrahydrofuran	ND		ug/kg	3.0	1.2	1
2,2-Dichloropropane	ND		ug/kg	1.5	0.15	1
1,2-Dibromoethane	ND		ug/kg	0.76	0.21	1
1,3-Dichloropropane	ND		ug/kg	1.5	0.13	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.38	0.10	1
Bromobenzene	ND		ug/kg	1.5	0.11	1
n-Butylbenzene	ND		ug/kg	0.76	0.13	1
sec-Butylbenzene	ND		ug/kg	0.76	0.11	1
tert-Butylbenzene	ND		ug/kg	1.5	0.09	1
o-Chlorotoluene	ND		ug/kg	1.5	0.14	1
p-Chlorotoluene	ND		ug/kg	1.5	0.08	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	0.76	1
Hexachlorobutadiene	ND		ug/kg	3.0	0.13	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-02 Date Collected: 08/21/19 12:42

Client ID: IP-07-71 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	0.76	0.08	1
p-Isopropyltoluene	ND		ug/kg	0.76	0.08	1
Naphthalene	ND		ug/kg	3.0	0.49	1
n-Propylbenzene	ND		ug/kg	0.76	0.13	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	0.24	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	0.21	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	0.15	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	0.25	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	3.8	1.1	1
Ethyl ether	ND		ug/kg	1.5	0.26	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	102		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-03
Client ID: IP-02-66
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 07:45
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 09/03/19 21:27
Analyst: MV
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	3.7	1.7	1
1,1-Dichloroethane	ND		ug/kg	0.75	0.11	1
Chloroform	0.46	J	ug/kg	1.1	0.10	1
Carbon tetrachloride	ND		ug/kg	0.75	0.17	1
1,2-Dichloropropane	ND		ug/kg	0.75	0.09	1
Dibromochloromethane	ND		ug/kg	0.75	0.10	1
1,1,2-Trichloroethane	ND		ug/kg	0.75	0.20	1
Tetrachloroethene	ND		ug/kg	0.37	0.15	1
Chlorobenzene	ND		ug/kg	0.37	0.10	1
Trichlorofluoromethane	ND		ug/kg	3.0	0.52	1
1,2-Dichloroethane	ND		ug/kg	0.75	0.19	1
1,1,1-Trichloroethane	ND		ug/kg	0.37	0.12	1
Bromodichloromethane	ND		ug/kg	0.37	0.08	1
trans-1,3-Dichloropropene	ND		ug/kg	0.75	0.20	1
cis-1,3-Dichloropropene	ND		ug/kg	0.37	0.12	1
1,3-Dichloropropene, Total	ND		ug/kg	0.37	0.12	1
1,1-Dichloropropene	ND		ug/kg	0.37	0.12	1
Bromoform	ND		ug/kg	3.0	0.18	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.37	0.12	1
Benzene	ND		ug/kg	0.37	0.12	1
Toluene	ND		ug/kg	0.75	0.41	1
Ethylbenzene	ND		ug/kg	0.75	0.10	1
Chloromethane	ND		ug/kg	3.0	0.70	1
Bromomethane	ND		ug/kg	1.5	0.43	1
Vinyl chloride	ND		ug/kg	0.75	0.25	1
Chloroethane	ND		ug/kg	1.5	0.34	1
1,1-Dichloroethene	ND		ug/kg	0.75	0.18	1
trans-1,2-Dichloroethene	ND		ug/kg	1.1	0.10	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-03 Date Collected: 08/21/19 07:45

Client ID: IP-02-66 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.37	0.10	1
1,2-Dichlorobenzene	ND		ug/kg	1.5	0.11	1
1,3-Dichlorobenzene	ND		ug/kg	1.5	0.11	1
1,4-Dichlorobenzene	ND		ug/kg	1.5	0.13	1
Methyl tert butyl ether	0.15	J	ug/kg	1.5	0.15	1
p/m-Xylene	ND		ug/kg	1.5	0.42	1
o-Xylene	ND		ug/kg	0.75	0.22	1
Xylenes, Total	ND		ug/kg	0.75	0.22	1
cis-1,2-Dichloroethene	ND		ug/kg	0.75	0.13	1
1,2-Dichloroethene, Total	ND		ug/kg	0.75	0.10	1
Dibromomethane	ND		ug/kg	1.5	0.18	1
1,4-Dichlorobutane	ND		ug/kg	7.5	0.17	1
1,2,3-Trichloropropane	ND		ug/kg	1.5	0.10	1
Styrene	ND		ug/kg	0.75	0.15	1
Dichlorodifluoromethane	ND		ug/kg	7.5	0.68	1
Acetone	3.8	J	ug/kg	7.5	3.6	1
Carbon disulfide	ND		ug/kg	7.5	3.4	1
2-Butanone	ND		ug/kg	7.5	1.7	1
Vinyl acetate	ND		ug/kg	7.5	1.6	1
4-Methyl-2-pentanone	ND		ug/kg	7.5	0.96	1
2-Hexanone	ND		ug/kg	7.5	0.88	1
Ethyl methacrylate	ND		ug/kg	7.5	1.2	1
Acrylonitrile	ND		ug/kg	3.0	0.86	1
Bromochloromethane	ND		ug/kg	1.5	0.15	1
Tetrahydrofuran	ND		ug/kg	3.0	1.2	1
2,2-Dichloropropane	ND		ug/kg	1.5	0.15	1
1,2-Dibromoethane	ND		ug/kg	0.75	0.21	1
1,3-Dichloropropane	ND		ug/kg	1.5	0.12	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.37	0.10	1
Bromobenzene	ND		ug/kg	1.5	0.11	1
n-Butylbenzene	ND		ug/kg	0.75	0.12	1
sec-Butylbenzene	ND		ug/kg	0.75	0.11	1
tert-Butylbenzene	ND		ug/kg	1.5	0.09	1
o-Chlorotoluene	ND		ug/kg	1.5	0.14	1
p-Chlorotoluene	ND		ug/kg	1.5	0.08	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.2	0.75	1
Hexachlorobutadiene	ND		ug/kg	3.0	0.13	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-03 Date Collected: 08/21/19 07:45

Client ID: IP-02-66 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	0.75	0.08	1
p-Isopropyltoluene	ND		ug/kg	0.75	0.08	1
Naphthalene	ND		ug/kg	3.0	0.49	1
n-Propylbenzene	ND		ug/kg	0.75	0.13	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.5	0.24	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.5	0.20	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.5	0.14	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.5	0.25	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	3.7	1.1	1
Ethyl ether	ND		ug/kg	1.5	0.26	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	103		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-04
Client ID: IP-07-66.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 12:30
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 09/03/19 14:44
Analyst: AD
Percent Solids: 96%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.0	1.8	1
1,1-Dichloroethane	ND		ug/kg	0.81	0.12	1
Chloroform	0.26	J	ug/kg	1.2	0.11	1
Carbon tetrachloride	ND		ug/kg	0.81	0.18	1
1,2-Dichloropropane	ND		ug/kg	0.81	0.10	1
Dibromochloromethane	ND		ug/kg	0.81	0.11	1
1,1,2-Trichloroethane	ND		ug/kg	0.81	0.22	1
Tetrachloroethene	ND		ug/kg	0.40	0.16	1
Chlorobenzene	ND		ug/kg	0.40	0.10	1
Trichlorofluoromethane	ND		ug/kg	3.2	0.56	1
1,2-Dichloroethane	ND		ug/kg	0.81	0.21	1
1,1,1-Trichloroethane	ND		ug/kg	0.40	0.13	1
Bromodichloromethane	ND		ug/kg	0.40	0.09	1
trans-1,3-Dichloropropene	ND		ug/kg	0.81	0.22	1
cis-1,3-Dichloropropene	ND		ug/kg	0.40	0.13	1
1,3-Dichloropropene, Total	ND		ug/kg	0.40	0.13	1
1,1-Dichloropropene	ND		ug/kg	0.40	0.13	1
Bromoform	ND		ug/kg	3.2	0.20	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.40	0.13	1
Benzene	ND		ug/kg	0.40	0.13	1
Toluene	ND		ug/kg	0.81	0.44	1
Ethylbenzene	ND		ug/kg	0.81	0.11	1
Chloromethane	ND		ug/kg	3.2	0.75	1
Bromomethane	ND		ug/kg	1.6	0.47	1
Vinyl chloride	ND		ug/kg	0.81	0.27	1
Chloroethane	ND		ug/kg	1.6	0.36	1
1,1-Dichloroethene	ND		ug/kg	0.81	0.19	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	0.11	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-04 Date Collected: 08/21/19 12:30

Client ID: IP-07-66.5 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.40	0.11	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	0.12	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	0.12	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	0.14	1
Methyl tert butyl ether	ND		ug/kg	1.6	0.16	1
p/m-Xylene	ND		ug/kg	1.6	0.45	1
o-Xylene	ND		ug/kg	0.81	0.23	1
Xylenes, Total	ND		ug/kg	0.81	0.23	1
cis-1,2-Dichloroethene	ND		ug/kg	0.81	0.14	1
1,2-Dichloroethene, Total	ND		ug/kg	0.81	0.11	1
Dibromomethane	ND		ug/kg	1.6	0.19	1
1,4-Dichlorobutane	ND		ug/kg	8.1	0.18	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	0.10	1
Styrene	ND		ug/kg	0.81	0.16	1
Dichlorodifluoromethane	ND		ug/kg	8.1	0.74	1
Acetone	ND		ug/kg	8.1	3.9	1
Carbon disulfide	ND		ug/kg	8.1	3.7	1
2-Butanone	ND		ug/kg	8.1	1.8	1
Vinyl acetate	ND		ug/kg	8.1	1.7	1
4-Methyl-2-pentanone	ND		ug/kg	8.1	1.0	1
2-Hexanone	ND		ug/kg	8.1	0.95	1
Ethyl methacrylate	ND		ug/kg	8.1	1.3	1
Acrylonitrile	ND		ug/kg	3.2	0.93	1
Bromochloromethane	ND		ug/kg	1.6	0.16	1
Tetrahydrofuran	ND		ug/kg	3.2	1.3	1
2,2-Dichloropropane	ND		ug/kg	1.6	0.16	1
1,2-Dibromoethane	ND		ug/kg	0.81	0.22	1
1,3-Dichloropropane	ND		ug/kg	1.6	0.13	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.40	0.11	1
Bromobenzene	ND		ug/kg	1.6	0.12	1
n-Butylbenzene	ND		ug/kg	0.81	0.13	1
sec-Butylbenzene	ND		ug/kg	0.81	0.12	1
tert-Butylbenzene	ND		ug/kg	1.6	0.10	1
o-Chlorotoluene	ND		ug/kg	1.6	0.15	1
p-Chlorotoluene	ND		ug/kg	1.6	0.09	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.4	0.80	1
Hexachlorobutadiene	ND		ug/kg	3.2	0.14	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-04 Date Collected: 08/21/19 12:30

Client ID: IP-07-66.5 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	0.81	0.09	1
p-Isopropyltoluene	ND		ug/kg	0.81	0.09	1
Naphthalene	ND		ug/kg	3.2	0.52	1
n-Propylbenzene	ND		ug/kg	0.81	0.14	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	0.26	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	0.22	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	0.16	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	0.27	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	4.0	1.1	1
Ethyl ether	ND		ug/kg	1.6	0.28	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	102		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-05 Date Collected: 08/22/19 00:00

Client ID: TRIP BLANK 082219 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 09/03/19 09:15

Analyst: AD

Percent Solids: Results reported on an 'AS RECEIVED' basis.

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	2.3	1
1,1-Dichloroethane	ND		ug/kg	1.0	0.14	1
Chloroform	ND		ug/kg	1.5	0.14	1
Carbon tetrachloride	ND		ug/kg	1.0	0.23	1
1,2-Dichloropropane	ND		ug/kg	1.0	0.12	1
Dibromochloromethane	ND		ug/kg	1.0	0.14	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27	1
Tetrachloroethene	ND		ug/kg	0.50	0.20	1
Chlorobenzene	ND		ug/kg	0.50	0.13	1
Trichlorofluoromethane	ND		ug/kg	4.0	0.70	1
1,2-Dichloroethane	ND		ug/kg	1.0	0.26	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17	1
Bromodichloromethane	ND		ug/kg	0.50	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16	1
1,3-Dichloropropene, Total	ND		ug/kg	0.50	0.16	1
1,1-Dichloropropene	ND		ug/kg	0.50	0.16	1
Bromoform	ND		ug/kg	4.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17	1
Benzene	ND		ug/kg	0.50	0.17	1
Toluene	ND		ug/kg	1.0	0.54	1
Ethylbenzene	ND		ug/kg	1.0	0.14	1
Chloromethane	ND		ug/kg	4.0	0.93	1
Bromomethane	ND		ug/kg	2.0	0.58	1
Vinyl chloride	ND		ug/kg	1.0	0.34	1
Chloroethane	ND		ug/kg	2.0	0.45	1
1,1-Dichloroethene	ND		ug/kg	1.0	0.24	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-05 Date Collected: 08/22/19 00:00

Client ID: TRIP BLANK 082219 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.50	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14	1
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17	1
Methyl tert butyl ether	ND		ug/kg	2.0	0.20	1
p/m-Xylene	ND		ug/kg	2.0	0.56	1
o-Xylene	ND		ug/kg	1.0	0.29	1
Xylenes, Total	ND		ug/kg	1.0	0.29	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18	1
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.14	1
Dibromomethane	ND		ug/kg	2.0	0.24	1
1,4-Dichlorobutane	ND		ug/kg	10	0.23	1
1,2,3-Trichloropropane	ND		ug/kg	2.0	0.13	1
Styrene	ND		ug/kg	1.0	0.20	1
Dichlorodifluoromethane	ND		ug/kg	10	0.92	1
Acetone	ND		ug/kg	10	4.8	1
Carbon disulfide	ND		ug/kg	10	4.6	1
2-Butanone	ND		ug/kg	10	2.2	1
Vinyl acetate	ND		ug/kg	10	2.2	1
4-Methyl-2-pentanone	ND		ug/kg	10	1.3	1
2-Hexanone	ND		ug/kg	10	1.2	1
Ethyl methacrylate	ND		ug/kg	10	1.6	1
Acrylonitrile	ND		ug/kg	4.0	1.2	1
Bromochloromethane	ND		ug/kg	2.0	0.20	1
Tetrahydrofuran	ND		ug/kg	4.0	1.6	1
2,2-Dichloropropane	ND		ug/kg	2.0	0.20	1
1,2-Dibromoethane	ND		ug/kg	1.0	0.28	1
1,3-Dichloropropane	ND		ug/kg	2.0	0.17	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.13	1
Bromobenzene	ND		ug/kg	2.0	0.14	1
n-Butylbenzene	ND		ug/kg	1.0	0.17	1
sec-Butylbenzene	ND		ug/kg	1.0	0.15	1
tert-Butylbenzene	ND		ug/kg	2.0	0.12	1
o-Chlorotoluene	ND		ug/kg	2.0	0.19	1
p-Chlorotoluene	ND		ug/kg	2.0	0.11	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0	1
Hexachlorobutadiene	ND		ug/kg	4.0	0.17	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-05 Date Collected: 08/22/19 00:00

Client ID: TRIP BLANK 082219 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	1.0	0.11	1
p-Isopropyltoluene	ND		ug/kg	1.0	0.11	1
Naphthalene	ND		ug/kg	4.0	0.65	1
n-Propylbenzene	ND		ug/kg	1.0	0.17	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	1.4	1
Ethyl ether	ND		ug/kg	2.0	0.34	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	101		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/03/19 20:08
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1279916-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
2-Chloroethylvinyl ether	ND		ug/kg	20	1.6
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
1,3-Dichloropropene, Total	ND		ug/kg	0.50	0.16
1,1-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/03/19 20:08
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1279916-5					
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.14
Dibromomethane	ND		ug/kg	2.0	0.24
1,4-Dichlorobutane	ND		ug/kg	10	0.23
1,2,3-Trichloropropane	ND		ug/kg	2.0	0.13
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
Vinyl acetate	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Ethyl methacrylate	ND		ug/kg	10	1.6
Acrolein	ND		ug/kg	25	5.6
Acrylonitrile	ND		ug/kg	4.0	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
Tetrahydrofuran	ND		ug/kg	4.0	1.6
2,2-Dichloropropane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
1,3-Dichloropropane	ND		ug/kg	2.0	0.17

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/03/19 20:08
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1279916-5					
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.13
Bromobenzene	ND		ug/kg	2.0	0.14
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,3,5-Trichlorobenzene	ND		ug/kg	2.0	0.17
o-Chlorotoluene	ND		ug/kg	2.0	0.19
p-Chlorotoluene	ND		ug/kg	2.0	0.11
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Hexachlorobutadiene	ND		ug/kg	4.0	0.17
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	1.4
Ethyl ether	ND		ug/kg	2.0	0.34
Methyl Acetate	ND		ug/kg	4.0	0.95
Ethyl Acetate	ND		ug/kg	10	1.2
Isopropyl Ether	ND		ug/kg	2.0	0.21
Cyclohexane	ND		ug/kg	10	0.54
Tert-Butyl Alcohol	ND		ug/kg	20	5.1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	0.13
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	0.18
1,4-Dioxane	ND		ug/kg	80	35.
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/03/19 20:08
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1279916-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	4.0	0.69

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	102		70-130

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

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Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/03/19 08:36
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04-05 Batch: WG1279918-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
2-Chloroethylvinyl ether	ND		ug/kg	20	1.6
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
1,3-Dichloropropene, Total	ND		ug/kg	0.50	0.16
1,1-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

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Batch Quality Control

Analytical Method: 1,8260C
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Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04-05 Batch: WG1279918-5					
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.14
Dibromomethane	ND		ug/kg	2.0	0.24
1,4-Dichlorobutane	ND		ug/kg	10	0.23
1,2,3-Trichloropropane	ND		ug/kg	2.0	0.13
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
Vinyl acetate	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Ethyl methacrylate	ND		ug/kg	10	1.6
Acrolein	ND		ug/kg	25	5.6
Acrylonitrile	ND		ug/kg	4.0	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
Tetrahydrofuran	ND		ug/kg	4.0	1.6
2,2-Dichloropropane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
1,3-Dichloropropane	ND		ug/kg	2.0	0.17

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

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Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/03/19 08:36
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04-05 Batch: WG1279918-5					
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.13
Bromobenzene	ND		ug/kg	2.0	0.14
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,3,5-Trichlorobenzene	ND		ug/kg	2.0	0.17
o-Chlorotoluene	ND		ug/kg	2.0	0.19
p-Chlorotoluene	ND		ug/kg	2.0	0.11
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Hexachlorobutadiene	ND		ug/kg	4.0	0.17
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	1.4
Ethyl ether	ND		ug/kg	2.0	0.34
Methyl Acetate	ND		ug/kg	4.0	0.95
Ethyl Acetate	ND		ug/kg	10	1.2
Isopropyl Ether	ND		ug/kg	2.0	0.21
Cyclohexane	ND		ug/kg	10	0.54
Tert-Butyl Alcohol	ND		ug/kg	20	5.1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	0.13
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	0.18
1,4-Dioxane	ND		ug/kg	80	35.
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

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Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/03/19 08:36
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04-05 Batch: WG1279918-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	4.0	0.69

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1279916-3 WG1279916-4								
Methylene chloride	108		109		70-130	1		30
1,1-Dichloroethane	114		116		70-130	2		30
Chloroform	107		108		70-130	1		30
Carbon tetrachloride	105		108		70-130	3		30
1,2-Dichloropropane	112		114		70-130	2		30
Dibromochloromethane	98		98		70-130	0		30
1,1,2-Trichloroethane	106		105		70-130	1		30
2-Chloroethylvinyl ether	96		93		70-130	3		30
Tetrachloroethene	96		96		70-130	0		30
Chlorobenzene	98		99		70-130	1		30
Trichlorofluoromethane	115		120		70-139	4		30
1,2-Dichloroethane	110		110		70-130	0		30
1,1,1-Trichloroethane	105		108		70-130	3		30
Bromodichloromethane	104		106		70-130	2		30
trans-1,3-Dichloropropene	106		106		70-130	0		30
cis-1,3-Dichloropropene	109		110		70-130	1		30
1,1-Dichloropropene	112		115		70-130	3		30
Bromoform	92		95		70-130	3		30
1,1,2,2-Tetrachloroethane	103		105		70-130	2		30
Benzene	109		110		70-130	1		30
Toluene	104		104		70-130	0		30
Ethylbenzene	105		106		70-130	1		30
Chloromethane	**140**	Q	**145**	Q	52-130	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1279916-3 WG1279916-4								
Bromomethane	105		107		57-147	2		30
Vinyl chloride	**140**	Q	**143**	Q	67-130	2		30
Chloroethane	130		133		50-151	2		30
1,1-Dichloroethene	112		116		65-135	4		30
trans-1,2-Dichloroethene	110		113		70-130	3		30
Trichloroethene	106		108		70-130	2		30
1,2-Dichlorobenzene	99		100		70-130	1		30
1,3-Dichlorobenzene	100		101		70-130	1		30
1,4-Dichlorobenzene	100		101		70-130	1		30
Methyl tert butyl ether	108		108		66-130	0		30
p/m-Xylene	103		104		70-130	1		30
o-Xylene	102		103		70-130	1		30
cis-1,2-Dichloroethene	105		109		70-130	4		30
Dibromomethane	108		108		70-130	0		30
1,4-Dichlorobutane	106		107		70-130	1		30
1,2,3-Trichloropropane	106		106		68-130	0		30
Styrene	105		106		70-130	1		30
Dichlorodifluoromethane	**198**	Q	**205**	Q	30-146	3		30
Acetone	127		124		54-140	2		30
Carbon disulfide	116		119		59-130	3		30
2-Butanone	118		118		70-130	0		30
Vinyl acetate	116		118		70-130	2		30
4-Methyl-2-pentanone	112		113		70-130	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
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Lab Number: L1938090
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1279916-3 WG1279916-4								
2-Hexanone	114		112		70-130	2		30
Ethyl methacrylate	102		102		70-130	0		30
Acrolein	107		107		70-130	0		30
Acrylonitrile	120		119		70-130	1		30
Bromochloromethane	104		105		70-130	1		30
Tetrahydrofuran	119		114		66-130	4		30
2,2-Dichloropropane	110		112		70-130	2		30
1,2-Dibromoethane	102		101		70-130	1		30
1,3-Dichloropropane	105		105		69-130	0		30
1,1,1,2-Tetrachloroethane	98		99		70-130	1		30
Bromobenzene	97		98		70-130	1		30
n-Butylbenzene	102		104		70-130	2		30
sec-Butylbenzene	103		106		70-130	3		30
tert-Butylbenzene	100		103		70-130	3		30
1,3,5-Trichlorobenzene	95		96		70-139	1		30
o-Chlorotoluene	103		105		70-130	2		30
p-Chlorotoluene	104		106		70-130	2		30
1,2-Dibromo-3-chloropropane	95		95		68-130	0		30
Hexachlorobutadiene	93		94		67-130	1		30
Isopropylbenzene	102		105		70-130	3		30
p-Isopropyltoluene	101		104		70-130	3		30
Naphthalene	107		107		70-130	0		30
n-Propylbenzene	105		108		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
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Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1279916-3 WG1279916-4								
1,2,3-Trichlorobenzene	100		100		70-130	0		30
1,2,4-Trichlorobenzene	103		102		70-130	1		30
1,3,5-Trimethylbenzene	103		105		70-130	2		30
1,2,4-Trimethylbenzene	104		106		70-130	2		30
trans-1,4-Dichloro-2-butene	110		108		70-130	2		30
Ethyl ether	112		112		67-130	0		30
Methyl Acetate	113		116		65-130	3		30
Ethyl Acetate	85		86		70-130	1		30
Isopropyl Ether	108		109		66-130	1		30
Cyclohexane	117		120		70-130	3		30
Tert-Butyl Alcohol	107		104		70-130	3		30
Ethyl-Tert-Butyl-Ether	102		102		70-130	0		30
Tertiary-Amyl Methyl Ether	99		99		70-130	0		30
1,4-Dioxane	103		103		65-136	0		30
Methyl cyclohexane	107		110		70-130	3		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	114		117		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	103		102		70-130
Toluene-d8	101		99		70-130
4-Bromofluorobenzene	102		102		70-130
Dibromofluoromethane	100		100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
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Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,04-05 Batch: WG1279918-3 WG1279918-4								
Methylene chloride	106		106		70-130	0		30
1,1-Dichloroethane	112		112		70-130	0		30
Chloroform	106		107		70-130	1		30
Carbon tetrachloride	111		112		70-130	1		30
1,2-Dichloropropane	110		111		70-130	1		30
Dibromochloromethane	100		100		70-130	0		30
1,1,2-Trichloroethane	105		105		70-130	0		30
2-Chloroethylvinyl ether	91		91		70-130	0		30
Tetrachloroethene	103		103		70-130	0		30
Chlorobenzene	100		101		70-130	1		30
Trichlorofluoromethane	120		120		70-139	0		30
1,2-Dichloroethane	106		107		70-130	1		30
1,1,1-Trichloroethane	110		110		70-130	0		30
Bromodichloromethane	103		105		70-130	2		30
trans-1,3-Dichloropropene	105		105		70-130	0		30
cis-1,3-Dichloropropene	108		109		70-130	1		30
1,1-Dichloropropene	116		116		70-130	0		30
Bromoform	98		98		70-130	0		30
1,1,2,2-Tetrachloroethane	102		102		70-130	0		30
Benzene	108		108		70-130	0		30
Toluene	106		105		70-130	1		30
Ethylbenzene	108		108		70-130	0		30
Chloromethane	119		120		52-130	1		30

Lab Control Sample Analysis
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Project Name: LONG FALLS PAPERBOARD
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,04-05 Batch: WG1279918-3 WG1279918-4								
Bromomethane	101		103		57-147	2		30
Vinyl chloride	129		127		67-130	2		30
Chloroethane	122		122		50-151	0		30
1,1-Dichloroethene	116		116		65-135	0		30
trans-1,2-Dichloroethene	110		110		70-130	0		30
Trichloroethene	108		108		70-130	0		30
1,2-Dichlorobenzene	100		101		70-130	1		30
1,3-Dichlorobenzene	103		104		70-130	1		30
1,4-Dichlorobenzene	102		103		70-130	1		30
Methyl tert butyl ether	104		105		66-130	1		30
p/m-Xylene	106		106		70-130	0		30
o-Xylene	104		104		70-130	0		30
cis-1,2-Dichloroethene	109		107		70-130	2		30
Dibromomethane	105		105		70-130	0		30
1,4-Dichlorobutane	103		104		70-130	1		30
1,2,3-Trichloropropane	103		103		68-130	0		30
Styrene	107		107		70-130	0		30
Dichlorodifluoromethane	**152**	Q	**150**	Q	30-146	1		30
Acetone	111		110		54-140	1		30
Carbon disulfide	113		113		59-130	0		30
2-Butanone	108		106		70-130	2		30
Vinyl acetate	110		111		70-130	1		30
4-Methyl-2-pentanone	108		107		70-130	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,04-05 Batch: WG1279918-3 WG1279918-4								
2-Hexanone	105		104		70-130	1		30
Ethyl methacrylate	101		101		70-130	0		30
Acrolein	96		100		70-130	4		30
Acrylonitrile	111		110		70-130	1		30
Bromochloromethane	104		105		70-130	1		30
Tetrahydrofuran	107		105		66-130	2		30
2,2-Dichloropropane	111		111		70-130	0		30
1,2-Dibromoethane	103		103		70-130	0		30
1,3-Dichloropropane	104		103		69-130	1		30
1,1,1,2-Tetrachloroethane	100		101		70-130	1		30
Bromobenzene	100		101		70-130	1		30
n-Butylbenzene	107		106		70-130	1		30
sec-Butylbenzene	110		109		70-130	1		30
tert-Butylbenzene	106		106		70-130	0		30
1,3,5-Trichlorobenzene	100		100		70-139	0		30
o-Chlorotoluene	105		106		70-130	1		30
p-Chlorotoluene	106		107		70-130	1		30
1,2-Dibromo-3-chloropropane	98		97		68-130	1		30
Hexachlorobutadiene	102		102		67-130	0		30
Isopropylbenzene	108		108		70-130	0		30
p-Isopropyltoluene	107		107		70-130	0		30
Naphthalene	108		108		70-130	0		30
n-Propylbenzene	110		110		70-130	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,04-05 Batch: WG1279918-3 WG1279918-4								
1,2,3-Trichlorobenzene	104		105		70-130	1		30
1,2,4-Trichlorobenzene	106		107		70-130	1		30
1,3,5-Trimethylbenzene	106		107		70-130	1		30
1,2,4-Trimethylbenzene	107		107		70-130	0		30
trans-1,4-Dichloro-2-butene	105		104		70-130	1		30
Ethyl ether	106		106		67-130	0		30
Methyl Acetate	104		104		65-130	0		30
Ethyl Acetate	78		77		70-130	1		30
Isopropyl Ether	102		103		66-130	1		30
Cyclohexane	122		122		70-130	0		30
Tert-Butyl Alcohol	100		98		70-130	2		30
Ethyl-Tert-Butyl-Ether	98		100		70-130	2		30
Tertiary-Amyl Methyl Ether	97		98		70-130	1		30
1,4-Dioxane	109		106		65-136	3		30
Methyl cyclohexane	114		115		70-130	1		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	120		121		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		99		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	101		101		70-130
Dibromofluoromethane	99		99		70-130

SEMIVOLATILES

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-01
Client ID: IP-3A-70.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 10:55
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/02/19 17:55
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Benzidine	ND		ug/kg	650	210	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	22.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	19.	1
1,2-Dichlorobenzene	ND		ug/kg	200	35.	1
1,3-Dichlorobenzene	ND		ug/kg	200	34.	1
1,4-Dichlorobenzene	ND		ug/kg	200	34.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	52.	1
2,4-Dinitrotoluene	ND		ug/kg	200	39.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Azobenzene	ND		ug/kg	200	19.	1
Fluoranthene	ND		ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	560	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	ND		ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	68.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-01 Date Collected: 08/22/19 10:55

Client ID: IP-3A-70.5 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	200	37.	1
Di-n-octylphthalate	ND		ug/kg	200	67.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	41.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	31.	1
Chrysene	ND		ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	27.	1
Pyrene	ND		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	450	46.	1
Aniline	ND		ug/kg	240	93.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
1-Methylnaphthalene	ND		ug/kg	200	23.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	37.	1
4-Nitroaniline	ND		ug/kg	200	81.	1
Dibenzofuran	ND		ug/kg	200	18.	1
2-Methylnaphthalene	ND		ug/kg	240	24.	1
n-Nitrosodimethylamine	ND		ug/kg	390	38.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	200	29.	1
2-Chlorophenol	ND		ug/kg	200	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	65.	1
2-Nitrophenol	ND		ug/kg	420	74.	1
4-Nitrophenol	ND		ug/kg	280	80.	1
2,4-Dinitrophenol	ND		ug/kg	940	92.	1
4,6-Dinitro-o-cresol	ND		ug/kg	510	94.	1
Pentachlorophenol	ND		ug/kg	160	43.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-01 Date Collected: 08/22/19 10:55

Client ID: IP-3A-70.5 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Benzoic Acid	ND		ug/kg	640	200	1
Benzyl Alcohol	ND		ug/kg	200	60.	1
Carbazole	ND		ug/kg	200	19.	1
Pyridine	ND		ug/kg	210	75.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	86		25-120
Phenol-d6	88		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	70		30-120
2,4,6-Tribromophenol	74		10-136
4-Terphenyl-d14	69		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-02
Client ID: IP-07-71
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 12:42
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/02/19 18:20
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	21.	1
Benzidine	ND		ug/kg	660	220	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	23.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
1,2-Dichlorobenzene	ND		ug/kg	200	36.	1
1,3-Dichlorobenzene	ND		ug/kg	200	34.	1
1,4-Dichlorobenzene	ND		ug/kg	200	35.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Azobenzene	ND		ug/kg	200	19.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	570	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	ND		ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	30.	1
NDPA/DPA	ND		ug/kg	160	23.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	31.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	69.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-02 Date Collected: 08/21/19 12:42

Client ID: IP-07-71 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	68.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	28.	1
Pyrene	ND		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	450	46.	1
Aniline	ND		ug/kg	240	94.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
1-Methylnaphthalene	ND		ug/kg	200	23.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	38.	1
4-Nitroaniline	ND		ug/kg	200	82.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	ND		ug/kg	240	24.	1
n-Nitrosodimethylamine	ND		ug/kg	400	38.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	38.	1
p-Chloro-m-cresol	ND		ug/kg	200	30.	1
2-Chlorophenol	ND		ug/kg	200	24.	1
2,4-Dichlorophenol	ND		ug/kg	180	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	66.	1
2-Nitrophenol	ND		ug/kg	430	75.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	960	93.	1
4,6-Dinitro-o-cresol	ND		ug/kg	520	96.	1
Pentachlorophenol	ND		ug/kg	160	44.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-02 Date Collected: 08/21/19 12:42

Client ID: IP-07-71 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Benzoic Acid	ND		ug/kg	650	200	1
Benzyl Alcohol	ND		ug/kg	200	61.	1
Carbazole	ND		ug/kg	200	19.	1
Pyridine	ND		ug/kg	220	76.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	72		25-120
Phenol-d6	79		10-120
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	65		30-120
2,4,6-Tribromophenol	82		10-136
4-Terphenyl-d14	65		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-03
Client ID: IP-02-66
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 07:45
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/04/19 17:12
Analyst: JG
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	18.	1
Benzidine	ND		ug/kg	570	190	1
1,2,4-Trichlorobenzene	ND		ug/kg	170	20.	1
Hexachlorobenzene	ND		ug/kg	100	19.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	24.	1
2-Chloronaphthalene	ND		ug/kg	170	17.	1
1,2-Dichlorobenzene	ND		ug/kg	170	31.	1
1,3-Dichlorobenzene	ND		ug/kg	170	30.	1
1,4-Dichlorobenzene	ND		ug/kg	170	30.	1
3,3'-Dichlorobenzidine	ND		ug/kg	170	46.	1
2,4-Dinitrotoluene	ND		ug/kg	170	35.	1
2,6-Dinitrotoluene	ND		ug/kg	170	30.	1
Azobenzene	ND		ug/kg	170	17.	1
Fluoranthene	ND		ug/kg	100	20.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	170	19.	1
4-Bromophenyl phenyl ether	ND		ug/kg	170	26.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	30.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	17.	1
Hexachlorobutadiene	ND		ug/kg	170	25.	1
Hexachlorocyclopentadiene	ND		ug/kg	500	160	1
Hexachloroethane	ND		ug/kg	140	28.	1
Isophorone	ND		ug/kg	160	22.	1
Naphthalene	ND		ug/kg	170	21.	1
Nitrobenzene	ND		ug/kg	160	26.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	170	27.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	60.	1
Butyl benzyl phthalate	ND		ug/kg	170	44.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-03 Date Collected: 08/21/19 07:45

Client ID: IP-02-66 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	170	33.	1
Di-n-octylphthalate	ND		ug/kg	170	59.	1
Diethyl phthalate	ND		ug/kg	170	16.	1
Dimethyl phthalate	ND		ug/kg	170	36.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	42.	1
Benzo(b)fluoranthene	ND		ug/kg	100	29.	1
Benzo(k)fluoranthene	ND		ug/kg	100	28.	1
Chrysene	ND		ug/kg	100	18.	1
Acenaphthylene	ND		ug/kg	140	27.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	20.	1
Fluorene	ND		ug/kg	170	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Dibenzo(a,h)anthracene	ND		ug/kg	100	20.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	24.	1
Pyrene	ND		ug/kg	100	17.	1
Biphenyl	ND		ug/kg	400	40.	1
Aniline	ND		ug/kg	210	82.	1
4-Chloroaniline	ND		ug/kg	170	32.	1
1-Methylnaphthalene	ND		ug/kg	170	20.	1
2-Nitroaniline	ND		ug/kg	170	34.	1
3-Nitroaniline	ND		ug/kg	170	33.	1
4-Nitroaniline	ND		ug/kg	170	72.	1
Dibenzofuran	ND		ug/kg	170	16.	1
2-Methylnaphthalene	ND		ug/kg	210	21.	1
n-Nitrosodimethylamine	ND		ug/kg	350	33.	1
2,4,6-Trichlorophenol	ND		ug/kg	100	33.	1
p-Chloro-m-cresol	ND		ug/kg	170	26.	1
2-Chlorophenol	ND		ug/kg	170	20.	1
2,4-Dichlorophenol	ND		ug/kg	160	28.	1
2,4-Dimethylphenol	ND		ug/kg	170	57.	1
2-Nitrophenol	ND		ug/kg	380	65.	1
4-Nitrophenol	ND		ug/kg	240	71.	1
2,4-Dinitrophenol	ND		ug/kg	840	81.	1
4,6-Dinitro-o-cresol	ND		ug/kg	450	84.	1
Pentachlorophenol	ND		ug/kg	140	38.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-03 Date Collected: 08/21/19 07:45

Client ID: IP-02-66 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	170	26.	1
2-Methylphenol	ND		ug/kg	170	27.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	27.	1
2,4,5-Trichlorophenol	ND		ug/kg	170	33.	1
Benzoic Acid	ND		ug/kg	560	180	1
Benzyl Alcohol	ND		ug/kg	170	53.	1
Carbazole	ND		ug/kg	170	17.	1
Pyridine	ND		ug/kg	190	66.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	65		25-120
Phenol-d6	74		10-120
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	59		30-120
2,4,6-Tribromophenol	79		10-136
4-Terphenyl-d14	65		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-04
Client ID: IP-07-66.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 12:30
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/02/19 19:10
Analyst: EK
Percent Solids: 96%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	18.	1
Benzidine	ND		ug/kg	570	190	1
1,2,4-Trichlorobenzene	ND		ug/kg	170	20.	1
Hexachlorobenzene	ND		ug/kg	100	19.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	23.	1
2-Chloronaphthalene	ND		ug/kg	170	17.	1
1,2-Dichlorobenzene	ND		ug/kg	170	31.	1
1,3-Dichlorobenzene	ND		ug/kg	170	30.	1
1,4-Dichlorobenzene	ND		ug/kg	170	30.	1
3,3'-Dichlorobenzidine	ND		ug/kg	170	46.	1
2,4-Dinitrotoluene	ND		ug/kg	170	34.	1
2,6-Dinitrotoluene	ND		ug/kg	170	30.	1
Azobenzene	ND		ug/kg	170	16.	1
Fluoranthene	ND		ug/kg	100	20.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	170	18.	1
4-Bromophenyl phenyl ether	ND		ug/kg	170	26.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	30.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	17.	1
Hexachlorobutadiene	ND		ug/kg	170	25.	1
Hexachlorocyclopentadiene	ND		ug/kg	490	160	1
Hexachloroethane	ND		ug/kg	140	28.	1
Isophorone	ND		ug/kg	160	22.	1
Naphthalene	ND		ug/kg	170	21.	1
Nitrobenzene	ND		ug/kg	160	26.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	170	27.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	60.	1
Butyl benzyl phthalate	ND		ug/kg	170	44.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-04 Date Collected: 08/21/19 12:30

Client ID: IP-07-66.5 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	170	33.	1
Di-n-octylphthalate	ND		ug/kg	170	59.	1
Diethyl phthalate	ND		ug/kg	170	16.	1
Dimethyl phthalate	ND		ug/kg	170	36.	1
Benzo(a)anthracene	ND		ug/kg	100	19.	1
Benzo(a)pyrene	ND		ug/kg	140	42.	1
Benzo(b)fluoranthene	ND		ug/kg	100	29.	1
Benzo(k)fluoranthene	ND		ug/kg	100	28.	1
Chrysene	ND		ug/kg	100	18.	1
Acenaphthylene	ND		ug/kg	140	27.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	20.	1
Fluorene	ND		ug/kg	170	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Dibenzo(a,h)anthracene	ND		ug/kg	100	20.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	24.	1
Pyrene	ND		ug/kg	100	17.	1
Biphenyl	ND		ug/kg	390	40.	1
Aniline	ND		ug/kg	210	82.	1
4-Chloroaniline	ND		ug/kg	170	31.	1
1-Methylnaphthalene	ND		ug/kg	170	20.	1
2-Nitroaniline	ND		ug/kg	170	33.	1
3-Nitroaniline	ND		ug/kg	170	32.	1
4-Nitroaniline	ND		ug/kg	170	72.	1
Dibenzofuran	ND		ug/kg	170	16.	1
2-Methylnaphthalene	ND		ug/kg	210	21.	1
n-Nitrosodimethylamine	ND		ug/kg	340	33.	1
2,4,6-Trichlorophenol	ND		ug/kg	100	33.	1
p-Chloro-m-cresol	ND		ug/kg	170	26.	1
2-Chlorophenol	ND		ug/kg	170	20.	1
2,4-Dichlorophenol	ND		ug/kg	160	28.	1
2,4-Dimethylphenol	ND		ug/kg	170	57.	1
2-Nitrophenol	ND		ug/kg	370	65.	1
4-Nitrophenol	ND		ug/kg	240	70.	1
2,4-Dinitrophenol	ND		ug/kg	830	80.	1
4,6-Dinitro-o-cresol	ND		ug/kg	450	83.	1
Pentachlorophenol	ND		ug/kg	140	38.	1

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-04 Date Collected: 08/21/19 12:30

Client ID: IP-07-66.5 Date Received: 08/22/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	170	26.	1
2-Methylphenol	ND		ug/kg	170	27.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	27.	1
2,4,5-Trichlorophenol	ND		ug/kg	170	33.	1
Benzoic Acid	ND		ug/kg	560	170	1
Benzyl Alcohol	ND		ug/kg	170	53.	1
Carbazole	ND		ug/kg	170	17.	1
Pyridine	ND		ug/kg	190	66.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	51		25-120
Phenol-d6	53		10-120
Nitrobenzene-d5	45		23-120
2-Fluorobiphenyl	37		30-120
2,4,6-Tribromophenol	44		10-136
4-Terphenyl-d14	36		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-06
Client ID: DU-1-C
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 18:15
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/02/19 20:07
Analyst: IM
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	460	59.	1
2-Chloronaphthalene	ND		ug/kg	570	56.	1
Fluoranthene	3000		ug/kg	340	65.	1
Naphthalene	ND		ug/kg	570	69.	1
Benzo(a)anthracene	290	J	ug/kg	340	64.	1
Benzo(a)pyrene	180	J	ug/kg	460	140	1
Benzo(b)fluoranthene	860		ug/kg	340	96.	1
Benzo(k)fluoranthene	250	J	ug/kg	340	91.	1
Chrysene	920		ug/kg	340	59.	1
Acenaphthylene	ND		ug/kg	460	88.	1
Anthracene	540		ug/kg	340	110	1
Benzo(ghi)perylene	170	J	ug/kg	460	67.	1
Fluorene	ND		ug/kg	570	55.	1
Phenanthrene	550		ug/kg	340	69.	1
Dibenzo(a,h)anthracene	ND		ug/kg	340	66.	1
Indeno(1,2,3-cd)pyrene	200	J	ug/kg	460	79.	1
Pyrene	2200		ug/kg	340	56.	1
1-Methylnaphthalene	ND		ug/kg	570	66.	1
2-Methylnaphthalene	ND		ug/kg	680	69.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	89		23-120
2-Fluorobiphenyl	76		30-120
4-Terphenyl-d14	62		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-07
Client ID: DU-1-B
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 18:15
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/02/19 20:31
Analyst: IM
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	480	62.	1
2-Chloronaphthalene	ND		ug/kg	600	59.	1
Fluoranthene	1400		ug/kg	360	69.	1
Naphthalene	ND		ug/kg	600	73.	1
Benzo(a)anthracene	450		ug/kg	360	67.	1
Benzo(a)pyrene	310	J	ug/kg	480	150	1
Benzo(b)fluoranthene	1200		ug/kg	360	100	1
Benzo(k)fluoranthene	300	J	ug/kg	360	96.	1
Chrysene	870		ug/kg	360	62.	1
Acenaphthylene	100	J	ug/kg	480	92.	1
Anthracene	130	J	ug/kg	360	120	1
Benzo(ghi)perylene	290	J	ug/kg	480	70.	1
Fluorene	ND		ug/kg	600	58.	1
Phenanthrene	210	J	ug/kg	360	73.	1
Dibenzo(a,h)anthracene	79	J	ug/kg	360	69.	1
Indeno(1,2,3-cd)pyrene	320	J	ug/kg	480	83.	1
Pyrene	1400		ug/kg	360	59.	1
1-Methylnaphthalene	ND		ug/kg	600	69.	1
2-Methylnaphthalene	ND		ug/kg	720	72.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	87		30-120
4-Terphenyl-d14	77		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-08
Client ID: DU-1-A
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 18:15
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/02/19 20:55
Analyst: IM
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	440	57.	1
2-Chloronaphthalene	ND		ug/kg	550	55.	1
Fluoranthene	220	J	ug/kg	330	63.	1
Naphthalene	ND		ug/kg	550	67.	1
Benzo(a)anthracene	79	J	ug/kg	330	62.	1
Benzo(a)pyrene	ND		ug/kg	440	130	1
Benzo(b)fluoranthene	170	J	ug/kg	330	93.	1
Benzo(k)fluoranthene	ND		ug/kg	330	88.	1
Chrysene	110	J	ug/kg	330	57.	1
Acenaphthylene	ND		ug/kg	440	85.	1
Anthracene	ND		ug/kg	330	110	1
Benzo(ghi)perylene	ND		ug/kg	440	65.	1
Fluorene	ND		ug/kg	550	54.	1
Phenanthrene	ND		ug/kg	330	67.	1
Dibenzo(a,h)anthracene	ND		ug/kg	330	64.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	440	77.	1
Pyrene	200	J	ug/kg	330	55.	1
1-Methylnaphthalene	ND		ug/kg	550	64.	1
2-Methylnaphthalene	ND		ug/kg	660	67.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	76		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-09
Client ID: DU-2-A
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 12:40
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/02/19 18:54
Analyst: IM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	420	55.	1
2-Chloronaphthalene	ND		ug/kg	530	53.	1
Fluoranthene	140	J	ug/kg	320	61.	1
Naphthalene	ND		ug/kg	530	65.	1
Benzo(a)anthracene	88	J	ug/kg	320	60.	1
Benzo(a)pyrene	ND		ug/kg	420	130	1
Benzo(b)fluoranthene	130	J	ug/kg	320	89.	1
Benzo(k)fluoranthene	ND		ug/kg	320	85.	1
Chrysene	94	J	ug/kg	320	55.	1
Acenaphthylene	ND		ug/kg	420	82.	1
Anthracene	ND		ug/kg	320	100	1
Benzo(ghi)perylene	ND		ug/kg	420	62.	1
Fluorene	ND		ug/kg	530	52.	1
Phenanthrene	ND		ug/kg	320	65.	1
Dibenzo(a,h)anthracene	ND		ug/kg	320	61.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	420	74.	1
Pyrene	130	J	ug/kg	320	53.	1
1-Methylnaphthalene	ND		ug/kg	530	62.	1
2-Methylnaphthalene	ND		ug/kg	640	64.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	91		30-120
4-Terphenyl-d14	88		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-10
Client ID: DU-2-B
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 12:42
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/02/19 19:18
Analyst: IM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	420	54.	1
2-Chloronaphthalene	ND		ug/kg	520	52.	1
Fluoranthene	89	J	ug/kg	310	60.	1
Naphthalene	ND		ug/kg	520	63.	1
Benzo(a)anthracene	ND		ug/kg	310	58.	1
Benzo(a)pyrene	ND		ug/kg	420	130	1
Benzo(b)fluoranthene	ND		ug/kg	310	88.	1
Benzo(k)fluoranthene	ND		ug/kg	310	83.	1
Chrysene	ND		ug/kg	310	54.	1
Acenaphthylene	ND		ug/kg	420	80.	1
Anthracene	ND		ug/kg	310	100	1
Benzo(ghi)perylene	ND		ug/kg	420	61.	1
Fluorene	ND		ug/kg	520	50.	1
Phenanthrene	ND		ug/kg	310	63.	1
Dibenzo(a,h)anthracene	ND		ug/kg	310	60.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	420	72.	1
Pyrene	78	J	ug/kg	310	52.	1
1-Methylnaphthalene	ND		ug/kg	520	60.	1
2-Methylnaphthalene	ND		ug/kg	620	63.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	39		23-120
2-Fluorobiphenyl	41		30-120
4-Terphenyl-d14	40		18-120

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-11
Client ID: DU-2-C
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 12:45
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/02/19 19:42
Analyst: IM
Percent Solids: 93%

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	410	53.	1
2-Chloronaphthalene	ND		ug/kg	510	51.	1
Fluoranthene	ND		ug/kg	310	59.	1
Naphthalene	ND		ug/kg	510	62.	1
Benzo(a)anthracene	ND		ug/kg	310	58.	1
Benzo(a)pyrene	ND		ug/kg	410	120	1
Benzo(b)fluoranthene	ND		ug/kg	310	86.	1
Benzo(k)fluoranthene	ND		ug/kg	310	82.	1
Chrysene	ND		ug/kg	310	53.	1
Acenaphthylene	ND		ug/kg	410	79.	1
Anthracene	ND		ug/kg	310	100	1
Benzo(ghi)perylene	ND		ug/kg	410	60.	1
Fluorene	ND		ug/kg	510	50.	1
Phenanthrene	ND		ug/kg	310	62.	1
Dibenzo(a,h)anthracene	ND		ug/kg	310	59.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	410	71.	1
Pyrene	ND		ug/kg	310	51.	1
1-Methylnaphthalene	ND		ug/kg	510	59.	1
2-Methylnaphthalene	ND		ug/kg	610	62.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	43		23-120
2-Fluorobiphenyl	42		30-120
4-Terphenyl-d14	41		18-120

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/02/19 10:51
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04,06-11 Batch: WG1279107-1					
Acenaphthene	ND		ug/kg	130	17.
Benzidine	ND		ug/kg	540	180
1,2,4-Trichlorobenzene	ND		ug/kg	160	19.
Hexachlorobenzene	ND		ug/kg	99	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	30.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	29.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Azobenzene	ND		ug/kg	160	16.
Fluoranthene	ND		ug/kg	99	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/02/19 10:51
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04,06-11 Batch: WG1279107-1					
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.
Biphenyl	ND		ug/kg	380	38.
Aniline	ND		ug/kg	200	78.
4-Chloroaniline	ND		ug/kg	160	30.
1-Methylnaphthalene	ND		ug/kg	160	19.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
n-Nitrosodimethylamine	ND		ug/kg	330	32.
2,4,6-Trichlorophenol	ND		ug/kg	99	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/02/19 10:51
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 08/31/19 11:12

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04,06-11 Batch: WG1279107-1					
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	32.
Benzoic Acid	ND		ug/kg	530	170
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.
Pyridine	ND		ug/kg	180	63.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	91		25-120
Phenol-d6	98		10-120
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	79		30-120
2,4,6-Tribromophenol	95		10-136
4-Terphenyl-d14	93		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-11 Batch: WG1279107-2 WG1279107-3								
Acenaphthene	75		89		31-137	17		50
Benzidine	49		56		10-66	13		50
1,2,4-Trichlorobenzene	65		83		38-107	24		50
Hexachlorobenzene	82		91		40-140	10		50
Bis(2-chloroethyl)ether	68		86		40-140	23		50
2-Chloronaphthalene	71		85		40-140	18		50
1,2-Dichlorobenzene	71		86		40-140	19		50
1,3-Dichlorobenzene	65		78		40-140	18		50
1,4-Dichlorobenzene	67		80		28-104	18		50
3,3'-Dichlorobenzidine	85		90		40-140	6		50
2,4-Dinitrotoluene	95		106		40-132	11		50
2,6-Dinitrotoluene	88		101		40-140	14		50
Azobenzene	83		93		40-140	11		50
Fluoranthene	89		91		40-140	2		50
4-Chlorophenyl phenyl ether	73		84		40-140	14		50
4-Bromophenyl phenyl ether	77		88		40-140	13		50
Bis(2-chloroisopropyl)ether	56		71		40-140	24		50
Bis(2-chloroethoxy)methane	75		91		40-117	19		50
Hexachlorobutadiene	64		81		40-140	23		50
Hexachlorocyclopentadiene	47		64		40-140	31		50
Hexachloroethane	71		85		40-140	18		50
Isophorone	79		98		40-140	21		50
Naphthalene	71		86		40-140	19		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-11 Batch: WG1279107-2 WG1279107-3								
Nitrobenzene	73		90		40-140	21		50
NDPA/DPA	81		92		36-157	13		50
n-Nitrosodi-n-propylamine	78		96		32-121	21		50
Bis(2-ethylhexyl)phthalate	103		110		40-140	7		50
Butyl benzyl phthalate	106		111		40-140	5		50
Di-n-butylphthalate	104		111		40-140	7		50
Di-n-octylphthalate	116		121		40-140	4		50
Diethyl phthalate	86		97		40-140	12		50
Dimethyl phthalate	79		91		40-140	14		50
Benzo(a)anthracene	89		93		40-140	4		50
Benzo(a)pyrene	88		91		40-140	3		50
Benzo(b)fluoranthene	92		98		40-140	6		50
Benzo(k)fluoranthene	82		86		40-140	5		50
Chrysene	86		91		40-140	6		50
Acenaphthylene	75		89		40-140	17		50
Anthracene	87		95		40-140	9		50
Benzo(ghi)perylene	90		98		40-140	9		50
Fluorene	80		92		40-140	14		50
Phenanthrene	81		89		40-140	9		50
Dibenzo(a,h)anthracene	96		102		40-140	6		50
Indeno(1,2,3-cd)pyrene	89		103		40-140	15		50
Pyrene	86		90		35-142	5		50
Biphenyl	78		92		37-127	16		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-11 Batch: WG1279107-2 WG1279107-3								
Aniline	66		84		40-140	24		50
4-Chloroaniline	65		80		40-140	21		50
1-Methylnaphthalene	68		82		26-130	19		50
2-Nitroaniline	91		104		47-134	13		50
3-Nitroaniline	81		90		26-129	11		50
4-Nitroaniline	83		92		41-125	10		50
Dibenzofuran	79		92		40-140	15		50
2-Methylnaphthalene	70		85		40-140	19		50
n-Nitrosodimethylamine	67		78		22-100	15		50
2,4,6-Trichlorophenol	77		91		30-130	17		50
p-Chloro-m-cresol	85		100		26-103	16		50
2-Chlorophenol	76		96		25-102	23		50
2,4-Dichlorophenol	80		96		30-130	18		50
2,4-Dimethylphenol	78		96		30-130	21		50
2-Nitrophenol	85		102		30-130	18		50
4-Nitrophenol	88		95		11-114	8		50
2,4-Dinitrophenol	73		78		4-130	7		50
4,6-Dinitro-o-cresol	102		117		10-130	14		50
Pentachlorophenol	77		83		17-109	8		50
Phenol	71		87		26-90	20		50
2-Methylphenol	83		101		30-130.	20		50
3-Methylphenol/4-Methylphenol	81		99		30-130	20		50
2,4,5-Trichlorophenol	86		99		30-130	14		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-11 Batch: WG1279107-2 WG1279107-3								
Benzoic Acid	46		55		10-110	18		50
Benzyl Alcohol	80		100		40-140	22		50
Carbazole	92		98		54-128	6		50
Pyridine	53		56		10-93	6		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	73		94		25-120
Phenol-d6	80		102		10-120
Nitrobenzene-d5	76		95		23-120
2-Fluorobiphenyl	69		82		30-120
2,4,6-Tribromophenol	86		98		10-136
4-Terphenyl-d14	86		90		18-120

PESTICIDES

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-06
Client ID: DU-1-C
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 18:15
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 09/01/19 17:37
Analyst: DGM
Percent Solids: 83%
Methylation Date: 08/31/19 21:44

Extraction Method: EPA 8151A
Extraction Date: 08/30/19 09:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3960	1250	1	A
MCPA	ND		ug/kg	3960	1120	1	A
Dalapon	ND		ug/kg	39.6	12.9	1	A
Dicamba	ND		ug/kg	39.6	6.65	1	A
Dichloroprop	ND		ug/kg	39.6	11.4	1	A
2,4-D	ND		ug/kg	198	12.5	1	A
2,4-DB	ND		ug/kg	198	10.2	1	A
2,4,5-T	ND		ug/kg	198	6.13	1	A
2,4,5-TP (Silvex)	ND		ug/kg	198	5.26	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	96		30-150	A
DCAA	83		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-07
Client ID: DU-1-B
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 18:15
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 09/01/19 17:55
Analyst: DGM
Percent Solids: 82%
Methylation Date: 08/31/19 19:02

Extraction Method: EPA 8151A
Extraction Date: 08/30/19 09:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3950	1240	1	A
MCPA	ND		ug/kg	3950	1120	1	A
Dalapon	ND		ug/kg	39.5	12.9	1	A
Dicamba	ND		ug/kg	39.5	6.64	1	A
Dichloroprop	ND		ug/kg	39.5	11.3	1	A
2,4-D	ND		ug/kg	198	12.4	1	A
2,4-DB	ND		ug/kg	198	10.2	1	A
2,4,5-T	ND		ug/kg	198	6.13	1	A
2,4,5-TP (Silvex)	ND		ug/kg	198	5.26	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	96		30-150	A
DCAA	88		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-08
Client ID: DU-1-A
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 18:15
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 09/01/19 18:13
Analyst: DGM
Percent Solids: 84%
Methylation Date: 08/31/19 19:02

Extraction Method: EPA 8151A
Extraction Date: 08/30/19 09:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3950	1240	1	A
MCPA	ND		ug/kg	3950	1120	1	A
Dalapon	ND		ug/kg	39.5	12.9	1	A
Dicamba	ND		ug/kg	39.5	6.64	1	A
Dichloroprop	ND		ug/kg	39.5	11.3	1	A
2,4-D	ND		ug/kg	198	12.4	1	A
2,4-DB	ND		ug/kg	198	10.2	1	A
2,4,5-T	ND		ug/kg	198	6.12	1	A
2,4,5-TP (Silvex)	ND		ug/kg	198	5.26	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	94		30-150	A
DCAA	95		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-09
Client ID: DU-2-A
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 12:40
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 09/01/19 18:32
Analyst: DGM
Percent Solids: 93%
Methylation Date: 08/31/19 19:02

Extraction Method: EPA 8151A
Extraction Date: 08/30/19 09:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3570	1120	1	A
MCPA	ND		ug/kg	3570	1010	1	A
Dalapon	ND		ug/kg	35.7	11.7	1	A
Dicamba	ND		ug/kg	35.7	5.99	1	A
Dichloroprop	ND		ug/kg	35.7	10.2	1	A
2,4-D	ND		ug/kg	178	11.2	1	A
2,4-DB	ND		ug/kg	178	9.17	1	A
2,4,5-T	ND		ug/kg	178	5.53	1	A
2,4,5-TP (Silvex)	ND		ug/kg	178	4.74	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	97		30-150	A
DCAA	75		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-10
Client ID: DU-2-B
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 12:42
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 09/01/19 18:50
Analyst: DGM
Percent Solids: 93%
Methylation Date: 08/31/19 19:02

Extraction Method: EPA 8151A
Extraction Date: 08/30/19 09:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3560	1120	1	A
MCPA	ND		ug/kg	3560	1010	1	A
Dalapon	ND		ug/kg	35.6	11.6	1	A
Dicamba	ND		ug/kg	35.6	5.98	1	A
Dichloroprop	ND		ug/kg	35.6	10.2	1	A
2,4-D	ND		ug/kg	178	11.2	1	A
2,4-DB	ND		ug/kg	178	9.14	1	A
2,4,5-T	ND		ug/kg	178	5.51	1	A
2,4,5-TP (Silvex)	ND		ug/kg	178	4.73	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	95		30-150	A
DCAA	91		30-150	B

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-11
Client ID: DU-2-C
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 12:45
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 09/01/19 19:08
Analyst: DGM
Percent Solids: 93%
Methylation Date: 08/31/19 19:02

Extraction Method: EPA 8151A
Extraction Date: 08/30/19 09:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
MCPP	ND		ug/kg	3560	1120	1	A
MCPA	ND		ug/kg	3560	1010	1	A
Dalapon	ND		ug/kg	35.6	11.6	1	A
Dicamba	ND		ug/kg	35.6	5.98	1	A
Dichloroprop	ND		ug/kg	35.6	10.2	1	A
2,4-D	ND		ug/kg	178	11.2	1	A
2,4-DB	ND		ug/kg	178	9.15	1	A
2,4,5-T	ND		ug/kg	178	5.52	1	A
2,4,5-TP (Silvex)	ND		ug/kg	178	4.73	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	100		30-150	A
DCAA	85		30-150	B

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8151A
Analytical Date: 08/31/19 17:40
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 08/30/19 05:51

Methylation Date: 08/30/19 11:55

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 06-11 Batch: WG1278602-1						
MCPP	ND		ug/kg	3270	1030	A
MCPA	ND		ug/kg	3270	926.	A
Dalapon	ND		ug/kg	32.7	10.7	A
Dicamba	ND		ug/kg	32.7	5.50	A
Dichloroprop	ND		ug/kg	32.7	9.39	A
2,4-D	ND		ug/kg	164	10.3	A
2,4-DB	ND		ug/kg	164	8.41	A
2,4,5-T	ND		ug/kg	164	5.07	A
2,4,5-TP (Silvex)	ND		ug/kg	164	4.35	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	91		30-150	A
DCAA	82		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 06-11 Batch: WG1278602-2 WG1278602-3									
MCPP	120		120		30-150	0		30	A
MCPA	85		84		30-150	1		30	A
Dalapon	75		71		30-150	5		30	A
Dicamba	98		98		30-150	0		30	A
Dichloroprop	92		103		30-150	11		30	A
2,4-D	98		95		30-150	3		30	A
2,4-DB	90		84		30-150	7		30	A
2,4,5-T	96		97		30-150	1		30	A
2,4,5-TP (Silvex)	100		99		30-150	1		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	94		95		30-150	A
DCAA	92		92		30-150	B

METALS

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-01
Client ID: IP-3A-70.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 10:55
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	2790		mg/kg	9.14	2.47	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Antimony, Total	0.548	J	mg/kg	4.57	0.347	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Arsenic, Total	2.14		mg/kg	0.914	0.190	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Barium, Total	23.3		mg/kg	0.914	0.159	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Beryllium, Total	0.046	J	mg/kg	0.457	0.030	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Cadmium, Total	0.430	J	mg/kg	0.914	0.090	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Calcium, Total	530		mg/kg	9.14	3.20	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Chromium, Total	5.83		mg/kg	0.914	0.088	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Cobalt, Total	5.44		mg/kg	1.83	0.152	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Copper, Total	8.66		mg/kg	0.914	0.236	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Iron, Total	7640		mg/kg	4.57	0.825	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Lead, Total	2.67	J	mg/kg	4.57	0.245	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Magnesium, Total	1640		mg/kg	9.14	1.41	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Manganese, Total	361		mg/kg	0.914	0.145	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.075	0.049	1	08/31/19 07:30	08/31/19 21:44	EPA 7471B	1,7471B	AL
Nickel, Total	12.5		mg/kg	2.28	0.221	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Potassium, Total	379		mg/kg	228	13.2	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.83	0.236	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.914	0.259	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Sodium, Total	17.0	J	mg/kg	183	2.88	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.83	0.288	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Vanadium, Total	6.64		mg/kg	0.914	0.186	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC
Zinc, Total	15.9		mg/kg	4.57	0.268	2	08/30/19 21:17	09/03/19 21:25	EPA 3050B	1,6010D	MC

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-03
Client ID: IP-02-66
Sample Location: BRATTLEBORO, VT
Date Collected: 08/21/19 07:45
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7250		mg/kg	8.29	2.24	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Antimony, Total	1.09	J	mg/kg	4.14	0.315	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Arsenic, Total	9.27		mg/kg	0.829	0.172	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Barium, Total	26.9		mg/kg	0.829	0.144	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Beryllium, Total	0.174	J	mg/kg	0.414	0.027	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Cadmium, Total	1.07		mg/kg	0.829	0.081	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Calcium, Total	872		mg/kg	8.29	2.90	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Chromium, Total	15.4		mg/kg	0.829	0.080	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Cobalt, Total	10.3		mg/kg	1.66	0.138	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Copper, Total	19.5		mg/kg	0.829	0.214	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Iron, Total	19400		mg/kg	4.14	0.748	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Lead, Total	9.84		mg/kg	4.14	0.222	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Magnesium, Total	3750		mg/kg	8.29	1.28	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Manganese, Total	268		mg/kg	0.829	0.132	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.066	0.043	1	08/31/19 07:30	08/31/19 21:45	EPA 7471B	1,7471B	AL
Nickel, Total	22.0		mg/kg	2.07	0.200	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Potassium, Total	823		mg/kg	207	11.9	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Selenium, Total	ND		mg/kg	1.66	0.214	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.829	0.234	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Sodium, Total	79.5	J	mg/kg	166	2.61	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.66	0.261	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Vanadium, Total	17.9		mg/kg	0.829	0.168	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC
Zinc, Total	43.9		mg/kg	4.14	0.243	2	08/30/19 21:17	09/03/19 21:29	EPA 3050B	1,6010D	MC

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1278932-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Antimony, Total	ND		mg/kg	2.00	0.152	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	0.083	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Barium, Total	ND		mg/kg	0.400	0.070	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	0.013	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Calcium, Total	ND		mg/kg	4.00	1.40	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Chromium, Total	ND		mg/kg	0.400	0.038	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Cobalt, Total	ND		mg/kg	0.800	0.066	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Copper, Total	ND		mg/kg	0.400	0.103	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Iron, Total	0.720	J	mg/kg	2.00	0.361	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Lead, Total	ND		mg/kg	2.00	0.107	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Magnesium, Total	ND		mg/kg	4.00	0.616	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Manganese, Total	ND		mg/kg	0.400	0.064	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Nickel, Total	ND		mg/kg	1.00	0.097	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Potassium, Total	ND		mg/kg	100	5.76	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Selenium, Total	ND		mg/kg	0.800	0.103	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Silver, Total	ND		mg/kg	0.400	0.113	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Sodium, Total	2.71	J	mg/kg	80.0	1.26	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Thallium, Total	ND		mg/kg	0.800	0.126	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	0.081	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC
Zinc, Total	ND		mg/kg	2.00	0.117	1	08/30/19 21:17	09/03/19 20:09	1,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1279026-1										
Mercury, Total	ND		mg/kg	0.083	0.054	1	08/31/19 07:30	08/31/19 21:23	1,7471B	AL

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1278932-2 SRM Lot Number: D105-540								
Aluminum, Total	60		-		51-149	-		
Antimony, Total	133		-		19-249	-		
Arsenic, Total	104		-		70-130	-		
Barium, Total	97		-		75-125	-		
Beryllium, Total	107		-		75-125	-		
Cadmium, Total	118		-		75-125	-		
Calcium, Total	87		-		73-127	-		
Chromium, Total	95		-		70-130	-		
Cobalt, Total	104		-		75-125	-		
Copper, Total	99		-		75-125	-		
Iron, Total	76		-		38-162	-		
Lead, Total	96		-		71-128	-		
Magnesium, Total	79		-		63-137	-		
Manganese, Total	90		-		76-124	-		
Nickel, Total	106		-		70-131	-		
Potassium, Total	74		-		60-140	-		
Selenium, Total	102		-		63-137	-		
Silver, Total	94		-		69-131	-		
Sodium, Total	99		-		37-162	-		
Thallium, Total	108		-		68-132	-		
Vanadium, Total	94		-		65-135	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1278932-2 SRM Lot Number: D105-540					
Zinc, Total	102	-	70-130	-	
Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1279026-2 SRM Lot Number: D105-540					
Mercury, Total	91	-	60-141	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1278932-3 QC Sample: L1938942-01 Client ID: MS Sample												
Aluminum, Total	4420	160	5460	**649**	Q	-	-		75-125	-		20
Antimony, Total	ND	40	30.4	76		-	-		75-125	-		20
Arsenic, Total	0.951	9.61	11.2	107		-	-		75-125	-		20
Barium, Total	20.2	160	237	**135**	Q	-	-		75-125	-		20
Beryllium, Total	0.065J	4	4.05	101		-	-		75-125	-		20
Cadmium, Total	0.398J	4.08	4.60	112		-	-		75-125	-		20
Calcium, Total	1240	801	2360	**140**	Q	-	-		75-125	-		20
Chromium, Total	14.1	16	33.5	121		-	-		75-125	-		20
Cobalt, Total	5.35	40	45.4	100		-	-		75-125	-		20
Copper, Total	18.2	20	40.0	109		-	-		75-125	-		20
Iron, Total	7240	80.1	8280	**1300**	Q	-	-		75-125	-		20
Lead, Total	2.22J	40.8	43.3	106		-	-		75-125	-		20
Magnesium, Total	1760	801	2900	**142**	Q	-	-		75-125	-		20
Manganese, Total	189	40	616	**1070**	Q	-	-		75-125	-		20
Nickel, Total	13.5	40	54.1	101		-	-		75-125	-		20
Potassium, Total	341	801	1120	97		-	-		75-125	-		20
Selenium, Total	ND	9.61	9.65	100		-	-		75-125	-		20
Silver, Total	ND	24	23.8	99		-	-		75-125	-		20
Sodium, Total	159J	801	978	122		-	-		75-125	-		20
Thallium, Total	ND	9.61	9.16	95		-	-		75-125	-		20
Vanadium, Total	16.4	40	60.8	111		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1278932-3 QC Sample: L1938942-01 Client ID: MS Sample										
Zinc, Total	11.0	40	52.4	103		-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1279026-3 QC Sample: L1936546-01 Client ID: MS Sample										
Mercury, Total	ND	0.16	0.112	**70**	Q	-	-	80-120	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1938090

Report Date: 09/05/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1278932-4 QC Sample: L1938942-01 Client ID: DUP Sample						
Aluminum, Total	4420	4660	mg/kg	5		20
Antimony, Total	ND	ND	mg/kg	NC		20
Arsenic, Total	0.951	0.968	mg/kg	2		20
Barium, Total	20.2	20.1	mg/kg	0		20
Beryllium, Total	0.065J	0.073J	mg/kg	NC		20
Cadmium, Total	0.398J	0.423J	mg/kg	NC		20
Calcium, Total	1240	1350	mg/kg	8		20
Chromium, Total	14.1	15.9	mg/kg	12		20
Cobalt, Total	5.35	5.99	mg/kg	11		20
Copper, Total	18.2	19.3	mg/kg	6		20
Iron, Total	7240	8040	mg/kg	10		20
Lead, Total	2.22J	2.40J	mg/kg	NC		20
Magnesium, Total	1760	2000	mg/kg	13		20
Manganese, Total	189	220	mg/kg	15		20
Nickel, Total	13.5	13.5	mg/kg	0		20
Potassium, Total	341	358	mg/kg	5		20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Sodium, Total	159J	150J	mg/kg	NC		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1938090

Report Date: 09/05/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1278932-4 QC Sample: L1938942-01 Client ID: DUP Sample					
Thallium, Total	ND	ND	mg/kg	NC	20
Vanadium, Total	16.4	18.0	mg/kg	9	20
Zinc, Total	11.0	11.9	mg/kg	8	20
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1279026-4 QC Sample: L1936546-01 Client ID: DUP Sample					
Mercury, Total	ND	ND	mg/kg	NC	20

INORGANICS
&
MISCELLANEOUS

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-01
Client ID: IP-3A-70.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 10:55
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.4		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.23	1	08/25/19 15:15	08/26/19 10:57	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-02
Client ID: IP-07-71
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 12:42
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-03
Client ID: IP-02-66
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 07:45
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.7		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI
Cyanide, Total	ND		mg/kg	0.96	0.20	1	08/25/19 15:15	08/26/19 11:00	1,9010C/9012B	LH

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-04
Client ID: IP-07-66.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 12:30
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.1		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-06
Client ID: DU-1-C
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 18:15
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.4		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-07
Client ID: DU-1-B
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 18:15
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.4		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-08
Client ID: DU-1-A
Sample Location: BRATTLEBORO, VT

Date Collected: 08/21/19 18:15
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.7		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-09
Client ID: DU-2-A
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 12:40
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-10
Client ID: DU-2-B
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 12:42
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

SAMPLE RESULTS

Lab ID: L1938090-11
Client ID: DU-2-C
Sample Location: BRATTLEBORO, VT

Date Collected: 08/22/19 12:45
Date Received: 08/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.7		%	0.100	NA	1	-	08/23/19 13:19	121,2540G	RI

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01,03 Batch: WG1276552-1										
Cyanide, Total	ND		mg/kg	0.91	0.19	1	08/25/19 15:15	08/26/19 10:45	1,9010C/9012B	LH

Lab Control Sample Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1938090

Report Date: 09/05/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 Batch: WG1276552-2 WG1276552-3								
Cyanide, Total	**59**	Q	**71**	Q	80-120	13		35

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015
Lab Number: L1938090
Report Date: 09/05/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03 QC Batch ID: WG1276552-4 WG1276552-5 QC Sample: L1938090-01 Client ID: IP-3A-70.5												
Cyanide, Total	ND	11	11	96		12	100		75-125	9		35

Lab Duplicate Analysis

Batch Quality Control

Project Name: LONG FALLS PAPERBOARD

Project Number: 19-015

Lab Number: L1938090

Report Date: 09/05/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04,06-11 QC Batch ID: WG1276051-1 QC Sample: L1938090-01 Client ID: IP-3A-70.5						
Solids, Total	83.4	83.4	%	0		20

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1938090-01A	Vial MeOH preserved	A	NA		5.8	Y	Absent		8260HLW(14)
L1938090-01B	Vial water preserved	A	NA		5.8	Y	Absent	23-AUG-19 04:58	8260HLW(14)
L1938090-01C	Vial water preserved	A	NA		5.8	Y	Absent	23-AUG-19 04:58	8260HLW(14)
L1938090-01D	Glass 250ml/8oz unpreserved	A	NA		5.8	Y	Absent		TS(7)
L1938090-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1938090-01F	Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		TCN-9010(14)
L1938090-01G	Glass 120ml/4oz unpreserved	A	NA		5.8	Y	Absent		8270TCL(14)
L1938090-02A	Vial MeOH preserved	A	NA		5.8	Y	Absent		8260HLW(14)
L1938090-02B	Vial water preserved	A	NA		5.8	Y	Absent	23-AUG-19 04:58	8260HLW(14)
L1938090-02C	Vial water preserved	A	NA		5.8	Y	Absent	23-AUG-19 04:58	8260HLW(14)
L1938090-02D	Glass 120ml/4oz unpreserved	A	NA		5.8	Y	Absent		TS(7)
L1938090-02E	Glass 120ml/4oz unpreserved	A	NA		5.8	Y	Absent		8270TCL(14)
L1938090-03A	Vial MeOH preserved	A	NA		5.8	Y	Absent		8260HLW(14)
L1938090-03B	Vial water preserved	A	NA		5.8	Y	Absent	23-AUG-19 04:58	8260HLW(14)
L1938090-03C	Vial water preserved	A	NA		5.8	Y	Absent	23-AUG-19 04:58	8260HLW(14)
L1938090-03D	Glass 250ml/8oz unpreserved	A	NA		5.8	Y	Absent		TS(7)
L1938090-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1938090-03F	Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		TCN-9010(14)

*Values in parentheses indicate holding time in days

Project Name: LONG FALLS PAPERBOARD
Project Number: 19-015

Lab Number: L1938090
Report Date: 09/05/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1938090-03G	Glass 120ml/4oz unpreserved	A	NA		5.8	Y	Absent		8270TCL(14)
L1938090-04A	Vial MeOH preserved	A	NA		5.8	Y	Absent		8260HLW(14)
L1938090-04B	Vial water preserved	A	NA		5.8	Y	Absent	23-AUG-19 04:58	8260HLW(14)
L1938090-04C	Vial water preserved	A	NA		5.8	Y	Absent	23-AUG-19 04:58	8260HLW(14)
L1938090-04D	Glass 120ml/4oz unpreserved	A	NA		5.8	Y	Absent		TS(7)
L1938090-04E	Glass 120ml/4oz unpreserved	A	NA		5.8	Y	Absent		8270TCL(14)
L1938090-05A	Vial MeOH preserved	A	NA		5.8	Y	Absent		8260HLW(14)
L1938090-05B	Vial water preserved	A	NA		5.8	Y	Absent	23-AUG-19 04:58	8260HLW(14)
L1938090-06A	Plastic 2oz unpreserved for TS	A	NA		5.8	Y	Absent		TS(7)
L1938090-06B	Glass 120ml/4oz unpreserved	A	NA		5.8	Y	Absent		8270TCL-PAH(14),HERB-8151(14)
L1938090-07A	Plastic 2oz unpreserved for TS	A	NA		5.8	Y	Absent		TS(7)
L1938090-07B	Glass 120ml/4oz unpreserved	A	NA		5.8	Y	Absent		8270TCL-PAH(14),HERB-8151(14)
L1938090-08A	Plastic 2oz unpreserved for TS	A	NA		5.8	Y	Absent		TS(7)
L1938090-08B	Glass 250ml/8oz unpreserved	A	NA		5.8	Y	Absent		8270TCL-PAH(14),HERB-8151(14)
L1938090-09A	Plastic 2oz unpreserved for TS	A	NA		5.8	Y	Absent		TS(7)
L1938090-09B	Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		8270TCL-PAH(14),HERB-8151(14)
L1938090-09C	Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		8270TCL-PAH(14),HERB-8151(14)
L1938090-10A	Plastic 2oz unpreserved for TS	A	NA		5.8	Y	Absent		TS(7)
L1938090-10B	Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		8270TCL-PAH(14),HERB-8151(14)
L1938090-10C	Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		8270TCL-PAH(14),HERB-8151(14)
L1938090-11A	Plastic 2oz unpreserved for TS	A	NA		5.8	Y	Absent		TS(7)
L1938090-11B	Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		8270TCL-PAH(14),HERB-8151(14)
L1938090-11C	Glass 60mL/2oz unpreserved	A	NA		5.8	Y	Absent		8270TCL-PAH(14),HERB-8151(14)

*Values in parentheses indicate holding time in days

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090

Project Number: 19-015 **Report Date:** 09/05/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	LONG FALLS PAPERBOARD	**Lab Number:**	L1938090
Project Number:	19-015	**Report Date:**	09/05/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name: LONG FALLS PAPERBOARD **Lab Number:** L1938090
Project Number: 19-015 **Report Date:** 09/05/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 08/23/19

ALPHA Job #: L1938090

ALPHA Analytical
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220
320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: Stone Env. Inc.
Address: 535 Stone Cutters Way
Montpelier VT 05602
Phone: 802 229 4541
Email: dabrahamson@stone-env.com

Additional Project Information:

Project Information

Project Name: Long Falls Paperboard
Project Location: Brattleboro VT
Project #: 19-015
Project Manager: David Abrahamson
ALPHA Quote #: 297425

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #: 19-015

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☒ Other State /Fed Program VTDEC Criteria VT SSL

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☒ 8260 ☐ 624 ☐ 524.2	SVOC: ☒ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Metals TAL	Cyanide	SVOC PAH SIM	Herbicides & Nitrates		Sample Comments	TOTAL # BOTTLES
38090-01	IP-3A-70.5	8/22	1055	SL	DN	X	X							X	X			X		7
-02	IP-07-71	8/21	1242	SL	DN	X	X											X		5
-03	IP-02-6C	8/21	0745	SL	DN	X	X							X	X			X		7
-04	IP-07-66.5	8/21	1230	SL	DN	X	X											X		5
-05	Trip Blank 082219	8/22	—	TB	DN	X												X		4
-06	DU-1-C	8/21	18:15	SL	DN											X	X	X		
-07	DU-1-B	8/21	18:15	SL	DN											X	X	X		
-08	DU-1-A	8/21	18:15	SL	DN											X	X	X		

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type	V	A							A	A	A	A	O		
Preservative	HO														

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Dan Vosin	8/22/19		8/23/19 15:20
	8/22/19 15:04		8/23/19 01:00
	1300		

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 08/23/19

ALPHA Job #: L1938090

ALPHA Analytical Laboratories
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Client Information

Client: Stone Env. Inc.
Address: 535 Stone Cutters Way, Montpelier VT 05602
Phone: 802 229 4541
Email: dabrahamson@stoneenv.com

Project Information

Project Name: Long Falls Paperboard
Project Location: Bellows Falls VT
Project #: 19-05
Project Manager: David Abrahamson
ALPHA Quote #: 297425

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #: 19-015

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☒ Other State /Fed Program VT DEC Criteria VT SSL

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Additional Project Information:

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☒ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; Hydrocarbons; Oil Identification

SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC	SVOC	METALS	METALS	EPH	VPH	PCB/PEST	TPH	Hydrocarbons	Oil Identification	Sample Comments	Total # Bottles
38090-09	DU-2-A	8/22	1240	SL	LBR		X							X	X		
-10	DU-2-B	8/22	1242	SL	LBR		X							X	X		
-11	DU-2-C	8/22	1245	SL	LBR		X							X	X		

Container Type							A					A	C
Preservative							–					–	–

Container Type: P= Plastic, A= Amber glass, V= Vial, G= Glass, B= Bacteria cup, C= Cube, O= Other, E= Encore, D= BOD Bottle

Preservative: A= None, B= HCl, C= HNO_3, D= H_2SO_4, E= NaOH, F= MeOH, G= $NaHSO_4$, H= $Na_2S_2O_3$, I= Ascorbic Acid, J= NH_4Cl, K= Zn Acetate, O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Dave Volstin	8/22/19 1300	[illegible]	8/22/19 [illegible]
[illegible]	8/23/19 1504	[illegible]	8/23/19 0840

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1936852
Client:	Stone Environmental 535 Stone Cutters Way Montpelier, VT 05602
ATTN:	David Abrahamson
Phone:	(802) 229-1875
Project Name:	LONG FALLS
Project Number:	19-015
Report Date:	09/27/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1936852-01	IP-05-11.0	SOIL	BRATTLEBORO, VT	08/14/19 10:40	08/15/19
L1936852-02	IP-06-0.5	SOIL	BRATTLEBORO, VT	08/15/19 12:35	08/15/19
L1936852-03	IP-06-0.5-FD	SOIL	BRATTLEBORO, VT	08/15/19 12:35	08/15/19
L1936852-04	FIELD BLANK-1	WATER	BRATTLEBORO, VT	08/14/19 11:23	08/15/19
L1936852-05	FIELD BLANK-2	WATER	BRATTLEBORO, VT	08/15/19 14:00	08/15/19

Project Name:	LONG FALLS	**Lab Number:**	L1936852
Project Number:	19-015	**Report Date:**	09/27/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: LONG FALLS **Lab Number:** L1936852
Project Number: 19-015 **Report Date:** 09/27/19

Case Narrative (continued)

Report Submission
September 27, 2019: This final report includes the results of all requested analyses.
September 25, 2019: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics
L1936852-02: The internal standard (IS) response for 1,4-dichlorobenzene-d4 (36%) and the surrogate recovery for 4-bromofluorobenzene (146%) were outside the acceptance criteria; however, re-analysis achieved similar results: 1,4-dichlorobenzene-d4 (36%) and 4-bromofluorobenzene (145%). The results of both analyses are reported.
L1936852-03: The internal standard (IS) responses for chlorobenzene-d5 (48%) and 1,4-dichlorobenzene-d4 (31%), and the surrogate recoveries for 1,2-dichloroethane-d4 (132%) and 4-bromofluorobenzene (149%) were outside the acceptance criteria; however, re-analysis achieved similar results: 1,4-dichlorobenzene-d4 (40%), 1,2-dichloroethane-d4 (133%), and 4-bromofluorobenzene (145%). The results of both analyses are reported.

Semivolatile Organics
L1936852-01: The surrogate recoveries were outside the acceptance criteria for 2-fluorophenol (13%), nitrobenzene-d5 (9%), 2-fluorobiphenyl (10%), and 4-terphenyl-d14 (10%); however, the criteria were achieved upon re-extraction outside of holding time. The results of both extractions are reported.
L1936852-02 and -03: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.
L1936852-02: The surrogate recoveries were outside the acceptance criteria for 2-fluorophenol (22%), nitrobenzene-d5 (22%), and 2-fluorobiphenyl (23%); however, re-extraction outside of holding time achieved similar results: 2-fluorophenol (11%), nitrobenzene-d5 (14%), 2-fluorobiphenyl (11%), and 4-terphenyl-d14

Case Narrative (continued)

(11%). The results of both extractions are reported.

Perfluorinated Alkyl Acids by Isotope Dilution
L1936852-01, -02, -03, WG1276798-1, WG1276798-2/-3, WG1276798-4, and WG1276798-5: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

Dioxins & Furans by Isotope Dilution HRMS
L1936852-02: The sample was re-analyzed on dilution in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.
L1936852-02: The clean-up surrogate recovery is above the acceptance criteria for 37cl4-2,3,7,8-tcdd (1870%) due to matrix interference, but within overall method allowances.
L1936852-02RE: The clean-up surrogate recovery is above the acceptance criteria for 37cl4-2,3,7,8-tcdd (144%).
L1936852-03: The clean-up surrogate recovery is above the acceptance criteria for 37cl4-2,3,7,8-tcdd (740%) due to matrix interference. All extracted internal standard recoveries are within acceptance criteria; therefore, no further action was taken.

PCBs
L1936852-02: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.
L1936852-03: The sample has elevated detection limits due to limited sample volume available for analysis.

Total Metals
L1936852-01, -02, and -03: The sample has elevated detection limits for all elements, with the exception of

Project Name: LONG FALLS **Lab Number:** L1936852
Project Number: 19-015 **Report Date:** 09/27/19

Case Narrative (continued)

mercury, due to the dilution required by matrix interferences encountered during analysis.

Cyanide, Total

The WG1273267-3 LCSD recovery (75%), associated with L1936852-01, -02, and -03, is outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analyses are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 09/27/19

ORGANICS

VOLATILES

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01
Client ID: IP-05-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 08/14/19 10:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/27/19 18:49
Analyst: AD
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.1	1.9	1
1,1-Dichloroethane	ND		ug/kg	0.82	0.12	1
Chloroform	0.41	J	ug/kg	1.2	0.12	1
Carbon tetrachloride	ND		ug/kg	0.82	0.19	1
1,2-Dichloropropane	ND		ug/kg	0.82	0.10	1
Dibromochloromethane	ND		ug/kg	0.82	0.12	1
1,1,2-Trichloroethane	ND		ug/kg	0.82	0.22	1
Tetrachloroethene	ND		ug/kg	0.41	0.16	1
Chlorobenzene	ND		ug/kg	0.41	0.10	1
Trichlorofluoromethane	ND		ug/kg	3.3	0.57	1
1,2-Dichloroethane	ND		ug/kg	0.82	0.21	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	0.14	1
Bromodichloromethane	ND		ug/kg	0.41	0.09	1
trans-1,3-Dichloropropene	ND		ug/kg	0.82	0.22	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	0.13	1
1,3-Dichloropropene, Total	ND		ug/kg	0.41	0.13	1
1,1-Dichloropropene	ND		ug/kg	0.41	0.13	1
Bromoform	ND		ug/kg	3.3	0.20	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	0.14	1
Benzene	ND		ug/kg	0.41	0.14	1
Toluene	0.45	J	ug/kg	0.82	0.45	1
Ethylbenzene	ND		ug/kg	0.82	0.12	1
Chloromethane	ND		ug/kg	3.3	0.77	1
Bromomethane	ND		ug/kg	1.6	0.48	1
Vinyl chloride	ND		ug/kg	0.82	0.28	1
Chloroethane	ND		ug/kg	1.6	0.37	1
1,1-Dichloroethene	ND		ug/kg	0.82	0.20	1
trans-1,2-Dichloroethene	0.48	J	ug/kg	1.2	0.11	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01 Date Collected: 08/14/19 10:40

Client ID: IP-05-11.0 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.41	0.11	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	0.12	1
1,3-Dichlorobenzene	ND		ug/kg	1.6	0.12	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	0.14	1
Methyl tert butyl ether	ND		ug/kg	1.6	0.16	1
p/m-Xylene	ND		ug/kg	1.6	0.46	1
o-Xylene	ND		ug/kg	0.82	0.24	1
Xylenes, Total	ND		ug/kg	0.82	0.24	1
cis-1,2-Dichloroethene	ND		ug/kg	0.82	0.14	1
1,2-Dichloroethene, Total	0.48	J	ug/kg	0.82	0.11	1
Dibromomethane	ND		ug/kg	1.6	0.20	1
1,4-Dichlorobutane	ND		ug/kg	8.2	0.19	1
1,2,3-Trichloropropane	ND		ug/kg	1.6	0.10	1
Styrene	ND		ug/kg	0.82	0.16	1
Dichlorodifluoromethane	ND		ug/kg	8.2	0.75	1
Acetone	ND		ug/kg	8.2	4.0	1
Carbon disulfide	ND		ug/kg	8.2	3.7	1
2-Butanone	ND		ug/kg	8.2	1.8	1
Vinyl acetate	ND		ug/kg	8.2	1.8	1
4-Methyl-2-pentanone	ND		ug/kg	8.2	1.0	1
2-Hexanone	ND		ug/kg	8.2	0.97	1
Ethyl methacrylate	ND		ug/kg	8.2	1.3	1
Acrylonitrile	ND		ug/kg	3.3	0.95	1
Bromochloromethane	ND		ug/kg	1.6	0.17	1
Tetrahydrofuran	ND		ug/kg	3.3	1.3	1
2,2-Dichloropropane	ND		ug/kg	1.6	0.17	1
1,2-Dibromoethane	ND		ug/kg	0.82	0.23	1
1,3-Dichloropropane	ND		ug/kg	1.6	0.14	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.41	0.11	1
Bromobenzene	ND		ug/kg	1.6	0.12	1
n-Butylbenzene	ND		ug/kg	0.82	0.14	1
sec-Butylbenzene	ND		ug/kg	0.82	0.12	1
tert-Butylbenzene	ND		ug/kg	1.6	0.10	1
o-Chlorotoluene	ND		ug/kg	1.6	0.16	1
p-Chlorotoluene	ND		ug/kg	1.6	0.09	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	0.82	1
Hexachlorobutadiene	ND		ug/kg	3.3	0.14	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01 Date Collected: 08/14/19 10:40

Client ID: IP-05-11.0 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	0.82	0.09	1
p-Isopropyltoluene	ND		ug/kg	0.82	0.09	1
Naphthalene	ND		ug/kg	3.3	0.54	1
n-Propylbenzene	ND		ug/kg	0.82	0.14	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	0.26	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	0.22	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	0.16	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	0.28	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	4.1	1.2	1
Ethyl ether	ND		ug/kg	1.6	0.28	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	124		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	109		70-130

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02
Client ID: IP-06-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/28/19 17:22
Analyst: PK
Percent Solids: 58%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	19	8.5	1
1,1-Dichloroethane	ND		ug/kg	3.7	0.54	1
Chloroform	2.9	J	ug/kg	5.6	0.52	1
Carbon tetrachloride	ND		ug/kg	3.7	0.86	1
1,2-Dichloropropane	ND		ug/kg	3.7	0.47	1
Dibromochloromethane	ND		ug/kg	3.7	0.52	1
1,1,2-Trichloroethane	ND		ug/kg	3.7	1.0	1
Tetrachloroethene	ND		ug/kg	1.9	0.73	1
Chlorobenzene	ND		ug/kg	1.9	0.47	1
Trichlorofluoromethane	ND		ug/kg	15	2.6	1
1,2-Dichloroethane	ND		ug/kg	3.7	0.96	1
1,1,1-Trichloroethane	ND		ug/kg	1.9	0.62	1
Bromodichloromethane	ND		ug/kg	1.9	0.41	1
trans-1,3-Dichloropropene	ND		ug/kg	3.7	1.0	1
cis-1,3-Dichloropropene	ND		ug/kg	1.9	0.59	1
1,3-Dichloropropene, Total	ND		ug/kg	1.9	0.59	1
1,1-Dichloropropene	ND		ug/kg	1.9	0.59	1
Bromoform	ND		ug/kg	15	0.92	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.9	0.62	1
Benzene	ND		ug/kg	1.9	0.62	1
Toluene	ND		ug/kg	3.7	2.0	1
Ethylbenzene	ND		ug/kg	3.7	0.53	1
Chloromethane	ND		ug/kg	15	3.5	1
Bromomethane	ND		ug/kg	7.5	2.2	1
Vinyl chloride	ND		ug/kg	3.7	1.2	1
Chloroethane	ND		ug/kg	7.5	1.7	1
1,1-Dichloroethene	ND		ug/kg	3.7	0.89	1
trans-1,2-Dichloroethene	1.9	J	ug/kg	5.6	0.51	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	1.9	0.51	1
1,2-Dichlorobenzene	ND		ug/kg	7.5	0.54	1
1,3-Dichlorobenzene	ND		ug/kg	7.5	0.55	1
1,4-Dichlorobenzene	ND		ug/kg	7.5	0.64	1
Methyl tert butyl ether	ND		ug/kg	7.5	0.75	1
p/m-Xylene	ND		ug/kg	7.5	2.1	1
o-Xylene	ND		ug/kg	3.7	1.1	1
Xylenes, Total	ND		ug/kg	3.7	1.1	1
cis-1,2-Dichloroethene	ND		ug/kg	3.7	0.65	1
1,2-Dichloroethene, Total	1.9	J	ug/kg	3.7	0.51	1
Dibromomethane	ND		ug/kg	7.5	0.89	1
1,4-Dichlorobutane	ND		ug/kg	37	0.84	1
1,2,3-Trichloropropane	ND		ug/kg	7.5	0.47	1
Styrene	ND		ug/kg	3.7	0.73	1
Dichlorodifluoromethane	ND		ug/kg	37	3.4	1
Acetone	46		ug/kg	37	18.	1
Carbon disulfide	ND		ug/kg	37	17.	1
2-Butanone	ND		ug/kg	37	8.3	1
Vinyl acetate	ND		ug/kg	37	8.0	1
4-Methyl-2-pentanone	ND		ug/kg	37	4.8	1
2-Hexanone	ND		ug/kg	37	4.4	1
Ethyl methacrylate	ND		ug/kg	37	5.9	1
Acrylonitrile	ND		ug/kg	15	4.3	1
Bromochloromethane	ND		ug/kg	7.5	0.76	1
Tetrahydrofuran	ND		ug/kg	15	5.9	1
2,2-Dichloropropane	ND		ug/kg	7.5	0.75	1
1,2-Dibromoethane	ND		ug/kg	3.7	1.0	1
1,3-Dichloropropane	ND		ug/kg	7.5	0.62	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.9	0.49	1
Bromobenzene	ND		ug/kg	7.5	0.54	1
n-Butylbenzene	ND		ug/kg	3.7	0.62	1
sec-Butylbenzene	ND		ug/kg	3.7	0.54	1
tert-Butylbenzene	ND		ug/kg	7.5	0.44	1
o-Chlorotoluene	ND		ug/kg	7.5	0.71	1
p-Chlorotoluene	ND		ug/kg	7.5	0.40	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	11	3.7	1
Hexachlorobutadiene	ND		ug/kg	15	0.63	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	3.7	0.41	1
p-Isopropyltoluene	ND		ug/kg	3.7	0.41	1
Naphthalene	ND		ug/kg	15	2.4	1
n-Propylbenzene	ND		ug/kg	3.7	0.64	1
1,2,3-Trichlorobenzene	ND		ug/kg	7.5	1.2	1
1,2,4-Trichlorobenzene	ND		ug/kg	7.5	1.0	1
1,3,5-Trimethylbenzene	ND		ug/kg	7.5	0.72	1
1,2,4-Trimethylbenzene	ND		ug/kg	7.5	1.2	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	19	5.3	1
Ethyl ether	ND		ug/kg	7.5	1.3	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	128		70-130
Toluene-d8	121		70-130
4-Bromofluorobenzene	**146**	Q	70-130
Dibromofluoromethane	107		70-130

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 R
Client ID: IP-06-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/29/19 10:34
Analyst: JC
Percent Solids: 58%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	15	6.9	1
1,1-Dichloroethane	ND		ug/kg	3.0	0.44	1
Chloroform	1.3	J	ug/kg	4.5	0.42	1
Carbon tetrachloride	ND		ug/kg	3.0	0.70	1
1,2-Dichloropropane	ND		ug/kg	3.0	0.38	1
Dibromochloromethane	ND		ug/kg	3.0	0.42	1
1,1,2-Trichloroethane	ND		ug/kg	3.0	0.81	1
Tetrachloroethene	ND		ug/kg	1.5	0.59	1
Chlorobenzene	ND		ug/kg	1.5	0.38	1
Trichlorofluoromethane	ND		ug/kg	12	2.1	1
1,2-Dichloroethane	ND		ug/kg	3.0	0.78	1
1,1,1-Trichloroethane	ND		ug/kg	1.5	0.50	1
Bromodichloromethane	ND		ug/kg	1.5	0.33	1
trans-1,3-Dichloropropene	ND		ug/kg	3.0	0.82	1
cis-1,3-Dichloropropene	ND		ug/kg	1.5	0.48	1
1,3-Dichloropropene, Total	ND		ug/kg	1.5	0.48	1
1,1-Dichloropropene	ND		ug/kg	1.5	0.48	1
Bromoform	ND		ug/kg	12	0.74	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.5	0.50	1
Benzene	ND		ug/kg	1.5	0.50	1
Toluene	ND		ug/kg	3.0	1.6	1
Ethylbenzene	ND		ug/kg	3.0	0.43	1
Chloromethane	ND		ug/kg	12	2.8	1
Bromomethane	ND		ug/kg	6.0	1.8	1
Vinyl chloride	ND		ug/kg	3.0	1.0	1
Chloroethane	ND		ug/kg	6.0	1.4	1
1,1-Dichloroethene	ND		ug/kg	3.0	0.72	1
trans-1,2-Dichloroethene	1.8	J	ug/kg	4.5	0.41	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 R Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	1.5	0.41	1
1,2-Dichlorobenzene	ND		ug/kg	6.0	0.44	1
1,3-Dichlorobenzene	ND		ug/kg	6.0	0.45	1
1,4-Dichlorobenzene	ND		ug/kg	6.0	0.52	1
Methyl tert butyl ether	ND		ug/kg	6.0	0.61	1
p/m-Xylene	ND		ug/kg	6.0	1.7	1
o-Xylene	ND		ug/kg	3.0	0.88	1
Xylenes, Total	ND		ug/kg	3.0	0.88	1
cis-1,2-Dichloroethene	ND		ug/kg	3.0	0.53	1
1,2-Dichloroethene, Total	1.8	J	ug/kg	3.0	0.41	1
Dibromomethane	ND		ug/kg	6.0	0.72	1
1,4-Dichlorobutane	ND		ug/kg	30	0.68	1
1,2,3-Trichloropropane	ND		ug/kg	6.0	0.38	1
Styrene	ND		ug/kg	3.0	0.59	1
Dichlorodifluoromethane	ND		ug/kg	30	2.8	1
Acetone	210		ug/kg	30	14.	1
Carbon disulfide	ND		ug/kg	30	14.	1
2-Butanone	ND		ug/kg	30	6.7	1
Vinyl acetate	ND		ug/kg	30	6.5	1
4-Methyl-2-pentanone	ND		ug/kg	30	3.9	1
2-Hexanone	ND		ug/kg	30	3.6	1
Ethyl methacrylate	ND		ug/kg	30	4.8	1
Acrylonitrile	ND		ug/kg	12	3.5	1
Bromochloromethane	ND		ug/kg	6.0	0.62	1
Tetrahydrofuran	ND		ug/kg	12	4.8	1
2,2-Dichloropropane	ND		ug/kg	6.0	0.61	1
1,2-Dibromoethane	ND		ug/kg	3.0	0.84	1
1,3-Dichloropropane	ND		ug/kg	6.0	0.50	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.5	0.40	1
Bromobenzene	ND		ug/kg	6.0	0.44	1
n-Butylbenzene	ND		ug/kg	3.0	0.50	1
sec-Butylbenzene	ND		ug/kg	3.0	0.44	1
tert-Butylbenzene	ND		ug/kg	6.0	0.36	1
o-Chlorotoluene	ND		ug/kg	6.0	0.58	1
p-Chlorotoluene	ND		ug/kg	6.0	0.33	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	9.1	3.0	1
Hexachlorobutadiene	ND		ug/kg	12	0.51	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 R Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	3.0	0.33	1
p-Isopropyltoluene	ND		ug/kg	3.0	0.33	1
Naphthalene	ND		ug/kg	12	2.0	1
n-Propylbenzene	ND		ug/kg	3.0	0.52	1
1,2,3-Trichlorobenzene	ND		ug/kg	6.0	0.97	1
1,2,4-Trichlorobenzene	ND		ug/kg	6.0	0.82	1
1,3,5-Trimethylbenzene	ND		ug/kg	6.0	0.58	1
1,2,4-Trimethylbenzene	1.3	J	ug/kg	6.0	1.0	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	15	4.3	1
Ethyl ether	ND		ug/kg	6.0	1.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	130		70-130
Toluene-d8	128		70-130
4-Bromofluorobenzene	**145**	Q	70-130
Dibromofluoromethane	109		70-130

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03
Client ID: IP-06-0.5-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/28/19 17:50
Analyst: PK
Percent Solids: 62%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	11	5.0	1
1,1-Dichloroethane	ND		ug/kg	2.2	0.32	1
Chloroform	2.6	J	ug/kg	3.3	0.30	1
Carbon tetrachloride	ND		ug/kg	2.2	0.50	1
1,2-Dichloropropane	ND		ug/kg	2.2	0.27	1
Dibromochloromethane	ND		ug/kg	2.2	0.30	1
1,1,2-Trichloroethane	ND		ug/kg	2.2	0.58	1
Tetrachloroethene	ND		ug/kg	1.1	0.43	1
Chlorobenzene	ND		ug/kg	1.1	0.28	1
Trichlorofluoromethane	ND		ug/kg	8.7	1.5	1
1,2-Dichloroethane	ND		ug/kg	2.2	0.56	1
1,1,1-Trichloroethane	ND		ug/kg	1.1	0.36	1
Bromodichloromethane	ND		ug/kg	1.1	0.24	1
trans-1,3-Dichloropropene	ND		ug/kg	2.2	0.59	1
cis-1,3-Dichloropropene	ND		ug/kg	1.1	0.34	1
1,3-Dichloropropene, Total	ND		ug/kg	1.1	0.34	1
1,1-Dichloropropene	ND		ug/kg	1.1	0.35	1
Bromoform	ND		ug/kg	8.7	0.54	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.1	0.36	1
Benzene	ND		ug/kg	1.1	0.36	1
Toluene	ND		ug/kg	2.2	1.2	1
Ethylbenzene	ND		ug/kg	2.2	0.31	1
Chloromethane	ND		ug/kg	8.7	2.0	1
Bromomethane	ND		ug/kg	4.4	1.3	1
Vinyl chloride	ND		ug/kg	2.2	0.73	1
Chloroethane	ND		ug/kg	4.4	0.98	1
1,1-Dichloroethene	ND		ug/kg	2.2	0.52	1
trans-1,2-Dichloroethene	1.7	J	ug/kg	3.3	0.30	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5-FD Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	1.1	0.30	1
1,2-Dichlorobenzene	ND		ug/kg	4.4	0.31	1
1,3-Dichlorobenzene	ND		ug/kg	4.4	0.32	1
1,4-Dichlorobenzene	ND		ug/kg	4.4	0.37	1
Methyl tert butyl ether	0.44	J	ug/kg	4.4	0.44	1
p/m-Xylene	ND		ug/kg	4.4	1.2	1
o-Xylene	ND		ug/kg	2.2	0.63	1
Xylenes, Total	ND		ug/kg	2.2	0.63	1
cis-1,2-Dichloroethene	ND		ug/kg	2.2	0.38	1
1,2-Dichloroethene, Total	1.7	J	ug/kg	2.2	0.30	1
Dibromomethane	ND		ug/kg	4.4	0.52	1
1,4-Dichlorobutane	ND		ug/kg	22	0.49	1
1,2,3-Trichloropropane	ND		ug/kg	4.4	0.28	1
Styrene	ND		ug/kg	2.2	0.43	1
Dichlorodifluoromethane	ND		ug/kg	22	2.0	1
Acetone	220		ug/kg	22	10.	1
Carbon disulfide	ND		ug/kg	22	9.9	1
2-Butanone	ND		ug/kg	22	4.8	1
Vinyl acetate	ND		ug/kg	22	4.7	1
4-Methyl-2-pentanone	ND		ug/kg	22	2.8	1
2-Hexanone	ND		ug/kg	22	2.6	1
Ethyl methacrylate	ND		ug/kg	22	3.4	1
Acrylonitrile	ND		ug/kg	8.7	2.5	1
Bromochloromethane	ND		ug/kg	4.4	0.45	1
Tetrahydrofuran	ND		ug/kg	8.7	3.5	1
2,2-Dichloropropane	ND		ug/kg	4.4	0.44	1
1,2-Dibromoethane	ND		ug/kg	2.2	0.61	1
1,3-Dichloropropane	ND		ug/kg	4.4	0.36	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.1	0.29	1
Bromobenzene	ND		ug/kg	4.4	0.32	1
n-Butylbenzene	ND		ug/kg	2.2	0.36	1
sec-Butylbenzene	ND		ug/kg	2.2	0.32	1
tert-Butylbenzene	ND		ug/kg	4.4	0.26	1
o-Chlorotoluene	ND		ug/kg	4.4	0.42	1
p-Chlorotoluene	ND		ug/kg	4.4	0.24	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.5	2.2	1
Hexachlorobutadiene	ND		ug/kg	8.7	0.37	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5-FD Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	2.2	0.24	1
p-Isopropyltoluene	ND		ug/kg	2.2	0.24	1
Naphthalene	ND		ug/kg	8.7	1.4	1
n-Propylbenzene	ND		ug/kg	2.2	0.37	1
1,2,3-Trichlorobenzene	ND		ug/kg	4.4	0.70	1
1,2,4-Trichlorobenzene	ND		ug/kg	4.4	0.59	1
1,3,5-Trimethylbenzene	ND		ug/kg	4.4	0.42	1
1,2,4-Trimethylbenzene	ND		ug/kg	4.4	0.73	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	11	3.1	1
Ethyl ether	ND		ug/kg	4.4	0.74	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**132**	Q	70-130
Toluene-d8	128		70-130
4-Bromofluorobenzene	**149**	Q	70-130
Dibromofluoromethane	108		70-130

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03 R
Client ID: IP-06-0.5-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 08/29/19 11:02
Analyst: JC
Percent Solids: 62%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	16	7.3	1
1,1-Dichloroethane	ND		ug/kg	3.2	0.46	1
Chloroform	4.0	J	ug/kg	4.8	0.45	1
Carbon tetrachloride	ND		ug/kg	3.2	0.74	1
1,2-Dichloropropane	ND		ug/kg	3.2	0.40	1
Dibromochloromethane	ND		ug/kg	3.2	0.45	1
1,1,2-Trichloroethane	ND		ug/kg	3.2	0.86	1
Tetrachloroethene	ND		ug/kg	1.6	0.63	1
Chlorobenzene	ND		ug/kg	1.6	0.41	1
Trichlorofluoromethane	ND		ug/kg	13	2.2	1
1,2-Dichloroethane	ND		ug/kg	3.2	0.82	1
1,1,1-Trichloroethane	ND		ug/kg	1.6	0.53	1
Bromodichloromethane	ND		ug/kg	1.6	0.35	1
trans-1,3-Dichloropropene	ND		ug/kg	3.2	0.87	1
cis-1,3-Dichloropropene	ND		ug/kg	1.6	0.51	1
1,3-Dichloropropene, Total	ND		ug/kg	1.6	0.51	1
1,1-Dichloropropene	ND		ug/kg	1.6	0.51	1
Bromoform	ND		ug/kg	13	0.79	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.6	0.53	1
Benzene	ND		ug/kg	1.6	0.53	1
Toluene	ND		ug/kg	3.2	1.7	1
Ethylbenzene	ND		ug/kg	3.2	0.45	1
Chloromethane	ND		ug/kg	13	3.0	1
Bromomethane	ND		ug/kg	6.4	1.9	1
Vinyl chloride	ND		ug/kg	3.2	1.1	1
Chloroethane	ND		ug/kg	6.4	1.4	1
1,1-Dichloroethene	ND		ug/kg	3.2	0.76	1
trans-1,2-Dichloroethene	3.2	J	ug/kg	4.8	0.44	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03 R Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5-FD Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	1.6	0.44	1
1,2-Dichlorobenzene	ND		ug/kg	6.4	0.46	1
1,3-Dichlorobenzene	ND		ug/kg	6.4	0.47	1
1,4-Dichlorobenzene	ND		ug/kg	6.4	0.55	1
Methyl tert butyl ether	ND		ug/kg	6.4	0.64	1
p/m-Xylene	ND		ug/kg	6.4	1.8	1
o-Xylene	ND		ug/kg	3.2	0.93	1
Xylenes, Total	ND		ug/kg	3.2	0.93	1
cis-1,2-Dichloroethene	ND		ug/kg	3.2	0.56	1
1,2-Dichloroethene, Total	3.2	J	ug/kg	3.2	0.44	1
Dibromomethane	ND		ug/kg	6.4	0.76	1
1,4-Dichlorobutane	ND		ug/kg	32	0.72	1
1,2,3-Trichloropropane	ND		ug/kg	6.4	0.41	1
Styrene	ND		ug/kg	3.2	0.63	1
Dichlorodifluoromethane	ND		ug/kg	32	2.9	1
Acetone	140		ug/kg	32	15.	1
Carbon disulfide	ND		ug/kg	32	14.	1
2-Butanone	ND		ug/kg	32	7.1	1
Vinyl acetate	ND		ug/kg	32	6.9	1
4-Methyl-2-pentanone	ND		ug/kg	32	4.1	1
2-Hexanone	ND		ug/kg	32	3.8	1
Ethyl methacrylate	ND		ug/kg	32	5.1	1
Acrylonitrile	ND		ug/kg	13	3.7	1
Bromochloromethane	ND		ug/kg	6.4	0.66	1
Tetrahydrofuran	ND		ug/kg	13	5.1	1
2,2-Dichloropropane	ND		ug/kg	6.4	0.65	1
1,2-Dibromoethane	ND		ug/kg	3.2	0.89	1
1,3-Dichloropropane	ND		ug/kg	6.4	0.53	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.6	0.42	1
Bromobenzene	ND		ug/kg	6.4	0.46	1
n-Butylbenzene	ND		ug/kg	3.2	0.53	1
sec-Butylbenzene	ND		ug/kg	3.2	0.47	1
tert-Butylbenzene	ND		ug/kg	6.4	0.38	1
o-Chlorotoluene	ND		ug/kg	6.4	0.61	1
p-Chlorotoluene	ND		ug/kg	6.4	0.34	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	9.6	3.2	1
Hexachlorobutadiene	ND		ug/kg	13	0.54	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03 R Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5-FD Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Isopropylbenzene	ND		ug/kg	3.2	0.35	1
p-Isopropyltoluene	ND		ug/kg	3.2	0.35	1
Naphthalene	ND		ug/kg	13	2.1	1
n-Propylbenzene	ND		ug/kg	3.2	0.55	1
1,2,3-Trichlorobenzene	ND		ug/kg	6.4	1.0	1
1,2,4-Trichlorobenzene	ND		ug/kg	6.4	0.87	1
1,3,5-Trimethylbenzene	ND		ug/kg	6.4	0.62	1
1,2,4-Trimethylbenzene	ND		ug/kg	6.4	1.1	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	16	4.5	1
Ethyl ether	ND		ug/kg	6.4	1.1	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	**133**	Q	70-130
Toluene-d8	124		70-130
4-Bromofluorobenzene	**145**	Q	70-130
Dibromofluoromethane	108		70-130

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/27/19 09:44
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1277481-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
2-Chloroethylvinyl ether	ND		ug/kg	20	1.6
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
1,3-Dichloropropene, Total	ND		ug/kg	0.50	0.16
1,1-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14

Project Name: LONG FALLS **Lab Number:** L1936852
Project Number: 19-015 **Report Date:** 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/27/19 09:44
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1277481-5					
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.14
Dibromomethane	ND		ug/kg	2.0	0.24
1,4-Dichlorobutane	ND		ug/kg	10	0.23
1,2,3-Trichloropropane	ND		ug/kg	2.0	0.13
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
Vinyl acetate	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Ethyl methacrylate	ND		ug/kg	10	1.6
Acrolein	ND		ug/kg	25	5.6
Acrylonitrile	ND		ug/kg	4.0	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
Tetrahydrofuran	ND		ug/kg	4.0	1.6
2,2-Dichloropropane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
1,3-Dichloropropane	ND		ug/kg	2.0	0.17

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/27/19 09:44
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1277481-5					
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.13
Bromobenzene	ND		ug/kg	2.0	0.14
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,3,5-Trichlorobenzene	ND		ug/kg	2.0	0.17
o-Chlorotoluene	ND		ug/kg	2.0	0.19
p-Chlorotoluene	ND		ug/kg	2.0	0.11
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Hexachlorobutadiene	ND		ug/kg	4.0	0.17
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	1.4
Ethyl ether	ND		ug/kg	2.0	0.34
Methyl Acetate	ND		ug/kg	4.0	0.95
Ethyl Acetate	ND		ug/kg	10	1.2
Isopropyl Ether	ND		ug/kg	2.0	0.21
Cyclohexane	ND		ug/kg	10	0.54
Tert-Butyl Alcohol	ND		ug/kg	20	5.1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	0.13
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	0.18
1,4-Dioxane	ND		ug/kg	80	35.
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/27/19 09:44
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1277481-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	4.0	0.69

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	122		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	122		70-130
Dibromofluoromethane	102		70-130

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/29/19 09:40
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1277749-10					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
2-Chloroethylvinyl ether	ND		ug/kg	20	1.6
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
1,3-Dichloropropene, Total	ND		ug/kg	0.50	0.16
1,1-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	1.6	J	ug/kg	4.0	0.93
Bromomethane	1.6	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/29/19 09:40
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1277749-10					
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.14
Dibromomethane	ND		ug/kg	2.0	0.24
1,4-Dichlorobutane	ND		ug/kg	10	0.23
1,2,3-Trichloropropane	ND		ug/kg	2.0	0.13
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
Vinyl acetate	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Ethyl methacrylate	ND		ug/kg	10	1.6
Acrolein	ND		ug/kg	25	5.6
Acrylonitrile	ND		ug/kg	4.0	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
Tetrahydrofuran	ND		ug/kg	4.0	1.6
2,2-Dichloropropane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
1,3-Dichloropropane	ND		ug/kg	2.0	0.17

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/29/19 09:40
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1277749-10					
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.13
Bromobenzene	ND		ug/kg	2.0	0.14
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,3,5-Trichlorobenzene	ND		ug/kg	2.0	0.17
o-Chlorotoluene	ND		ug/kg	2.0	0.19
p-Chlorotoluene	ND		ug/kg	2.0	0.11
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Hexachlorobutadiene	ND		ug/kg	4.0	0.17
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	1.4
Ethyl ether	ND		ug/kg	2.0	0.34
Methyl Acetate	ND		ug/kg	4.0	0.95
Ethyl Acetate	ND		ug/kg	10	1.2
Isopropyl Ether	ND		ug/kg	2.0	0.21
Cyclohexane	ND		ug/kg	10	0.54
Tert-Butyl Alcohol	ND		ug/kg	20	5.1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	0.13
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	0.18
1,4-Dioxane	ND		ug/kg	80	35.
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/29/19 09:40
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1277749-10					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	4.0	0.69

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	125		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	103		70-130

Project Name: LONG FALLS **Lab Number:** L1936852
Project Number: 19-015 **Report Date:** 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/28/19 09:38
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1277749-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
2-Chloroethylvinyl ether	ND		ug/kg	20	1.6
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
1,3-Dichloropropene, Total	ND		ug/kg	0.50	0.16
1,1-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/28/19 09:38
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1277749-5					
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.14
Dibromomethane	ND		ug/kg	2.0	0.24
1,4-Dichlorobutane	ND		ug/kg	10	0.23
1,2,3-Trichloropropane	ND		ug/kg	2.0	0.13
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
Vinyl acetate	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Ethyl methacrylate	ND		ug/kg	10	1.6
Acrolein	ND		ug/kg	25	5.6
Acrylonitrile	ND		ug/kg	4.0	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
Tetrahydrofuran	ND		ug/kg	4.0	1.6
2,2-Dichloropropane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
1,3-Dichloropropane	ND		ug/kg	2.0	0.17

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/28/19 09:38
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1277749-5					
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.13
Bromobenzene	ND		ug/kg	2.0	0.14
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
1,3,5-Trichlorobenzene	ND		ug/kg	2.0	0.17
o-Chlorotoluene	ND		ug/kg	2.0	0.19
p-Chlorotoluene	ND		ug/kg	2.0	0.11
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Hexachlorobutadiene	ND		ug/kg	4.0	0.17
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	1.4
Ethyl ether	ND		ug/kg	2.0	0.34
Methyl Acetate	ND		ug/kg	4.0	0.95
Ethyl Acetate	ND		ug/kg	10	1.2
Isopropyl Ether	ND		ug/kg	2.0	0.21
Cyclohexane	ND		ug/kg	10	0.54
Tert-Butyl Alcohol	ND		ug/kg	20	5.1
Ethyl-Tert-Butyl-Ether	ND		ug/kg	2.0	0.13
Tertiary-Amyl Methyl Ether	ND		ug/kg	2.0	0.18
1,4-Dioxane	ND		ug/kg	80	35.
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 08/28/19 09:38
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02-03 Batch: WG1277749-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	4.0	0.69

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1277481-3 WG1277481-4								
Methylene chloride	85		82		70-130	4		30
1,1-Dichloroethane	95		90		70-130	5		30
Chloroform	91		87		70-130	4		30
Carbon tetrachloride	86		83		70-130	4		30
1,2-Dichloropropane	95		90		70-130	5		30
Dibromochloromethane	100		98		70-130	2		30
1,1,2-Trichloroethane	106		102		70-130	4		30
2-Chloroethylvinyl ether	86		91		70-130	6		30
Tetrachloroethene	97		90		70-130	7		30
Chlorobenzene	95		91		70-130	4		30
Trichlorofluoromethane	**67**	Q	**63**	Q	70-139	6		30
1,2-Dichloroethane	108		105		70-130	3		30
1,1,1-Trichloroethane	93		88		70-130	6		30
Bromodichloromethane	97		94		70-130	3		30
trans-1,3-Dichloropropene	111		110		70-130	1		30
cis-1,3-Dichloropropene	99		96		70-130	3		30
1,1-Dichloropropene	90		86		70-130	5		30
Bromoform	102		99		70-130	3		30
1,1,2,2-Tetrachloroethane	104		100		70-130	4		30
Benzene	89		85		70-130	5		30
Toluene	100		93		70-130	7		30
Ethylbenzene	99		94		70-130	5		30
Chloromethane	106		97		52-130	9		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1277481-3 WG1277481-4								
Bromomethane	82		73		57-147	12		30
Vinyl chloride	91		83		67-130	9		30
Chloroethane	74		71		50-151	4		30
1,1-Dichloroethene	98		92		65-135	6		30
trans-1,2-Dichloroethene	86		82		70-130	5		30
Trichloroethene	89		86		70-130	3		30
1,2-Dichlorobenzene	103		98		70-130	5		30
1,3-Dichlorobenzene	100		95		70-130	5		30
1,4-Dichlorobenzene	100		95		70-130	5		30
Methyl tert butyl ether	95		93		66-130	2		30
p/m-Xylene	102		95		70-130	7		30
o-Xylene	102		95		70-130	7		30
cis-1,2-Dichloroethene	90		84		70-130	7		30
Dibromomethane	96		92		70-130	4		30
1,4-Dichlorobutane	121		116		70-130	4		30
1,2,3-Trichloropropane	109		102		68-130	7		30
Styrene	103		98		70-130	5		30
Dichlorodifluoromethane	84		75		30-146	11		30
Acetone	124		115		54-140	8		30
Carbon disulfide	104		96		59-130	8		30
2-Butanone	113		104		70-130	8		30
Vinyl acetate	106		104		70-130	2		30
4-Methyl-2-pentanone	104		105		70-130	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1277481-3 WG1277481-4								
2-Hexanone	108		108		70-130	0		30
Ethyl methacrylate	91		89		70-130	2		30
Acrolein	82		83		70-130	1		30
Acrylonitrile	104		106		70-130	2		30
Bromochloromethane	91		89		70-130	2		30
Tetrahydrofuran	112		111		66-130	1		30
2,2-Dichloropropane	98		93		70-130	5		30
1,2-Dibromoethane	103		101		70-130	2		30
1,3-Dichloropropane	104		101		69-130	3		30
1,1,1,2-Tetrachloroethane	102		97		70-130	5		30
Bromobenzene	101		94		70-130	7		30
n-Butylbenzene	103		96		70-130	7		30
sec-Butylbenzene	101		94		70-130	7		30
tert-Butylbenzene	101		95		70-130	6		30
1,3,5-Trichlorobenzene	102		95		70-139	7		30
o-Chlorotoluene	115		108		70-130	6		30
p-Chlorotoluene	105		99		70-130	6		30
1,2-Dibromo-3-chloropropane	97		94		68-130	3		30
Hexachlorobutadiene	96		90		67-130	6		30
Isopropylbenzene	105		95		70-130	10		30
p-Isopropyltoluene	102		95		70-130	7		30
Naphthalene	105		102		70-130	3		30
n-Propylbenzene	103		95		70-130	8		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1277481-3 WG1277481-4								
1,2,3-Trichlorobenzene	102		98		70-130	4		30
1,2,4-Trichlorobenzene	102		96		70-130	6		30
1,3,5-Trimethylbenzene	103		97		70-130	6		30
1,2,4-Trimethylbenzene	106		99		70-130	7		30
trans-1,4-Dichloro-2-butene	116		124		70-130	7		30
Ethyl ether	77		76		67-130	1		30
Methyl Acetate	113		111		65-130	2		30
Ethyl Acetate	110		109		70-130	1		30
Isopropyl Ether	108		105		66-130	3		30
Cyclohexane	90		85		70-130	6		30
Tert-Butyl Alcohol	108		104		70-130	4		30
Ethyl-Tert-Butyl-Ether	101		98		70-130	3		30
Tertiary-Amyl Methyl Ether	96		92		70-130	4		30
1,4-Dioxane	84		81		65-136	4		30
Methyl cyclohexane	78		73		70-130	7		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	91		88		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	120		121		70-130
Toluene-d8	108		108		70-130
4-Bromofluorobenzene	111		110		70-130
Dibromofluoromethane	103		103		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1277749-3 WG1277749-4								
Methylene chloride	84		84		70-130	0		30
1,1-Dichloroethane	96		95		70-130	1		30
Chloroform	89		91		70-130	2		30
Carbon tetrachloride	97		95		70-130	2		30
1,2-Dichloropropane	94		93		70-130	1		30
Dibromochloromethane	99		98		70-130	1		30
1,1,2-Trichloroethane	100		102		70-130	2		30
2-Chloroethylvinyl ether	85		92		70-130	8		30
Tetrachloroethene	99		98		70-130	1		30
Chlorobenzene	93		91		70-130	2		30
Trichlorofluoromethane	**67**	Q	**67**	Q	70-139	0		30
1,2-Dichloroethane	106		107		70-130	1		30
1,1,1-Trichloroethane	99		98		70-130	1		30
Bromodichloromethane	96		96		70-130	0		30
trans-1,3-Dichloropropene	112		113		70-130	1		30
cis-1,3-Dichloropropene	98		100		70-130	2		30
1,1-Dichloropropene	94		95		70-130	1		30
Bromoform	102		104		70-130	2		30
1,1,2,2-Tetrachloroethane	101		101		70-130	0		30
Benzene	85		87		70-130	2		30
Toluene	98		97		70-130	1		30
Ethylbenzene	99		97		70-130	2		30
Chloromethane	114		107		52-130	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1277749-3 WG1277749-4								
Bromomethane	77		73		57-147	5		30
Vinyl chloride	85		83		67-130	2		30
Chloroethane	67		68		50-151	1		30
1,1-Dichloroethene	93		93		65-135	0		30
trans-1,2-Dichloroethene	87		87		70-130	0		30
Trichloroethene	90		90		70-130	0		30
1,2-Dichlorobenzene	99		99		70-130	0		30
1,3-Dichlorobenzene	100		98		70-130	2		30
1,4-Dichlorobenzene	97		99		70-130	2		30
Methyl tert butyl ether	97		98		66-130	1		30
p/m-Xylene	99		99		70-130	0		30
o-Xylene	99		98		70-130	1		30
cis-1,2-Dichloroethene	87		88		70-130	1		30
Dibromomethane	91		90		70-130	1		30
1,4-Dichlorobutane	124		125		70-130	1		30
1,2,3-Trichloropropane	103		102		68-130	1		30
Styrene	99		99		70-130	0		30
Dichlorodifluoromethane	94		90		30-146	4		30
Acetone	139		129		54-140	7		30
Carbon disulfide	99		98		59-130	1		30
2-Butanone	120		128		70-130	6		30
Vinyl acetate	111		111		70-130	0		30
4-Methyl-2-pentanone	110		107		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1277749-3 WG1277749-4								
2-Hexanone	114		110		70-130	4		30
Ethyl methacrylate	92		94		70-130	2		30
Acrolein	95		93		70-130	2		30
Acrylonitrile	106		107		70-130	1		30
Bromochloromethane	88		88		70-130	0		30
Tetrahydrofuran	117		124		66-130	6		30
2,2-Dichloropropane	104		103		70-130	1		30
1,2-Dibromoethane	102		101		70-130	1		30
1,3-Dichloropropane	101		100		69-130	1		30
1,1,1,2-Tetrachloroethane	101		101		70-130	0		30
Bromobenzene	100		98		70-130	2		30
n-Butylbenzene	104		103		70-130	1		30
sec-Butylbenzene	103		102		70-130	1		30
tert-Butylbenzene	105		104		70-130	1		30
1,3,5-Trichlorobenzene	100		98		70-139	2		30
o-Chlorotoluene	115		116		70-130	1		30
p-Chlorotoluene	107		106		70-130	1		30
1,2-Dibromo-3-chloropropane	92		95		68-130	3		30
Hexachlorobutadiene	104		104		67-130	0		30
Isopropylbenzene	106		102		70-130	4		30
p-Isopropyltoluene	105		104		70-130	1		30
Naphthalene	104		104		70-130	0		30
n-Propylbenzene	103		101		70-130	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1277749-3 WG1277749-4								
1,2,3-Trichlorobenzene	102		101		70-130	1		30
1,2,4-Trichlorobenzene	100		100		70-130	0		30
1,3,5-Trimethylbenzene	104		102		70-130	2		30
1,2,4-Trimethylbenzene	106		104		70-130	2		30
trans-1,4-Dichloro-2-butene	124		128		70-130	3		30
Ethyl ether	68		71		67-130	4		30
Methyl Acetate	114		113		65-130	1		30
Ethyl Acetate	**539**	Q	**522**	Q	70-130	3		30
Isopropyl Ether	112		112		66-130	0		30
Cyclohexane	104		104		70-130	0		30
Tert-Butyl Alcohol	121		120		70-130	1		30
Ethyl-Tert-Butyl-Ether	104		104		70-130	0		30
Tertiary-Amyl Methyl Ether	96		96		70-130	0		30
1,4-Dioxane	83		82		65-136	1		30
Methyl cyclohexane	89		90		70-130	1		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	93		93		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	118		120		70-130
Toluene-d8	106		106		70-130
4-Bromofluorobenzene	116		118		70-130
Dibromofluoromethane	101		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1277749-8 WG1277749-9								
Methylene chloride	84		86		70-130	2		30
1,1-Dichloroethane	97		100		70-130	3		30
Chloroform	91		94		70-130	3		30
Carbon tetrachloride	83		87		70-130	5		30
1,2-Dichloropropane	97		101		70-130	4		30
Dibromochloromethane	103		103		70-130	0		30
1,1,2-Trichloroethane	110		109		70-130	1		30
2-Chloroethylvinyl ether	90		92		70-130	2		30
Tetrachloroethene	92		93		70-130	1		30
Chlorobenzene	94		95		70-130	1		30
Trichlorofluoromethane	**62**	Q	**60**	Q	70-139	3		30
1,2-Dichloroethane	111		113		70-130	2		30
1,1,1-Trichloroethane	90		94		70-130	4		30
Bromodichloromethane	99		102		70-130	3		30
trans-1,3-Dichloropropene	117		116		70-130	1		30
cis-1,3-Dichloropropene	101		104		70-130	3		30
1,1-Dichloropropene	88		90		70-130	2		30
Bromoform	102		106		70-130	4		30
1,1,2,2-Tetrachloroethane	108		107		70-130	1		30
Benzene	88		90		70-130	2		30
Toluene	98		99		70-130	1		30
Ethylbenzene	98		98		70-130	0		30
Chloromethane	111		103		52-130	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1277749-8 WG1277749-9								
Bromomethane	69		68		57-147	1		30
Vinyl chloride	83		83		67-130	0		30
Chloroethane	65		64		50-151	2		30
1,1-Dichloroethene	89		88		65-135	1		30
trans-1,2-Dichloroethene	84		86		70-130	2		30
Trichloroethene	88		91		70-130	3		30
1,2-Dichlorobenzene	102		102		70-130	0		30
1,3-Dichlorobenzene	98		100		70-130	2		30
1,4-Dichlorobenzene	99		100		70-130	1		30
Methyl tert butyl ether	99		101		66-130	2		30
p/m-Xylene	98		99		70-130	1		30
o-Xylene	100		101		70-130	1		30
cis-1,2-Dichloroethene	89		91		70-130	2		30
Dibromomethane	93		96		70-130	3		30
1,4-Dichlorobutane	130		130		70-130	0		30
1,2,3-Trichloropropane	110		111		68-130	1		30
Styrene	101		102		70-130	1		30
Dichlorodifluoromethane	71		71		30-146	0		30
Acetone	135		131		54-140	3		30
Carbon disulfide	100		92		59-130	8		30
2-Butanone	116		130		70-130	11		30
Vinyl acetate	117		117		70-130	0		30
4-Methyl-2-pentanone	113		112		70-130	1		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1277749-8 WG1277749-9								
2-Hexanone	112		115		70-130	3		30
Ethyl methacrylate	92		95		70-130	3		30
Acrolein	101		101		70-130	0		30
Acrylonitrile	116		118		70-130	2		30
Bromochloromethane	91		92		70-130	1		30
Tetrahydrofuran	125		129		66-130	3		30
2,2-Dichloropropane	95		98		70-130	3		30
1,2-Dibromoethane	107		106		70-130	1		30
1,3-Dichloropropane	108		109		69-130	1		30
1,1,1,2-Tetrachloroethane	102		104		70-130	2		30
Bromobenzene	99		102		70-130	3		30
n-Butylbenzene	102		102		70-130	0		30
sec-Butylbenzene	99		99		70-130	0		30
tert-Butylbenzene	98		100		70-130	2		30
1,3,5-Trichlorobenzene	96		96		70-139	0		30
o-Chlorotoluene	112		116		70-130	4		30
p-Chlorotoluene	104		106		70-130	2		30
1,2-Dibromo-3-chloropropane	94		94		68-130	0		30
Hexachlorobutadiene	93		97		67-130	4		30
Isopropylbenzene	101		98		70-130	3		30
p-Isopropyltoluene	99		100		70-130	1		30
Naphthalene	106		106		70-130	0		30
n-Propylbenzene	99		101		70-130	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02-03 Batch: WG1277749-8 WG1277749-9								
1,2,3-Trichlorobenzene	101		102		70-130	1		30
1,2,4-Trichlorobenzene	99		100		70-130	1		30
1,3,5-Trimethylbenzene	100		102		70-130	2		30
1,2,4-Trimethylbenzene	104		105		70-130	1		30
trans-1,4-Dichloro-2-butene	130		**132**	Q	70-130	2		30
Ethyl ether	75		73		67-130	3		30
Methyl Acetate	126		126		65-130	0		30
Ethyl Acetate	125		125		70-130	0		30
Isopropyl Ether	118		123		66-130	4		30
Cyclohexane	94		97		70-130	3		30
Tert-Butyl Alcohol	117		120		70-130	3		30
Ethyl-Tert-Butyl-Ether	106		110		70-130	4		30
Tertiary-Amyl Methyl Ether	98		101		70-130	3		30
1,4-Dioxane	100		94		65-136	6		30
Methyl cyclohexane	81		83		70-130	2		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	88		87		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	118		121		70-130
Toluene-d8	110		109		70-130
4-Bromofluorobenzene	116		114		70-130
Dibromofluoromethane	101		104		70-130

SEMIVOLATILES

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01
Client ID: IP-05-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 08/14/19 10:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/29/19 04:25
Analyst: EK
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 08/28/19 09:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	18.	1
Benzidine	ND		ug/kg	590	190	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	20.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	24.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
1,2-Dichlorobenzene	ND		ug/kg	180	32.	1
1,3-Dichlorobenzene	ND		ug/kg	180	31.	1
1,4-Dichlorobenzene	ND		ug/kg	180	31.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	48.	1
2,4-Dinitrotoluene	ND		ug/kg	180	36.	1
2,6-Dinitrotoluene	ND		ug/kg	180	31.	1
Azobenzene	ND		ug/kg	180	17.	1
Fluoranthene	ND		ug/kg	110	20.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	19.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	27.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	30.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	18.	1
Hexachlorobutadiene	ND		ug/kg	180	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	510	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	26.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	62.	1
Butyl benzyl phthalate	ND		ug/kg	180	45.	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01 Date Collected: 08/14/19 10:40

Client ID: IP-05-11.0 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	61.	1
Diethyl phthalate	ND		ug/kg	180	16.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	140	44.	1
Benzo(b)fluoranthene	ND		ug/kg	110	30.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	140	28.	1
Anthracene	ND		ug/kg	110	35.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	17.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	25.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	410	42.	1
Aniline	ND		ug/kg	210	84.	1
4-Chloroaniline	ND		ug/kg	180	32.	1
1-Methylnaphthalene	ND		ug/kg	180	21.	1
2-Nitroaniline	ND		ug/kg	180	34.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	74.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	210	22.	1
n-Nitrosodimethylamine	ND		ug/kg	360	34.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	34.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	21.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	59.	1
2-Nitrophenol	ND		ug/kg	390	67.	1
4-Nitrophenol	ND		ug/kg	250	73.	1
2,4-Dinitrophenol	ND		ug/kg	860	83.	1
4,6-Dinitro-o-cresol	ND		ug/kg	460	86.	1
Pentachlorophenol	ND		ug/kg	140	39.	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01 Date Collected: 08/14/19 10:40

Client ID: IP-05-11.0 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	180	27.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	28.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	34.	1
Benzoic Acid	ND		ug/kg	580	180	1
Benzyl Alcohol	ND		ug/kg	180	55.	1
Carbazole	ND		ug/kg	180	17.	1
Pyridine	ND		ug/kg	190	68.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**13**	Q	25-120
Phenol-d6	13		10-120
Nitrobenzene-d5	**9**	Q	23-120
2-Fluorobiphenyl	**10**	Q	30-120
2,4,6-Tribromophenol	10		10-136
4-Terphenyl-d14	**10**	Q	18-120

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01
Client ID: IP-05-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 08/14/19 10:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 08/29/19 04:46
Analyst: JW
Percent Solids: 92%

Extraction Method: EPA 537(M)
Extraction Date: 08/26/19 16:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	1.00	0.023	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	1.00	0.046	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.00	0.039	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.00	0.065	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	1.00	0.053	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.00	0.083	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	1.00	0.045	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	1.00	0.061	1
Perfluorooctanoic Acid (PFOA)	0.130	J	ng/g	1.00	0.042	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	1.00	0.179	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	1.00	0.136	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	1.00	0.075	1
Perfluorooctanesulfonic Acid (PFOS)	0.148	J	ng/g	1.00	0.130	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	1.00	0.067	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	1.00	0.287	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.00	0.299	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	1.00	0.201	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	1.00	0.047	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	1.00	0.153	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	1.00	0.098	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	1.00	0.084	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	1.00	0.070	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	1.00	0.204	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	1.00	0.054	1
PFOA/PFOS, Total	0.278	J	ng/g	1.00	0.042	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01 Date Collected: 08/14/19 10:40

Client ID: IP-05-11.0 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	75		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	82		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	78		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**34**	Q	56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	71		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	78		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	77		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	33		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	79		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	76		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	40		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**37**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	76		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	2		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**40**	Q	42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	66		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	62		26-160

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01 RE
Client ID: IP-05-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 08/14/19 10:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/04/19 16:21
Analyst: JG
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 09/03/19 19:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	18.	1
Benzidine	ND		ug/kg	580	190	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	20.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	24.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
1,2-Dichlorobenzene	ND		ug/kg	180	32.	1
1,3-Dichlorobenzene	ND		ug/kg	180	30.	1
1,4-Dichlorobenzene	ND		ug/kg	180	31.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	47.	1
2,4-Dinitrotoluene	ND		ug/kg	180	35.	1
2,6-Dinitrotoluene	ND		ug/kg	180	30.	1
Azobenzene	ND		ug/kg	180	17.	1
Fluoranthene	ND		ug/kg	110	20.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	19.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	27.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	30.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	18.	1
Hexachlorobutadiene	ND		ug/kg	180	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	510	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	26.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	27.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	61.	1
Butyl benzyl phthalate	ND		ug/kg	180	45.	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01 RE Date Collected: 08/14/19 10:40

Client ID: IP-05-11.0 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	60.	1
Diethyl phthalate	ND		ug/kg	180	16.	1
Dimethyl phthalate	ND		ug/kg	180	37.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1
Benzo(b)fluoranthene	ND		ug/kg	110	30.	1
Benzo(k)fluoranthene	ND		ug/kg	110	28.	1
Chrysene	ND		ug/kg	110	18.	1
Acenaphthylene	ND		ug/kg	140	27.	1
Anthracene	ND		ug/kg	110	35.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	17.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	20.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	25.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	400	41.	1
Aniline	ND		ug/kg	210	84.	1
4-Chloroaniline	ND		ug/kg	180	32.	1
1-Methylnaphthalene	ND		ug/kg	180	20.	1
2-Nitroaniline	ND		ug/kg	180	34.	1
3-Nitroaniline	ND		ug/kg	180	33.	1
4-Nitroaniline	ND		ug/kg	180	73.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	210	21.	1
n-Nitrosodimethylamine	ND		ug/kg	350	34.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	34.	1
p-Chloro-m-cresol	ND		ug/kg	180	26.	1
2-Chlorophenol	ND		ug/kg	180	21.	1
2,4-Dichlorophenol	ND		ug/kg	160	28.	1
2,4-Dimethylphenol	ND		ug/kg	180	58.	1
2-Nitrophenol	ND		ug/kg	380	67.	1
4-Nitrophenol	ND		ug/kg	250	72.	1
2,4-Dinitrophenol	ND		ug/kg	850	83.	1
4,6-Dinitro-o-cresol	ND		ug/kg	460	85.	1
Pentachlorophenol	ND		ug/kg	140	39.	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01 RE Date Collected: 08/14/19 10:40

Client ID: IP-05-11.0 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	180	27.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	28.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	34.	1
Benzoic Acid	ND		ug/kg	580	180	1
Benzyl Alcohol	ND		ug/kg	180	54.	1
Carbazole	ND		ug/kg	180	17.	1
Pyridine	ND		ug/kg	190	67.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		25-120
Phenol-d6	82		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	65		30-120
2,4,6-Tribromophenol	72		10-136
4-Terphenyl-d14	58		18-120

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02
Client ID: IP-06-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/29/19 05:16
Analyst: EK
Percent Solids: 58%

Extraction Method: EPA 3546
Extraction Date: 08/28/19 09:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	670	87.	1
Benzidine	ND		ug/kg	2800	910	1
1,2,4-Trichlorobenzene	ND		ug/kg	840	96.	1
Hexachlorobenzene	ND		ug/kg	500	94.	1
Bis(2-chloroethyl)ether	ND		ug/kg	760	110	1
2-Chloronaphthalene	ND		ug/kg	840	83.	1
1,2-Dichlorobenzene	ND		ug/kg	840	150	1
1,3-Dichlorobenzene	ND		ug/kg	840	140	1
1,4-Dichlorobenzene	ND		ug/kg	840	150	1
3,3'-Dichlorobenzidine	ND		ug/kg	840	220	1
2,4-Dinitrotoluene	ND		ug/kg	840	170	1
2,6-Dinitrotoluene	ND		ug/kg	840	140	1
Azobenzene	ND		ug/kg	840	81.	1
Fluoranthene	ND		ug/kg	500	96.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	840	90.	1
4-Bromophenyl phenyl ether	ND		ug/kg	840	130	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	1000	140	1
Bis(2-chloroethoxy)methane	ND		ug/kg	910	84.	1
Hexachlorobutadiene	ND		ug/kg	840	120	1
Hexachlorocyclopentadiene	ND		ug/kg	2400	760	1
Hexachloroethane	ND		ug/kg	670	140	1
Isophorone	ND		ug/kg	760	110	1
Naphthalene	ND		ug/kg	840	100	1
Nitrobenzene	ND		ug/kg	760	120	1
NDPA/DPA	ND		ug/kg	670	96.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	840	130	1
Bis(2-ethylhexyl)phthalate	1800		ug/kg	840	290	1
Butyl benzyl phthalate	ND		ug/kg	840	210	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	840	160	1
Di-n-octylphthalate	ND		ug/kg	840	280	1
Diethyl phthalate	ND		ug/kg	840	78.	1
Dimethyl phthalate	ND		ug/kg	840	180	1
Benzo(a)anthracene	ND		ug/kg	500	95.	1
Benzo(a)pyrene	ND		ug/kg	670	200	1
Benzo(b)fluoranthene	ND		ug/kg	500	140	1
Benzo(k)fluoranthene	ND		ug/kg	500	130	1
Chrysene	ND		ug/kg	500	87.	1
Acenaphthylene	ND		ug/kg	670	130	1
Anthracene	ND		ug/kg	500	160	1
Benzo(ghi)perylene	ND		ug/kg	670	99.	1
Fluorene	ND		ug/kg	840	82.	1
Phenanthrene	ND		ug/kg	500	100	1
Dibenzo(a,h)anthracene	ND		ug/kg	500	97.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	670	120	1
Pyrene	99	J	ug/kg	500	84.	1
Biphenyl	ND		ug/kg	1900	200	1
Aniline	ND		ug/kg	1000	400	1
4-Chloroaniline	ND		ug/kg	840	150	1
1-Methylnaphthalene	ND		ug/kg	840	98.	1
2-Nitroaniline	ND		ug/kg	840	160	1
3-Nitroaniline	ND		ug/kg	840	160	1
4-Nitroaniline	ND		ug/kg	840	350	1
Dibenzofuran	ND		ug/kg	840	80.	1
2-Methylnaphthalene	ND		ug/kg	1000	100	1
n-Nitrosodimethylamine	ND		ug/kg	1700	160	1
2,4,6-Trichlorophenol	ND		ug/kg	500	160	1
p-Chloro-m-cresol	ND		ug/kg	840	120	1
2-Chlorophenol	ND		ug/kg	840	99.	1
2,4-Dichlorophenol	ND		ug/kg	760	140	1
2,4-Dimethylphenol	ND		ug/kg	840	280	1
2-Nitrophenol	ND		ug/kg	1800	320	1
4-Nitrophenol	ND		ug/kg	1200	340	1
2,4-Dinitrophenol	ND		ug/kg	4000	390	1
4,6-Dinitro-o-cresol	ND		ug/kg	2200	400	1
Pentachlorophenol	ND		ug/kg	670	180	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	840	130	1
2-Methylphenol	ND		ug/kg	840	130	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	1200	130	1
2,4,5-Trichlorophenol	ND		ug/kg	840	160	1
Benzoic Acid	ND		ug/kg	2700	850	1
Benzyl Alcohol	ND		ug/kg	840	260	1
Carbazole	ND		ug/kg	840	82.	1
Pyridine	ND		ug/kg	910	320	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**22**	Q	25-120
Phenol-d6	28		10-120
Nitrobenzene-d5	**22**	Q	23-120
2-Fluorobiphenyl	**23**	Q	30-120
2,4,6-Tribromophenol	30		10-136
4-Terphenyl-d14	23		18-120

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02
Client ID: IP-06-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 08/29/19 05:02
Analyst: JW
Percent Solids: 58%

Extraction Method: EPA 537(M)
Extraction Date: 08/26/19 16:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.684	J	ng/g	1.48	0.034	1
Perfluoropentanoic Acid (PFPeA)	1.72		ng/g	1.48	0.068	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.48	0.058	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.48	0.095	1
Perfluorohexanoic Acid (PFHxA)	3.43		ng/g	1.48	0.078	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.48	0.124	1
Perfluoroheptanoic Acid (PFHpA)	7.68		ng/g	1.48	0.067	1
Perfluorohexanesulfonic Acid (PFHxS)	0.277	J	ng/g	1.48	0.090	1
Perfluorooctanoic Acid (PFOA)	80.7		ng/g	1.48	0.062	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	1.48	0.266	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.380	J	ng/g	1.48	0.202	1
Perfluorononanoic Acid (PFNA)	28.2		ng/g	1.48	0.111	1
Perfluorooctanesulfonic Acid (PFOS)	48.0		ng/g	1.48	0.192	1
Perfluorodecanoic Acid (PFDA)	92.3		ng/g	1.48	0.099	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.728	J	ng/g	1.48	0.425	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.48	0.442	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	6.56		ng/g	1.48	0.298	1
Perfluoroundecanoic Acid (PFUnA)	12.3		ng/g	1.48	0.069	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	1.48	0.226	1
Perfluorooctanesulfonamide (FOSA)	13.8		ng/g	1.48	0.145	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	132		ng/g	1.48	0.125	1
Perfluorododecanoic Acid (PFDoA)	30.1		ng/g	1.48	0.104	1
Perfluorotridecanoic Acid (PFTrDA)	2.24		ng/g	1.48	0.303	1
Perfluorotetradecanoic Acid (PFTA)	9.15		ng/g	1.48	0.080	1
PFOA/PFOS, Total	129		ng/g	1.48	0.062	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	**55**	Q	60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	69		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	77		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	70		56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**59**	Q	61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	65		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	81		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	69		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	96		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	73		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	69		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	127		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**40**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	**33**	Q	64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	32		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	54		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	60		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	42		26-160

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 RE
Client ID: IP-06-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 09/04/19 16:47
Analyst: JG
Percent Solids: 58%

Extraction Method: EPA 3546
Extraction Date: 09/03/19 19:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	220	29.	1
Benzidine	ND		ug/kg	930	300	1
1,2,4-Trichlorobenzene	ND		ug/kg	280	32.	1
Hexachlorobenzene	ND		ug/kg	170	32.	1
Bis(2-chloroethyl)ether	ND		ug/kg	250	38.	1
2-Chloronaphthalene	ND		ug/kg	280	28.	1
1,2-Dichlorobenzene	ND		ug/kg	280	51.	1
1,3-Dichlorobenzene	ND		ug/kg	280	48.	1
1,4-Dichlorobenzene	ND		ug/kg	280	49.	1
3,3'-Dichlorobenzidine	ND		ug/kg	280	75.	1
2,4-Dinitrotoluene	ND		ug/kg	280	56.	1
2,6-Dinitrotoluene	ND		ug/kg	280	48.	1
Azobenzene	ND		ug/kg	280	27.	1
Fluoranthene	75	J	ug/kg	170	32.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	280	30.	1
4-Bromophenyl phenyl ether	ND		ug/kg	280	43.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	340	48.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	300	28.	1
Hexachlorobutadiene	ND		ug/kg	280	41.	1
Hexachlorocyclopentadiene	ND		ug/kg	800	260	1
Hexachloroethane	ND		ug/kg	220	46.	1
Isophorone	ND		ug/kg	250	36.	1
Naphthalene	ND		ug/kg	280	34.	1
Nitrobenzene	ND		ug/kg	250	42.	1
NDPA/DPA	ND		ug/kg	220	32.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	280	44.	1
Bis(2-ethylhexyl)phthalate	630		ug/kg	280	98.	1
Butyl benzyl phthalate	ND		ug/kg	280	71.	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 RE Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	280	53.	1
Di-n-octylphthalate	ND		ug/kg	280	96.	1
Diethyl phthalate	ND		ug/kg	280	26.	1
Dimethyl phthalate	120	J	ug/kg	280	59.	1
Benzo(a)anthracene	45	J	ug/kg	170	32.	1
Benzo(a)pyrene	ND		ug/kg	220	69.	1
Benzo(b)fluoranthene	64	J	ug/kg	170	47.	1
Benzo(k)fluoranthene	ND		ug/kg	170	45.	1
Chrysene	55	J	ug/kg	170	29.	1
Acenaphthylene	ND		ug/kg	220	44.	1
Anthracene	ND		ug/kg	170	55.	1
Benzo(ghi)perylene	62	J	ug/kg	220	33.	1
Fluorene	ND		ug/kg	280	27.	1
Phenanthrene	ND		ug/kg	170	34.	1
Dibenzo(a,h)anthracene	ND		ug/kg	170	32.	1
Indeno(1,2,3-cd)pyrene	39	J	ug/kg	220	39.	1
Pyrene	110	J	ug/kg	170	28.	1
Biphenyl	ND		ug/kg	640	65.	1
Aniline	ND		ug/kg	340	130	1
4-Chloroaniline	ND		ug/kg	280	51.	1
1-Methylnaphthalene	ND		ug/kg	280	33.	1
2-Nitroaniline	ND		ug/kg	280	54.	1
3-Nitroaniline	ND		ug/kg	280	53.	1
4-Nitroaniline	ND		ug/kg	280	120	1
Dibenzofuran	ND		ug/kg	280	27.	1
2-Methylnaphthalene	ND		ug/kg	340	34.	1
n-Nitrosodimethylamine	ND		ug/kg	560	54.	1
2,4,6-Trichlorophenol	ND		ug/kg	170	53.	1
p-Chloro-m-cresol	ND		ug/kg	280	42.	1
2-Chlorophenol	ND		ug/kg	280	33.	1
2,4-Dichlorophenol	ND		ug/kg	250	45.	1
2,4-Dimethylphenol	ND		ug/kg	280	93.	1
2-Nitrophenol	ND		ug/kg	610	100	1
4-Nitrophenol	ND		ug/kg	390	110	1
2,4-Dinitrophenol	ND		ug/kg	1400	130	1
4,6-Dinitro-o-cresol	ND		ug/kg	730	140	1
Pentachlorophenol	ND		ug/kg	220	62.	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 RE Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	120	J	ug/kg	280	42.	1
2-Methylphenol	ND		ug/kg	280	44.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	400	44.	1
2,4,5-Trichlorophenol	ND		ug/kg	280	54.	1
Benzoic Acid	360	J	ug/kg	910	280	1
Benzyl Alcohol	160	J	ug/kg	280	86.	1
Carbazole	ND		ug/kg	280	27.	1
Pyridine	ND		ug/kg	300	110	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**11**	Q	25-120
Phenol-d6	11		10-120
Nitrobenzene-d5	**14**	Q	23-120
2-Fluorobiphenyl	**11**	Q	30-120
2,4,6-Tribromophenol	11		10-136
4-Terphenyl-d14	**11**	Q	18-120

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03
Client ID: IP-06-0.5-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 08/29/19 05:41
Analyst: EK
Percent Solids: 62%

Extraction Method: EPA 3546
Extraction Date: 08/28/19 09:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	600	77.	1
Benzidine	ND		ug/kg	2500	810	1
1,2,4-Trichlorobenzene	ND		ug/kg	750	85.	1
Hexachlorobenzene	ND		ug/kg	450	84.	1
Bis(2-chloroethyl)ether	ND		ug/kg	670	100	1
2-Chloronaphthalene	ND		ug/kg	750	74.	1
1,2-Dichlorobenzene	ND		ug/kg	750	130	1
1,3-Dichlorobenzene	ND		ug/kg	750	130	1
1,4-Dichlorobenzene	ND		ug/kg	750	130	1
3,3'-Dichlorobenzidine	ND		ug/kg	750	200	1
2,4-Dinitrotoluene	ND		ug/kg	750	150	1
2,6-Dinitrotoluene	ND		ug/kg	750	130	1
Azobenzene	ND		ug/kg	750	72.	1
Fluoranthene	ND		ug/kg	450	86.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	750	80.	1
4-Bromophenyl phenyl ether	ND		ug/kg	750	110	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	900	130	1
Bis(2-chloroethoxy)methane	ND		ug/kg	810	75.	1
Hexachlorobutadiene	ND		ug/kg	750	110	1
Hexachlorocyclopentadiene	ND		ug/kg	2100	680	1
Hexachloroethane	ND		ug/kg	600	120	1
Isophorone	ND		ug/kg	670	97.	1
Naphthalene	ND		ug/kg	750	91.	1
Nitrobenzene	ND		ug/kg	670	110	1
NDPA/DPA	ND		ug/kg	600	85.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	750	120	1
Bis(2-ethylhexyl)phthalate	1500		ug/kg	750	260	1
Butyl benzyl phthalate	ND		ug/kg	750	190	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5-FD Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	750	140	1
Di-n-octylphthalate	ND		ug/kg	750	250	1
Diethyl phthalate	ND		ug/kg	750	69.	1
Dimethyl phthalate	570	J	ug/kg	750	160	1
Benzo(a)anthracene	ND		ug/kg	450	84.	1
Benzo(a)pyrene	ND		ug/kg	600	180	1
Benzo(b)fluoranthene	ND		ug/kg	450	120	1
Benzo(k)fluoranthene	ND		ug/kg	450	120	1
Chrysene	ND		ug/kg	450	78.	1
Acenaphthylene	ND		ug/kg	600	120	1
Anthracene	ND		ug/kg	450	140	1
Benzo(ghi)perylene	ND		ug/kg	600	88.	1
Fluorene	ND		ug/kg	750	72.	1
Phenanthrene	ND		ug/kg	450	91.	1
Dibenzo(a,h)anthracene	ND		ug/kg	450	86.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	600	100	1
Pyrene	130	J	ug/kg	450	74.	1
Biphenyl	ND		ug/kg	1700	170	1
Aniline	ND		ug/kg	900	350	1
4-Chloroaniline	ND		ug/kg	750	140	1
1-Methylnaphthalene	ND		ug/kg	750	87.	1
2-Nitroaniline	ND		ug/kg	750	140	1
3-Nitroaniline	ND		ug/kg	750	140	1
4-Nitroaniline	ND		ug/kg	750	310	1
Dibenzofuran	ND		ug/kg	750	71.	1
2-Methylnaphthalene	ND		ug/kg	900	90.	1
n-Nitrosodimethylamine	ND		ug/kg	1500	140	1
2,4,6-Trichlorophenol	ND		ug/kg	450	140	1
p-Chloro-m-cresol	ND		ug/kg	750	110	1
2-Chlorophenol	ND		ug/kg	750	88.	1
2,4-Dichlorophenol	ND		ug/kg	670	120	1
2,4-Dimethylphenol	ND		ug/kg	750	250	1
2-Nitrophenol	ND		ug/kg	1600	280	1
4-Nitrophenol	ND		ug/kg	1000	300	1
2,4-Dinitrophenol	ND		ug/kg	3600	350	1
4,6-Dinitro-o-cresol	ND		ug/kg	1900	360	1
Pentachlorophenol	ND		ug/kg	600	160	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5-FD Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	320	J	ug/kg	750	110	1
2-Methylphenol	ND		ug/kg	750	120	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	1100	120	1
2,4,5-Trichlorophenol	ND		ug/kg	750	140	1
Benzoic Acid	ND		ug/kg	2400	760	1
Benzyl Alcohol	240	J	ug/kg	750	230	1
Carbazole	ND		ug/kg	750	72.	1
Pyridine	ND		ug/kg	810	280	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**22**	Q	25-120
Phenol-d6	24		10-120
Nitrobenzene-d5	24		23-120
2-Fluorobiphenyl	**22**	Q	30-120
2,4,6-Tribromophenol	27		10-136
4-Terphenyl-d14	22		18-120

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03
Client ID: IP-06-0.5-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 122,537(M)
Analytical Date: 08/29/19 05:36
Analyst: JW
Percent Solids: 62%

Extraction Method: EPA 537(M)
Extraction Date: 08/26/19 16:52

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.640	J	ng/g	1.55	0.035	1
Perfluoropentanoic Acid (PFPeA)	1.55		ng/g	1.55	0.071	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.55	0.061	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.55	0.100	1
Perfluorohexanoic Acid (PFHxA)	2.76		ng/g	1.55	0.081	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.55	0.130	1
Perfluoroheptanoic Acid (PFHpA)	6.35		ng/g	1.55	0.070	1
Perfluorohexanesulfonic Acid (PFHxS)	0.222	J	ng/g	1.55	0.094	1
Perfluorooctanoic Acid (PFOA)	71.9		ng/g	1.55	0.065	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	1.55	0.278	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.288	J	ng/g	1.55	0.212	1
Perfluorononanoic Acid (PFNA)	24.5		ng/g	1.55	0.116	1
Perfluorooctanesulfonic Acid (PFOS)	38.9		ng/g	1.55	0.202	1
Perfluorodecanoic Acid (PFDA)	81.3		ng/g	1.55	0.104	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.655	J	ng/g	1.55	0.445	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.55	0.464	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	5.36		ng/g	1.55	0.312	1
Perfluoroundecanoic Acid (PFUnA)	10.2		ng/g	1.55	0.073	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	1.55	0.237	1
Perfluorooctanesulfonamide (FOSA)	12.4		ng/g	1.55	0.152	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	94.1		ng/g	1.55	0.131	1
Perfluorododecanoic Acid (PFDoA)	27.0		ng/g	1.55	0.108	1
Perfluorotridecanoic Acid (PFTrDA)	2.26		ng/g	1.55	0.317	1
Perfluorotetradecanoic Acid (PFTA)	9.14		ng/g	1.55	0.084	1
PFOA/PFOS, Total	111		ng/g	1.55	0.065	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5-FD Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	65		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	76		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	77		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**47**	Q	56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	64		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	67		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	83		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	70		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	66		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	85		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	77		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	67		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	96		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**23**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	**39**	Q	64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	22		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**36**	Q	42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	59		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	48		26-160

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-04
Client ID: FIELD BLANK-1
Sample Location: BRATTLEBORO, VT

Date Collected: 08/14/19 11:23
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 08/27/19 19:48
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 08/26/19 08:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.84	0.376	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.84	0.365	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	0.220	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.84	0.417	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.84	0.302	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.84	0.226	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.84	0.208	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.84	0.347	1
Perfluorooctanoic Acid (PFOA)	1.22	JB	ng/l	1.84	0.218	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.84	1.23	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.84	0.635	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.84	0.288	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.84	0.465	1
Perfluorodecanoic Acid (PFDA)	0.734	JB	ng/l	1.84	0.280	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.84	1.12	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.84	1.03	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	0.598	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	0.240	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.84	0.904	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.84	0.535	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	0.742	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	0.343	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	0.302	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	0.229	1
PFOA/PFOS, Total	1.22	JB	ng/l	1.84	0.218	1
PFAS, Total (5)	1.22	JB	ng/l	1.84	0.208	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-04 Date Collected: 08/14/19 11:23

Client ID: FIELD BLANK-1 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	61		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	71		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	93		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	47		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	62		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	71		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	80		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	44		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	77		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	40		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	57		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	73		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	6		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	53		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	68		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	64		33-143

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-05
Client ID: FIELD BLANK-2
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 14:00
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 08/27/19 20:05
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 08/26/19 08:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.82	0.372	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.82	0.361	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.82	0.217	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.82	0.412	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.82	0.299	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.82	0.224	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.82	0.205	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.82	0.343	1
Perfluorooctanoic Acid (PFOA)	2.01	B	ng/l	1.82	0.215	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.82	1.22	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.82	0.628	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	0.285	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.82	0.460	1
Perfluorodecanoic Acid (PFDA)	1.31	JB	ng/l	1.82	0.277	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.82	1.10	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.82	1.02	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	0.591	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	0.237	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.82	0.894	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.82	0.529	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	0.734	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	0.339	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	0.298	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	0.226	1
PFOA/PFOS, Total	2.01	B	ng/l	1.82	0.215	1
PFAS, Total (5)	2.01	B	ng/l	1.82	0.205	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-05 Date Collected: 08/15/19 14:00

Client ID: FIELD BLANK-2 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	71		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	85		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	49		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	80		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	97		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	47		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	83		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	43		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	57		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	80		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	5		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	54		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	69		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	69		33-143

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 08/27/19 22:34
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 08/26/19 08:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 04-05 Batch: WG1276700-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	0.420	J	ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	0.452
Perfluorohexanoic Acid (PFHxA)	2.16		ng/l	2.00	0.328
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	0.245
Perfluoroheptanoic Acid (PFHpA)	1.13	J	ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	31.4		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	1.03	J	ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	19.7		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	1.12
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	3.56		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	0.600	J	ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	1.49	J	ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	2.20		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	0.840	J	ng/l	2.00	0.248
PFOA/PFOS, Total	31.4		ng/l	2.00	0.236
PFAS, Total (5)	33.6	J	ng/l	2.00	0.225

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 08/27/19 22:34
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 08/26/19 08:34

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 04-05 Batch: WG1276700-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	107		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	114		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	51		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	99		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	100		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	105		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	103		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	52		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	107		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	56		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	71		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	91		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	38		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	65		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	76		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	75		33-143

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 08/29/19 02:33
Analyst: JW

Extraction Method: EPA 537(M)
Extraction Date: 08/26/19 16:52

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-03 Batch: WG1276798-1					
Perfluorobutanoic Acid (PFBA)	0.086	J	ng/g	1.00	0.023
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	1.00	0.046
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.00	0.039
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.00	0.065
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	1.00	0.053
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.00	0.084
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	1.00	0.045
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	1.00	0.061
Perfluorooctanoic Acid (PFOA)	ND		ng/g	1.00	0.042
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	1.00	0.180
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	1.00	0.136
Perfluorononanoic Acid (PFNA)	ND		ng/g	1.00	0.075
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	1.00	0.130
Perfluorodecanoic Acid (PFDA)	ND		ng/g	1.00	0.067
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	1.00	0.287
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.00	0.299
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	1.00	0.202
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	1.00	0.047
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	1.00	0.153
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	1.00	0.098
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	1.00	0.085
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	1.00	0.070
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	1.00	0.204
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	1.00	0.054
PFOA/PFOS, Total	ND		ng/g	1.00	0.042

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 08/29/19 02:33
Analyst: JW

Extraction Method: EPA 537(M)
Extraction Date: 08/26/19 16:52

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-03 Batch: WG1276798-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	72		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	81		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	79		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**34**	Q	56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	73		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	75		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	81		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**30**	Q	32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	85		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	83		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	38		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	66		45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	80		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	6		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	61		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	69		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	64		26-160

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 08/28/19 11:15
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/27/19 14:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1277316-1					
Acenaphthene	ND		ug/kg	130	17.
Benzidine	ND		ug/kg	540	180
1,2,4-Trichlorobenzene	ND		ug/kg	160	18.
Hexachlorobenzene	ND		ug/kg	97	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	29.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	28.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Azobenzene	ND		ug/kg	160	16.
Fluoranthene	ND		ug/kg	97	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	190	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
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Method Blank Analysis
Batch Quality Control

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Analytical Date: 08/28/19 11:15
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/27/19 14:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1277316-1					
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	97	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	97	27.
Benzo(k)fluoranthene	ND		ug/kg	97	26.
Chrysene	ND		ug/kg	97	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	97	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	97	20.
Dibenzo(a,h)anthracene	ND		ug/kg	97	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	97	16.
Biphenyl	ND		ug/kg	370	38.
Aniline	ND		ug/kg	190	77.
4-Chloroaniline	ND		ug/kg	160	30.
1-Methylnaphthalene	ND		ug/kg	160	19.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	190	20.
n-Nitrosodimethylamine	ND		ug/kg	320	31.
2,4,6-Trichlorophenol	ND		ug/kg	97	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
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Method Blank Analysis
Batch Quality Control

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Analytical Date: 08/28/19 11:15
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 08/27/19 14:54

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1277316-1					
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	25.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Benzoic Acid	ND		ug/kg	520	160
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.
Pyridine	ND		ug/kg	180	62.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	107		25-120
Phenol-d6	111		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	82		30-120
2,4,6-Tribromophenol	102		10-136
4-Terphenyl-d14	87		18-120

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/04/19 17:39
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 09/03/19 06:13

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1279463-1					
Acenaphthene	ND		ug/kg	130	17.
Benzidine	ND		ug/kg	540	180
1,2,4-Trichlorobenzene	ND		ug/kg	160	19.
Hexachlorobenzene	ND		ug/kg	99	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	30.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	29.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Azobenzene	ND		ug/kg	160	16.
Fluoranthene	ND		ug/kg	99	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/04/19 17:39
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 09/03/19 06:13

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1279463-1					
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.
Biphenyl	ND		ug/kg	380	38.
Aniline	ND		ug/kg	200	78.
4-Chloroaniline	ND		ug/kg	160	30.
1-Methylnaphthalene	ND		ug/kg	160	19.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
n-Nitrosodimethylamine	ND		ug/kg	330	32.
2,4,6-Trichlorophenol	ND		ug/kg	99	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/04/19 17:39
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 09/03/19 06:13

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1279463-1					
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	32.
Benzoic Acid	ND		ug/kg	530	170
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.
Pyridine	ND		ug/kg	180	63.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		25-120
Phenol-d6	52		10-120
Nitrobenzene-d5	41		23-120
2-Fluorobiphenyl	43		30-120
2,4,6-Tribromophenol	63		10-136
4-Terphenyl-d14	53		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04-05 Batch: WG1276700-2 WG1276700-3								
Perfluorobutanoic Acid (PFBA)	94		95		67-148	1		30
Perfluoropentanoic Acid (PFPeA)	97		100		63-161	3		30
Perfluorobutanesulfonic Acid (PFBS)	113		114		65-157	1		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	112		110		37-219	2		30
Perfluorohexanoic Acid (PFHxA)	94		98		69-168	4		30
Perfluoropentanesulfonic Acid (PFPeS)	89		99		52-156	11		30
Perfluoroheptanoic Acid (PFHpA)	97		97		58-159	0		30
Perfluorohexanesulfonic Acid (PFHxS)	97		107		69-177	10		30
Perfluorooctanoic Acid (PFOA)	99		97		63-159	2		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	121		109		49-187	10		30
Perfluoroheptanesulfonic Acid (PFHpS)	95		95		61-179	0		30
Perfluorononanoic Acid (PFNA)	92		97		68-171	5		30
Perfluorooctanesulfonic Acid (PFOS)	105		101		52-151	4		30
Perfluorodecanoic Acid (PFDA)	96		98		63-171	2		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	76		81		56-173	6		30
Perfluorononanesulfonic Acid (PFNS)	96		108		48-150	12		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	94		98		60-166	4		30
Perfluoroundecanoic Acid (PFUnA)	93		89		60-153	4		30
Perfluorodecanesulfonic Acid (PFDS)	104		99		38-156	5		30
Perfluorooctanesulfonamide (FOSA)	97		94		46-170	3		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	83		80		45-170	4		30
Perfluorododecanoic Acid (PFDoA)	97		99		67-153	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 04-05 Batch: WG1276700-2 WG1276700-3								
Perfluorotridecanoic Acid (PFTrDA)	91		89		48-158	2		30
Perfluorotetradecanoic Acid (PFTA)	101		100		59-182	1		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	106		100		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	113		105		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96		90		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	53		52		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	97		89		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	98		90		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	106		83		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96		95		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	51		46		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101		96		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		86		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		85		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	57		51		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	75		68		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	85		84		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	38		33		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	70		71		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	76		69		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	77		64		33-143

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 Batch: WG1276798-2 WG1276798-3								
Perfluorobutanoic Acid (PFBA)	100		97		71-135	3		30
Perfluoropentanoic Acid (PFPeA)	94		89		69-132	5		30
Perfluorobutanesulfonic Acid (PFBS)	88		85		72-128	3		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	96		99		62-145	3		30
Perfluorohexanoic Acid (PFHxA)	101		95		70-132	6		30
Perfluoropentanesulfonic Acid (PFPeS)	101		95		73-123	6		30
Perfluoroheptanoic Acid (PFHpA)	98		96		71-131	2		30
Perfluorohexanesulfonic Acid (PFHxS)	112		101		67-130	10		30
Perfluorooctanoic Acid (PFOA)	102		94		69-133	8		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	97		99		64-140	2		30
Perfluoroheptanesulfonic Acid (PFHpS)	97		86		70-132	12		30
Perfluorononanoic Acid (PFNA)	96		93		72-129	3		30
Perfluorooctanesulfonic Acid (PFOS)	104		96		68-136	8		30
Perfluorodecanoic Acid (PFDA)	100		96		69-133	4		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	97		84		65-137	14		30
Perfluorononanesulfonic Acid (PFNS)	98		90		69-125	9		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	95		98		63-144	3		30
Perfluoroundecanoic Acid (PFUnA)	99		94		64-136	5		30
Perfluorodecanesulfonic Acid (PFDS)	100		97		59-134	3		30
Perfluorooctanesulfonamide (FOSA)	106		80		67-137	28		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	98		98		61-139	0		30
Perfluorododecanoic Acid (PFDoA)	108		101		69-135	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 Batch: WG1276798-2 WG1276798-3								
Perfluorotridecanoic Acid (PFTrDA)	96		92		66-139	4		30
Perfluorotetradecanoic Acid (PFTA)	102		102		69-133	0		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	74		74		60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	80		81		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		72		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**40**	Q	**34**	Q	56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	73		72		61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	74		71		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	82		74		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	78		76		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	36		35		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84		82		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	96		81		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78		78		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	46		41		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	67		65		45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	73		75		64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	5		6		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	59		57		42-136
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	65		67		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	63		60		26-160

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1277316-2 WG1277316-3								
Acenaphthene	82		73		31-137	12		50
Benzidine	41		36		10-66	13		50
1,2,4-Trichlorobenzene	80		71		38-107	12		50
Hexachlorobenzene	83		72		40-140	14		50
Bis(2-chloroethyl)ether	84		73		40-140	14		50
2-Chloronaphthalene	83		73		40-140	13		50
1,2-Dichlorobenzene	80		71		40-140	12		50
1,3-Dichlorobenzene	76		69		40-140	10		50
1,4-Dichlorobenzene	79		70		28-104	12		50
3,3'-Dichlorobenzidine	68		59		40-140	14		50
2,4-Dinitrotoluene	83		74		40-132	11		50
2,6-Dinitrotoluene	85		74		40-140	14		50
Azobenzene	90		78		40-140	14		50
Fluoranthene	83		73		40-140	13		50
4-Chlorophenyl phenyl ether	80		70		40-140	13		50
4-Bromophenyl phenyl ether	79		69		40-140	14		50
Bis(2-chloroisopropyl)ether	97		84		40-140	14		50
Bis(2-chloroethoxy)methane	86		75		40-117	14		50
Hexachlorobutadiene	77		68		40-140	12		50
Hexachlorocyclopentadiene	57		47		40-140	19		50
Hexachloroethane	82		72		40-140	13		50
Isophorone	87		77		40-140	12		50
Naphthalene	81		71		40-140	13		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1277316-2 WG1277316-3								
Nitrobenzene	85		75		40-140	13		50
NDPA/DPA	81		72		36-157	12		50
n-Nitrosodi-n-propylamine	88		76		32-121	15		50
Bis(2-ethylhexyl)phthalate	77		64		40-140	18		50
Butyl benzyl phthalate	83		72		40-140	14		50
Di-n-butylphthalate	81		69		40-140	16		50
Di-n-octylphthalate	77		64		40-140	18		50
Diethyl phthalate	83		73		40-140	13		50
Dimethyl phthalate	84		73		40-140	14		50
Benzo(a)anthracene	78		67		40-140	15		50
Benzo(a)pyrene	80		70		40-140	13		50
Benzo(b)fluoranthene	80		70		40-140	13		50
Benzo(k)fluoranthene	83		74		40-140	11		50
Chrysene	80		71		40-140	12		50
Acenaphthylene	83		74		40-140	11		50
Anthracene	82		73		40-140	12		50
Benzo(ghi)perylene	82		70		40-140	16		50
Fluorene	81		72		40-140	12		50
Phenanthrene	81		71		40-140	13		50
Dibenzo(a,h)anthracene	80		69		40-140	15		50
Indeno(1,2,3-cd)pyrene	78		68		40-140	14		50
Pyrene	83		74		35-142	11		50
Biphenyl	85		75		37-127	13		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1277316-2 WG1277316-3								
Aniline	71		63		40-140	12		50
4-Chloroaniline	78		71		40-140	9		50
1-Methylnaphthalene	89		78		26-130	13		50
2-Nitroaniline	83		74		47-134	11		50
3-Nitroaniline	66		62		26-129	6		50
4-Nitroaniline	76		69		41-125	10		50
Dibenzofuran	80		72		40-140	11		50
2-Methylnaphthalene	81		71		40-140	13		50
n-Nitrosodimethylamine	86		75		22-100	14		50
2,4,6-Trichlorophenol	84		72		30-130	15		50
p-Chloro-m-cresol	90		80		26-103	12		50
2-Chlorophenol	85		76		25-102	11		50
2,4-Dichlorophenol	86		77		30-130	11		50
2,4-Dimethylphenol	93		83		30-130	11		50
2-Nitrophenol	81		73		30-130	10		50
4-Nitrophenol	97		86		11-114	12		50
2,4-Dinitrophenol	66		53		4-130	22		50
4,6-Dinitro-o-cresol	78		65		10-130	18		50
Pentachlorophenol	72		64		17-109	12		50
Phenol	83		73		26-90	13		50
2-Methylphenol	90		79		30-130.	13		50
3-Methylphenol/4-Methylphenol	97		75		30-130	26		50
2,4,5-Trichlorophenol	86		74		30-130	15		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1277316-2 WG1277316-3								
Benzoic Acid	64		58		10-110	10		50
Benzyl Alcohol	91		80		40-140	13		50
Carbazole	82		73		54-128	12		50
Pyridine	74		68		10-93	8		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	87		76		25-120
Phenol-d6	92		82		10-120
Nitrobenzene-d5	72		63		23-120
2-Fluorobiphenyl	67		58		30-120
2,4,6-Tribromophenol	88		76		10-136
4-Terphenyl-d14	65		56		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1279463-2 WG1279463-3								
Acenaphthene	61		58		31-137	5		50
Benzidine	36		34		10-66	6		50
1,2,4-Trichlorobenzene	63		61		38-107	3		50
Hexachlorobenzene	66		64		40-140	3		50
Bis(2-chloroethyl)ether	59		57		40-140	3		50
2-Chloronaphthalene	66		63		40-140	5		50
1,2-Dichlorobenzene	61		59		40-140	3		50
1,3-Dichlorobenzene	58		58		40-140	0		50
1,4-Dichlorobenzene	59		56		28-104	5		50
3,3'-Dichlorobenzidine	44		42		40-140	5		50
2,4-Dinitrotoluene	76		69		40-132	10		50
2,6-Dinitrotoluene	79		73		40-140	8		50
Azobenzene	65		61		40-140	6		50
Fluoranthene	68		63		40-140	8		50
4-Chlorophenyl phenyl ether	63		60		40-140	5		50
4-Bromophenyl phenyl ether	66		62		40-140	6		50
Bis(2-chloroisopropyl)ether	61		59		40-140	3		50
Bis(2-chloroethoxy)methane	64		63		40-117	2		50
Hexachlorobutadiene	60		58		40-140	3		50
Hexachlorocyclopentadiene	50		50		40-140	0		50
Hexachloroethane	59		58		40-140	2		50
Isophorone	69		67		40-140	3		50
Naphthalene	60		58		40-140	3		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1279463-2 WG1279463-3								
Nitrobenzene	66		64		40-140	3		50
NDPA/DPA	65		63		36-157	3		50
n-Nitrosodi-n-propylamine	68		66		32-121	3		50
Bis(2-ethylhexyl)phthalate	71		67		40-140	6		50
Butyl benzyl phthalate	78		72		40-140	8		50
Di-n-butylphthalate	72		67		40-140	7		50
Di-n-octylphthalate	73		67		40-140	9		50
Diethyl phthalate	68		64		40-140	6		50
Dimethyl phthalate	73		68		40-140	7		50
Benzo(a)anthracene	64		60		40-140	6		50
Benzo(a)pyrene	65		60		40-140	8		50
Benzo(b)fluoranthene	67		63		40-140	6		50
Benzo(k)fluoranthene	68		65		40-140	5		50
Chrysene	64		60		40-140	6		50
Acenaphthylene	67		64		40-140	5		50
Anthracene	66		60		40-140	10		50
Benzo(ghi)perylene	65		59		40-140	10		50
Fluorene	65		61		40-140	6		50
Phenanthrene	62		58		40-140	7		50
Dibenzo(a,h)anthracene	66		61		40-140	8		50
Indeno(1,2,3-cd)pyrene	66		61		40-140	8		50
Pyrene	66		62		35-142	6		50
Biphenyl	66		62		37-127	6		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1279463-2 WG1279463-3								
Aniline	44		45		40-140	2		50
4-Chloroaniline	57		58		40-140	2		50
1-Methylnaphthalene	66		62		26-130	6		50
2-Nitroaniline	75		72		47-134	4		50
3-Nitroaniline	55		53		26-129	4		50
4-Nitroaniline	63		59		41-125	7		50
Dibenzofuran	62		59		40-140	5		50
2-Methylnaphthalene	64		61		40-140	5		50
n-Nitrosodimethylamine	47		48		22-100	2		50
2,4,6-Trichlorophenol	70		66		30-130	6		50
p-Chloro-m-cresol	71		68		26-103	4		50
2-Chlorophenol	65		64		25-102	2		50
2,4-Dichlorophenol	72		69		30-130	4		50
2,4-Dimethylphenol	76		72		30-130	5		50
2-Nitrophenol	71		69		30-130	3		50
4-Nitrophenol	70		63		11-114	11		50
2,4-Dinitrophenol	52		49		4-130	6		50
4,6-Dinitro-o-cresol	68		64		10-130	6		50
Pentachlorophenol	52		49		17-109	6		50
Phenol	66		64		26-90	3		50
2-Methylphenol	69		66		30-130.	4		50
3-Methylphenol/4-Methylphenol	68		65		30-130	5		50
2,4,5-Trichlorophenol	72		68		30-130	6		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1279463-2 WG1279463-3								
Benzoic Acid	26		32		10-110	21		50
Benzyl Alcohol	65		64		40-140	2		50
Carbazole	66		61		54-128	8		50
Pyridine	42		43		10-93	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	58		58		25-120
Phenol-d6	64		62		10-120
Nitrobenzene-d5	50		50		23-120
2-Fluorobiphenyl	50		49		30-120
2,4,6-Tribromophenol	64		63		10-136
4-Terphenyl-d14	53		48		18-120

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1276798-4 QC Sample: L1936852-01 Client ID: IP-05-11.0												
Perfluorobutanoic Acid (PFBA)	ND	5.04	5.33	106		-	-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	ND	5.04	5.02	100		-	-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	ND	4.47	4.22	94		-	-		72-128	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	4.72	4.71	100		-	-		62-145	-		30
Perfluorohexanoic Acid (PFHxA)	ND	5.04	5.27	104		-	-		70-132	-		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	4.54	4.57	101		-	-		73-123	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	5.04	5.35	106		-	-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	4.6	5.13	112		-	-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	0.130J	5.04	5.39	107		-	-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	4.79	4.61	96		-	-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	4.79	4.62	96		-	-		70-132	-		30
Perfluorononanoic Acid (PFNA)	ND	5.04	5.31	105		-	-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	0.148J	4.67	5.04	108		-	-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	ND	5.04	5.43	108		-	-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	4.84	5.37	111		-	-		65-137	-		30
Perfluorononanesulfonic Acid (PFNS)	ND	4.84	4.90	101		-	-		69-125	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	5.04	5.47	108		-	-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	5.04	5.02	100		-	-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	ND	4.87	5.32	109		-	-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	ND	5.04	4.92	98		-	-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	5.04	5.28	105		-	-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	ND	5.04	5.60	111		-	-		69-135	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: LONG FALLS

Project Number: 19-015

Lab Number: L1936852

Report Date: 09/27/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1276798-4 QC Sample: L1936852-01 Client ID: IP-05-11.0												
Perfluorotridecanoic Acid (PFTrDA)	ND	5.04	5.16	102		-	-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	5.04	5.53	110		-	-		69-133	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	37				25-186
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**32**	Q			56-138
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	34				32-182
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	47				42-136
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	47				45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	77				64-158
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	76				65-150
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	71				61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	70				62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	74				63-166
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	66				56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	62				26-160
Perfluoro[13C4]Butanoic Acid (MPFBA)	74				60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	81				65-182
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	11				1-125
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	80				65-151
Perfluoro[13C8]Octanoic Acid (M8PFOA)	73				62-152
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	78				61-154
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	71				70-151

Lab Duplicate Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1276798-5 QC Sample: L1936852-02 Client ID: IP-06-0.5						
Perfluorobutanoic Acid (PFBA)	0.684J	0.628J	ng/g	NC		30
Perfluoropentanoic Acid (PFPeA)	1.72	1.49	ng/g	14		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/g	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/g	NC		30
Perfluorohexanoic Acid (PFHxA)	3.43	2.87	ng/g	18		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/g	NC		30
Perfluoroheptanoic Acid (PFHpA)	7.68	6.66	ng/g	14		30
Perfluorohexanesulfonic Acid (PFHxS)	0.277J	0.319J	ng/g	NC		30
Perfluorooctanoic Acid (PFOA)	80.7	74.9	ng/g	7		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/g	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	0.380J	0.376J	ng/g	NC		30
Perfluorononanoic Acid (PFNA)	28.2	26.2	ng/g	7		30
Perfluorooctanesulfonic Acid (PFOS)	48.0	50.1	ng/g	4		30
Perfluorodecanoic Acid (PFDA)	92.3	86.3	ng/g	7		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.728J	0.811J	ng/g	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/g	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	6.56	8.16	ng/g	22		30
Perfluoroundecanoic Acid (PFUnA)	12.3	12.6	ng/g	2		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/g	NC		30
Perfluorooctanesulfonamide (FOSA)	13.8	14.0	ng/g	1		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1276798-5 QC Sample: L1936852-02 Client ID: IP-06-0.5						
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	132	154	ng/g	15		30
Perfluorododecanoic Acid (PFDoA)	30.1	31.5	ng/g	5		30
Perfluorotridecanoic Acid (PFTrDA)	2.24	2.84	ng/g	24		30
Perfluorotetradecanoic Acid (PFTA)	9.15	9.85	ng/g	7		30
PFOA/PFOS, Total	129	125	ng/g	0		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	**55**	Q	**59**	Q	60-153
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	69		72		65-182
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	77		78		70-151
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	70		65		56-138
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	**59**	Q	**58**	Q	61-147
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	65		64		62-149
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	81		78		63-166
Perfluoro[13C8]Octanoic Acid (M8PFOA)	69		66		62-152
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	96		98		32-182
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81		77		61-154
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	73		71		65-151
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	69		65		65-150
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	127		122		25-186
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**40**	Q	**36**	Q	45-137
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	**33**	Q	**28**	Q	64-158
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	32		30		1-125
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	54		47		42-136

Lab Duplicate Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1276798-5 QC Sample: L1936852-02 Client ID: IP-06-0.5

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	60		56		56-148
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	42		42		26-160

SEMIVOLATILES

High Resolution Mass Spectrometry

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01
Client ID: IP-05-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 08/14/19 10:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8290A
Analytical Date: 09/19/19 23:18
Analyst: PB
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 09/17/19 12:30
Cleanup Method: EPA 8290A
Cleanup Date: 09/19/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
2,3,7,8-TCDD	ND			pg/g	0.532	0.164	1
1,2,3,7,8-PeCDD	ND			pg/g	2.66	0.390	1
1,2,3,4,7,8-HxCDD	ND			pg/g	2.66	0.587	1
1,2,3,6,7,8-HxCDD	ND			pg/g	2.66	0.456	1
1,2,3,7,8,9-HxCDD	ND			pg/g	2.66	0.407	1
1,2,3,4,6,7,8-HpCDD	ND			pg/g	2.66	0.288	1
OCDD	7.03			pg/g	5.32	0.564	1
2,3,7,8-TCDF	ND			pg/g	0.532	0.147	1
1,2,3,7,8-PeCDF	ND			pg/g	2.66	0.319	1
2,3,4,7,8-PeCDF	ND			pg/g	2.66	0.267	1
1,2,3,4,7,8-HxCDF	ND			pg/g	2.66	0.340	1
1,2,3,6,7,8-HxCDF	ND			pg/g	2.66	0.372	1
1,2,3,7,8,9-HxCDF	ND			pg/g	2.66	0.302	1
2,3,4,6,7,8-HxCDF	ND			pg/g	2.66	0.323	1
1,2,3,4,6,7,8-HpCDF	ND			pg/g	2.66	0.421	1
1,2,3,4,7,8,9-HpCDF	ND			pg/g	2.66	0.291	1
OCDF	ND			pg/g	5.32	0.899	1
Total TCDD	ND			pg/g	0.532	0.164	1
Total PeCDD	ND			pg/g	2.66	0.390	1
Total HxCDD	ND			pg/g	2.66	0.587	1
Total HpCDD	ND			pg/g	2.66	0.288	1
Total TCDF	ND			pg/g	0.532	0.147	1
Total PeCDF	ND			pg/g	2.66	0.319	1
Total HxCDF	ND			pg/g	2.66	0.340	1
Total HpCDF	ND			pg/g	2.66	0.421	1
Total PCDD	7.03			pg/g	0.532	0.164	1
Total PCDF	ND			pg/g	0.532	0.147	1
Toxic Equivalency (TEQ)	0.002			pg/g	0.002	0.002	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID:	L1936852-01	Date Collected:	08/14/19 10:40
Client ID:	IP-05-11.0	Date Received:	08/15/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	78		40-135
13C12-2,3,7,8-TCDD	76		40-135
13C12-1,2,3,7,8-PeCDF	72		40-135
13C12-2,3,4,7,8-PeCDF	70		40-135
13C12-1,2,3,7,8-PeCDD	66		40-135
13C12-1,2,3,4,7,8-HxCDF	85		40-135
13C12-1,2,3,6,7,8-HxCDF	85		40-135
13C12-2,3,4,6,7,8-HxCDF	81		40-135
13C12-1,2,3,7,8,9-HxCDF	85		40-135
13C12-1,2,3,4,7,8-HxCDD	81		40-135
13C12-1,2,3,6,7,8-HxCDD	85		40-135
13C12-1,2,3,4,6,7,8-HpCDF	85		40-135
13C12-1,2,3,4,7,8,9-HpCDF	82		40-135
13C12-1,2,3,4,6,7,8-HpCDD	82		40-135
13C12-OCDD	79		40-135
37CL4-2,3,7,8-TCDD	98		40-135

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02
Client ID: IP-06-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8290A
Analytical Date: 09/24/19 06:08
Analyst: PB
Percent Solids: 58%

Extraction Method: EPA 3546
Extraction Date: 09/17/19 12:30
Cleanup Method: EPA 8290A
Cleanup Date: 09/19/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
2,3,7,8-TCDD	3.10			pg/g	0.816	0.251	1
1,2,3,7,8-PeCDD	ND			pg/g	4.08	0.599	1
1,2,3,4,7,8-HxCDD	2.25	J		pg/g	4.08	0.901	1
1,2,3,6,7,8-HxCDD	8.13			pg/g	4.08	0.700	1
1,2,3,7,8,9-HxCDD	4.49			pg/g	4.08	0.625	1
1,2,3,4,6,7,8-HpCDD	148			pg/g	4.08	0.442	1
OCDD	3670	E		pg/g	8.16	0.865	1
2,3,7,8-TCDF	42.2			pg/g	0.816	0.225	1
1,2,3,7,8-PeCDF	8.06			pg/g	4.08	0.490	1
2,3,4,7,8-PeCDF	9.54			pg/g	4.08	0.410	1
1,2,3,4,7,8-HxCDF	15.5			pg/g	4.08	0.522	1
1,2,3,6,7,8-HxCDF	7.40			pg/g	4.08	0.571	1
1,2,3,7,8,9-HxCDF	3.97	J		pg/g	4.08	0.464	1
2,3,4,6,7,8-HxCDF	6.14			pg/g	4.08	0.496	1
1,2,3,4,6,7,8-HpCDF	46.0			pg/g	4.08	0.646	1
1,2,3,4,7,8,9-HpCDF	12.0			pg/g	4.08	0.447	1
OCDF	138			pg/g	8.16	1.38	1
Total TCDD	14.7			pg/g	0.816	0.251	1
Total PeCDD	ND			pg/g	4.08	0.599	1
Total HxCDD	70.9			pg/g	4.08	0.901	1
Total HpCDD	348			pg/g	4.08	0.442	1
Total TCDF	193			pg/g	0.816	0.225	1
Total PeCDF	69.0			pg/g	4.08	0.490	1
Total HxCDF	68.2			pg/g	4.08	0.522	1
Total HpCDF	105			pg/g	4.08	0.646	1
Total PCDD	4100			pg/g	0.816	0.251	1
Total PCDF	573			pg/g	0.816	0.225	1
Toxic Equivalency (TEQ)	18.4			pg/g	0.002	0.002	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID:	L1936852-02	Date Collected:	08/15/19 12:35
Client ID:	IP-06-0.5	Date Received:	08/15/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	45		40-135
13C12-2,3,7,8-TCDD	51		40-135
13C12-1,2,3,7,8-PeCDF	47		40-135
13C12-2,3,4,7,8-PeCDF	48		40-135
13C12-1,2,3,7,8-PeCDD	50		40-135
13C12-1,2,3,4,7,8-HxCDF	44		40-135
13C12-1,2,3,6,7,8-HxCDF	47		40-135
13C12-2,3,4,6,7,8-HxCDF	45		40-135
13C12-1,2,3,7,8,9-HxCDF	49		40-135
13C12-1,2,3,4,7,8-HxCDD	47		40-135
13C12-1,2,3,6,7,8-HxCDD	52		40-135
13C12-1,2,3,4,6,7,8-HpCDF	47		40-135
13C12-1,2,3,4,7,8,9-HpCDF	47		40-135
13C12-1,2,3,4,6,7,8-HpCDD	50		40-135
13C12-OCDD	54		40-135
37CL4-2,3,7,8-TCDD	**1870**	Q	40-135

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 RE
Client ID: IP-06-0.5
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Soil
Analytical Method: 1,8290A
Analytical Date: 09/25/19 22:02
Analyst: PB
Percent Solids: 58%

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 09/23/19 17:30
Cleanup Method: EPA 8290A
Cleanup Date: 09/25/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
OCDD	1800			pg/g	38.8	4.12	1

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-OCDD	57		40-135
37CL4-2,3,7,8-TCDD	**144**	Q	40-135

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03
Client ID: IP-06-0.5-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8290A
Analytical Date: 09/24/19 07:47
Analyst: PB
Percent Solids: 62%

Extraction Method: EPA 3546
Extraction Date: 09/17/19 12:30
Cleanup Method: EPA 8290A
Cleanup Date: 09/19/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
2,3,7,8-TCDD	3.03			pg/g	0.766	0.236	1
1,2,3,7,8-PeCDD	ND			pg/g	3.83	0.562	1
1,2,3,4,7,8-HxCDD	ND			pg/g	3.83	0.846	1
1,2,3,6,7,8-HxCDD	9.53			pg/g	3.83	0.657	1
1,2,3,7,8,9-HxCDD	4.92			pg/g	3.83	0.587	1
1,2,3,4,6,7,8-HpCDD	173			pg/g	3.83	0.415	1
OCDD	2460			pg/g	7.66	0.812	1
2,3,7,8-TCDF	36.8			pg/g	0.766	0.211	1
1,2,3,7,8-PeCDF	3.72	J		pg/g	3.83	0.460	1
2,3,4,7,8-PeCDF	4.04			pg/g	3.83	0.384	1
1,2,3,4,7,8-HxCDF	9.51			pg/g	3.83	0.490	1
1,2,3,6,7,8-HxCDF	4.23			pg/g	3.83	0.536	1
1,2,3,7,8,9-HxCDF	1.85	J		pg/g	3.83	0.435	1
2,3,4,6,7,8-HxCDF	3.62	J		pg/g	3.83	0.466	1
1,2,3,4,6,7,8-HpCDF	36.2			pg/g	3.83	0.607	1
1,2,3,4,7,8,9-HpCDF	8.30			pg/g	3.83	0.420	1
OCDF	139			pg/g	7.66	1.29	1
Total TCDD	13.7			pg/g	0.766	0.236	1
Total PeCDD	ND			pg/g	3.83	0.562	1
Total HxCDD	83.8			pg/g	3.83	0.846	1
Total HpCDD	348			pg/g	3.83	0.415	1
Total TCDF	125			pg/g	0.766	0.211	1
Total PeCDF	32.4			pg/g	3.83	0.460	1
Total HxCDF	36.2			pg/g	3.83	0.490	1
Total HpCDF	87.6			pg/g	3.83	0.607	1
Total PCDD	2910			pg/g	0.766	0.236	1
Total PCDF	420			pg/g	0.766	0.211	1
Toxic Equivalency (TEQ)	13.7			pg/g	0.002	0.002	1

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID:	L1936852-03	Date Collected:	08/15/19 12:35
Client ID:	IP-06-0.5-FD	Date Received:	08/15/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	47		40-135
13C12-2,3,7,8-TCDD	54		40-135
13C12-1,2,3,7,8-PeCDF	51		40-135
13C12-2,3,4,7,8-PeCDF	47		40-135
13C12-1,2,3,7,8-PeCDD	50		40-135
13C12-1,2,3,4,7,8-HxCDF	51		40-135
13C12-1,2,3,6,7,8-HxCDF	51		40-135
13C12-2,3,4,6,7,8-HxCDF	49		40-135
13C12-1,2,3,7,8,9-HxCDF	51		40-135
13C12-1,2,3,4,7,8-HxCDD	49		40-135
13C12-1,2,3,6,7,8-HxCDD	52		40-135
13C12-1,2,3,4,6,7,8-HpCDF	51		40-135
13C12-1,2,3,4,7,8,9-HpCDF	51		40-135
13C12-1,2,3,4,6,7,8-HpCDD	55		40-135
13C12-OCDD	54		40-135
37CL4-2,3,7,8-TCDD	**740**	Q	40-135

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8290A
Analytical Date: 09/20/19 00:19
Analyst: PB

Extraction Method: EPA 3546
Extraction Date: 09/17/19 12:30
Cleanup Method: EPA 8290A
Cleanup Date: 09/19/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab for sample(s): 01-03 Batch: WG1284618-1						
2,3,7,8-TCDD	ND			pg/g	0.500	0.154
1,2,3,7,8-PeCDD	ND			pg/g	2.50	0.367
1,2,3,4,7,8-HxCDD	ND			pg/g	2.50	0.552
1,2,3,6,7,8-HxCDD	ND			pg/g	2.50	0.429
1,2,3,7,8,9-HxCDD	ND			pg/g	2.50	0.383
1,2,3,4,6,7,8-HpCDD	ND			pg/g	2.50	0.271
OCDD	ND			pg/g	5.00	0.530
2,3,7,8-TCDF	ND			pg/g	0.500	0.138
1,2,3,7,8-PeCDF	ND			pg/g	2.50	0.300
2,3,4,7,8-PeCDF	ND			pg/g	2.50	0.251
1,2,3,4,7,8-HxCDF	ND			pg/g	2.50	0.320
1,2,3,6,7,8-HxCDF	ND			pg/g	2.50	0.350
1,2,3,7,8,9-HxCDF	ND			pg/g	2.50	0.284
2,3,4,6,7,8-HxCDF	ND			pg/g	2.50	0.304
1,2,3,4,6,7,8-HpCDF	ND			pg/g	2.50	0.396
1,2,3,4,7,8,9-HpCDF	ND			pg/g	2.50	0.274
OCDF	ND			pg/g	5.00	0.845
Total TCDD	ND			pg/g	0.500	0.154
Total PeCDD	ND			pg/g	2.50	0.367
Total HxCDD	ND			pg/g	2.50	0.552
Total HpCDD	ND			pg/g	2.50	0.271
Total TCDF	ND			pg/g	0.500	0.138
Total PeCDF	ND			pg/g	2.50	0.300
Total HxCDF	ND			pg/g	2.50	0.320
Total HpCDF	ND			pg/g	2.50	0.396
Total PCDD	ND			pg/g	0.500	0.154
Total PCDF	ND			pg/g	0.500	0.138
Toxic Equivalency (TEQ)	ND			pg/g	0.002	0.002

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8290A
Analytical Date: 09/20/19 00:19
Analyst: PB

Extraction Method: EPA 3546
Extraction Date: 09/17/19 12:30
Cleanup Method: EPA 8290A
Cleanup Date: 09/19/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab for sample(s): 01-03 Batch: WG1284618-1						

Surrogate/Cleanup Standard	%Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	76		40-135
13C12-2,3,7,8-TCDD	69		40-135
13C12-1,2,3,7,8-PeCDF	63		40-135
13C12-2,3,4,7,8-PeCDF	66		40-135
13C12-1,2,3,7,8-PeCDD	66		40-135
13C12-1,2,3,4,7,8-HxCDF	90		40-135
13C12-1,2,3,6,7,8-HxCDF	90		40-135
13C12-2,3,4,6,7,8-HxCDF	90		40-135
13C12-1,2,3,7,8,9-HxCDF	88		40-135
13C12-1,2,3,4,7,8-HxCDD	77		40-135
13C12-1,2,3,6,7,8-HxCDD	81		40-135
13C12-1,2,3,4,6,7,8-HpCDF	87		40-135
13C12-1,2,3,4,7,8,9-HpCDF	84		40-135
13C12-1,2,3,4,6,7,8-HpCDD	77		40-135
13C12-OCDD	67		40-135
37CL4-2,3,7,8-TCDD	94		40-135

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8290A
Analytical Date: 09/26/19 09:21
Analyst: PB

Extraction Method: EPA 3546
Extraction Date: 09/23/19 17:30
Cleanup Method: EPA 8290A
Cleanup Date: 09/25/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab for sample(s): 02 Batch: WG1287526-1						
2,3,7,8-TCDD	ND			pg/g	0.500	0.154
1,2,3,7,8-PeCDD	ND			pg/g	2.50	0.367
1,2,3,4,7,8-HxCDD	ND			pg/g	2.50	0.552
1,2,3,6,7,8-HxCDD	ND			pg/g	2.50	0.429
1,2,3,7,8,9-HxCDD	ND			pg/g	2.50	0.383
1,2,3,4,6,7,8-HpCDD	ND			pg/g	2.50	0.271
OCDD	ND			pg/g	5.00	0.530
2,3,7,8-TCDF	ND			pg/g	0.500	0.138
1,2,3,7,8-PeCDF	ND			pg/g	2.50	0.300
2,3,4,7,8-PeCDF	ND			pg/g	2.50	0.251
1,2,3,4,7,8-HxCDF	ND			pg/g	2.50	0.320
1,2,3,6,7,8-HxCDF	ND			pg/g	2.50	0.350
1,2,3,7,8,9-HxCDF	ND			pg/g	2.50	0.284
2,3,4,6,7,8-HxCDF	ND			pg/g	2.50	0.304
1,2,3,4,6,7,8-HpCDF	ND			pg/g	2.50	0.396
1,2,3,4,7,8,9-HpCDF	ND			pg/g	2.50	0.274
OCDF	ND			pg/g	5.00	0.845
Total TCDD	ND			pg/g	0.500	0.154
Total PeCDD	ND			pg/g	2.50	0.367
Total HxCDD	ND			pg/g	2.50	0.552
Total HpCDD	ND			pg/g	2.50	0.271
Total TCDF	ND			pg/g	0.500	0.138
Total PeCDF	ND			pg/g	2.50	0.300
Total HxCDF	ND			pg/g	2.50	0.320
Total HpCDF	ND			pg/g	2.50	0.396
Total PCDD	ND			pg/g	0.500	0.154
Total PCDF	ND			pg/g	0.500	0.138
Toxic Equivalency (TEQ)	ND			pg/g	0.002	0.002

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8290A
Analytical Date: 09/26/19 09:21
Analyst: PB

Extraction Method: EPA 3546
Extraction Date: 09/23/19 17:30
Cleanup Method: EPA 8290A
Cleanup Date: 09/25/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab for sample(s): 02 Batch: WG1287526-1						

Surrogate/Cleanup Standard	%Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	80		40-135
13C12-2,3,7,8-TCDD	86		40-135
13C12-1,2,3,7,8-PeCDF	80		40-135
13C12-2,3,4,7,8-PeCDF	82		40-135
13C12-1,2,3,7,8-PeCDD	87		40-135
13C12-1,2,3,4,7,8-HxCDF	94		40-135
13C12-1,2,3,6,7,8-HxCDF	93		40-135
13C12-2,3,4,6,7,8-HxCDF	92		40-135
13C12-1,2,3,7,8,9-HxCDF	96		40-135
13C12-1,2,3,4,7,8-HxCDD	88		40-135
13C12-1,2,3,6,7,8-HxCDD	90		40-135
13C12-1,2,3,4,6,7,8-HpCDF	87		40-135
13C12-1,2,3,4,7,8,9-HpCDF	92		40-135
13C12-1,2,3,4,6,7,8-HpCDD	88		40-135
13C12-OCDD	76		40-135
37CL4-2,3,7,8-TCDD	81		40-135

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 01-03 Batch: WG1284618-2								
2,3,7,8-TCDD	99		-		70-128	-		25
1,2,3,7,8-PeCDD	90		-		74-135	-		25
1,2,3,4,7,8-HxCDD	113		-		72-131	-		25
1,2,3,6,7,8-HxCDD	112		-		74-134	-		25
1,2,3,7,8,9-HxCDD	103		-		71-138	-		25
1,2,3,4,6,7,8-HpCDD	106		-		76-125	-		25
OCDD	105		-		73-135	-		25
2,3,7,8-TCDF	109		-		75-135	-		25
1,2,3,7,8-PeCDF	100		-		77-131	-		25
2,3,4,7,8-PeCDF	114		-		75-128	-		25
1,2,3,4,7,8-HxCDF	112		-		77-130	-		25
1,2,3,6,7,8-HxCDF	109		-		73-134	-		25
1,2,3,7,8,9-HxCDF	106		-		74-135	-		25
2,3,4,6,7,8-HxCDF	113		-		74-133	-		25
1,2,3,4,6,7,8-HpCDF	110		-		73-135	-		25
1,2,3,4,7,8,9-HpCDF	106		-		72-131	-		25
OCDF	113		-		66-144	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 01-03 Batch: WG1284618-2

Surrogate/Cleanup Standard	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
13C12-2,3,7,8-TCDF	78				40-135
13C12-2,3,7,8-TCDD	70				40-135
13C12-1,2,3,7,8-PeCDF	63				40-135
13C12-2,3,4,7,8-PeCDF	66				40-135
13C12-1,2,3,7,8-PeCDD	68				40-135
13C12-1,2,3,4,7,8-HxCDF	94				40-135
13C12-1,2,3,6,7,8-HxCDF	95				40-135
13C12-2,3,4,6,7,8-HxCDF	92				40-135
13C12-1,2,3,7,8,9-HxCDF	92				40-135
13C12-1,2,3,4,7,8-HxCDD	81				40-135
13C12-1,2,3,6,7,8-HxCDD	85				40-135
13C12-1,2,3,4,6,7,8-HpCDF	89				40-135
13C12-1,2,3,4,7,8,9-HpCDF	85				40-135
13C12-1,2,3,4,6,7,8-HpCDD	80				40-135
13C12-OCDD	69				40-135
37CL4-2,3,7,8-TCDD	99				40-135

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 02 Batch: WG1287526-2								
2,3,7,8-TCDD	98		-		70-128	-		25
1,2,3,7,8-PeCDD	93		-		74-135	-		25
1,2,3,4,7,8-HxCDD	110		-		72-131	-		25
1,2,3,6,7,8-HxCDD	110		-		74-134	-		25
1,2,3,7,8,9-HxCDD	99		-		71-138	-		25
1,2,3,4,6,7,8-HpCDD	108		-		76-125	-		25
OCDD	116		-		73-135	-		25
2,3,7,8-TCDF	118		-		75-135	-		25
1,2,3,7,8-PeCDF	96		-		77-131	-		25
2,3,4,7,8-PeCDF	114		-		75-128	-		25
1,2,3,4,7,8-HxCDF	111		-		77-130	-		25
1,2,3,6,7,8-HxCDF	112		-		73-134	-		25
1,2,3,7,8,9-HxCDF	105		-		74-135	-		25
2,3,4,6,7,8-HxCDF	113		-		74-133	-		25
1,2,3,4,6,7,8-HpCDF	107		-		73-135	-		25
1,2,3,4,7,8,9-HpCDF	104		-		72-131	-		25
OCDF	114		-		66-144	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 02 Batch: WG1287526-2

Surrogate/Cleanup Standard	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
13C12-2,3,7,8-TCDF	57				40-135
13C12-2,3,7,8-TCDD	61				40-135
13C12-1,2,3,7,8-PeCDF	61				40-135
13C12-2,3,4,7,8-PeCDF	64				40-135
13C12-1,2,3,7,8-PeCDD	68				40-135
13C12-1,2,3,4,7,8-HxCDF	70				40-135
13C12-1,2,3,6,7,8-HxCDF	67				40-135
13C12-2,3,4,6,7,8-HxCDF	66				40-135
13C12-1,2,3,7,8,9-HxCDF	68				40-135
13C12-1,2,3,4,7,8-HxCDD	66				40-135
13C12-1,2,3,6,7,8-HxCDD	68				40-135
13C12-1,2,3,4,6,7,8-HpCDF	62				40-135
13C12-1,2,3,4,7,8,9-HpCDF	71				40-135
13C12-1,2,3,4,6,7,8-HpCDD	66				40-135
13C12-OCDD	55				40-135
37CL4-2,3,7,8-TCDD	79				40-135

PCBS

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01
Client ID: IP-05-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 08/14/19 10:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 08/30/19 20:57
Analyst: WR
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 08/28/19 09:03
Cleanup Method: EPA 3665A
Cleanup Date: 08/28/19
Cleanup Method: EPA 3660B
Cleanup Date: 08/28/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.6	3.08	1	A
Aroclor 1221	ND		ug/kg	34.6	3.47	1	A
Aroclor 1232	ND		ug/kg	34.6	7.34	1	A
Aroclor 1242	ND		ug/kg	34.6	4.67	1	A
Aroclor 1248	ND		ug/kg	34.6	5.20	1	A
Aroclor 1254	ND		ug/kg	34.6	3.79	1	A
Aroclor 1260	ND		ug/kg	34.6	6.40	1	A
Aroclor 1262	ND		ug/kg	34.6	4.40	1	A
Aroclor 1268	ND		ug/kg	34.6	3.59	1	A
PCBs, Total	ND		ug/kg	34.6	3.08	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	67		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	55		30-150	A

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02
Client ID: IP-06-0.5
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 08/30/19 21:15
Analyst: WR
Percent Solids: 58%

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Extraction Method: EPA 3546
Extraction Date: 08/28/19 09:03
Cleanup Method: EPA 3665A
Cleanup Date: 08/28/19
Cleanup Method: EPA 3660B
Cleanup Date: 08/28/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	164	14.6	1	A
Aroclor 1221	ND		ug/kg	164	16.5	1	A
Aroclor 1232	ND		ug/kg	164	34.9	1	A
Aroclor 1242	ND		ug/kg	164	22.2	1	A
Aroclor 1248	ND		ug/kg	164	24.7	1	A
Aroclor 1254	2660		ug/kg	164	18.0	1	B
Aroclor 1260	865		ug/kg	164	30.4	1	B
Aroclor 1262	ND		ug/kg	164	20.9	1	A
Aroclor 1268	ND		ug/kg	164	17.0	1	A
PCBs, Total	3530		ug/kg	164	14.6	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	B
Decachlorobiphenyl	55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	50		30-150	A

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03
Client ID: IP-06-0.5-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 08/30/19 21:28
Analyst: WR
Percent Solids: 62%

Extraction Method: EPA 3546
Extraction Date: 08/28/19 09:03
Cleanup Method: EPA 3665A
Cleanup Date: 08/28/19
Cleanup Method: EPA 3660B
Cleanup Date: 08/28/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	153	13.6	1	A
Aroclor 1221	ND		ug/kg	153	15.3	1	A
Aroclor 1232	ND		ug/kg	153	32.5	1	A
Aroclor 1242	ND		ug/kg	153	20.6	1	A
Aroclor 1248	ND		ug/kg	153	23.0	1	A
Aroclor 1254	1680		ug/kg	153	16.8	1	B
Aroclor 1260	1040		ug/kg	153	28.3	1	B
Aroclor 1262	ND		ug/kg	153	19.4	1	A
Aroclor 1268	ND		ug/kg	153	15.9	1	A
PCBs, Total	2720		ug/kg	153	13.6	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	60		30-150	B
Decachlorobiphenyl	59		30-150	B
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	43		30-150	A

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 08/29/19 15:10
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 08/28/19 08:56
Cleanup Method: EPA 3665A
Cleanup Date: 08/28/19
Cleanup Method: EPA 3660B
Cleanup Date: 08/28/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-03 Batch: WG1277663-1						
Aroclor 1016	ND		ug/kg	31.9	2.84	A
Aroclor 1221	ND		ug/kg	31.9	3.20	A
Aroclor 1232	ND		ug/kg	31.9	6.77	A
Aroclor 1242	ND		ug/kg	31.9	4.31	A
Aroclor 1248	ND		ug/kg	31.9	4.79	A
Aroclor 1254	ND		ug/kg	31.9	3.50	A
Aroclor 1260	ND		ug/kg	31.9	5.90	A
Aroclor 1262	ND		ug/kg	31.9	4.06	A
Aroclor 1268	ND		ug/kg	31.9	3.31	A
PCBs, Total	ND		ug/kg	31.9	2.84	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	31		30-150	B
Decachlorobiphenyl	**24**	Q	30-150	B
2,4,5,6-Tetrachloro-m-xylene	34		30-150	A
Decachlorobiphenyl	31		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG1277663-2 WG1277663-3									
Aroclor 1016	81		73		40-140	10		50	A
Aroclor 1260	78		75		40-140	4		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		66		30-150	B
Decachlorobiphenyl	54		55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	79		75		30-150	A
Decachlorobiphenyl	70		70		30-150	A

METALS

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01
Client ID: IP-05-11.0
Sample Location: BRATTLEBORO, VT
Date Collected: 08/14/19 10:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5560		mg/kg	8.54	2.30	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Antimony, Total	ND		mg/kg	4.27	0.324	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Arsenic, Total	4.72		mg/kg	0.854	0.178	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Barium, Total	20.2		mg/kg	0.854	0.148	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Beryllium, Total	0.154	J	mg/kg	0.427	0.028	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Cadmium, Total	0.743	J	mg/kg	0.854	0.084	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Calcium, Total	1280		mg/kg	8.54	2.99	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Chromium, Total	12.0		mg/kg	0.854	0.082	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Cobalt, Total	5.66		mg/kg	1.71	0.142	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Copper, Total	9.35		mg/kg	0.854	0.220	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Iron, Total	11200		mg/kg	4.27	0.771	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Lead, Total	3.71	J	mg/kg	4.27	0.229	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Magnesium, Total	2550		mg/kg	8.54	1.31	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Manganese, Total	258		mg/kg	0.854	0.136	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.069	0.045	1	08/30/19 04:20	08/30/19 17:20	EPA 7471B	1,7471B	GD
Nickel, Total	12.3		mg/kg	2.13	0.207	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Potassium, Total	648		mg/kg	213	12.3	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Selenium, Total	ND		mg/kg	1.71	0.220	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Silver, Total	ND		mg/kg	0.854	0.242	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Sodium, Total	122	J	mg/kg	171	2.69	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Thallium, Total	ND		mg/kg	1.71	0.269	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Vanadium, Total	14.3		mg/kg	0.854	0.173	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB
Zinc, Total	25.4		mg/kg	4.27	0.250	2	08/29/19 22:15	09/03/19 16:35	EPA 3050B	1,6010D	AB

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02 Date Collected: 08/15/19 12:35

Client ID: IP-06-0.5 Date Received: 08/15/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 58%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	14200		mg/kg	13.5	3.65	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Antimony, Total	13.8		mg/kg	6.76	0.513	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Arsenic, Total	16.0		mg/kg	1.35	0.281	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Barium, Total	156		mg/kg	1.35	0.235	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Beryllium, Total	0.284	J	mg/kg	0.676	0.045	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Cadmium, Total	8.55		mg/kg	1.35	0.132	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Calcium, Total	1810		mg/kg	13.5	4.73	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Chromium, Total	311		mg/kg	1.35	0.130	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Cobalt, Total	5.76		mg/kg	2.70	0.224	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Copper, Total	413		mg/kg	1.35	0.349	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Iron, Total	122000		mg/kg	67.6	12.2	20	08/29/19 22:15	09/03/19 17:36	EPA 3050B	1,6010D	AB
Lead, Total	633		mg/kg	6.76	0.362	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Magnesium, Total	1620		mg/kg	13.5	2.08	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Manganese, Total	171		mg/kg	1.35	0.215	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Mercury, Total	3.45		mg/kg	0.108	0.071	1	08/30/19 04:20	08/30/19 17:23	EPA 7471B	1,7471B	GD
Nickel, Total	157		mg/kg	3.38	0.327	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Potassium, Total	336	J	mg/kg	338	19.4	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Selenium, Total	1.08	J	mg/kg	2.70	0.349	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Silver, Total	0.811	J	mg/kg	1.35	0.382	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Sodium, Total	35.6	J	mg/kg	270	4.26	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Thallium, Total	ND		mg/kg	2.70	0.426	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Vanadium, Total	246		mg/kg	1.35	0.274	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB
Zinc, Total	112		mg/kg	6.76	0.396	2	08/29/19 22:15	09/03/19 16:39	EPA 3050B	1,6010D	AB

Project Name: LONG FALLS
Project Number: 19-015
Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03
Client ID: IP-06-0.5-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 62%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	13200		mg/kg	12.7	3.42	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Antimony, Total	4.64	J	mg/kg	6.34	0.482	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Arsenic, Total	6.81		mg/kg	1.27	0.264	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Barium, Total	143		mg/kg	1.27	0.221	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Beryllium, Total	0.152	J	mg/kg	0.634	0.042	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Cadmium, Total	3.66		mg/kg	1.27	0.124	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Calcium, Total	675		mg/kg	12.7	4.44	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Chromium, Total	140		mg/kg	1.27	0.122	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Cobalt, Total	2.82		mg/kg	2.54	0.210	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Copper, Total	360		mg/kg	1.27	0.327	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Iron, Total	47100		mg/kg	6.34	1.14	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Lead, Total	555		mg/kg	6.34	0.340	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Magnesium, Total	1080		mg/kg	12.7	1.95	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Manganese, Total	70.2		mg/kg	1.27	0.202	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Mercury, Total	3.04		mg/kg	0.102	0.066	1	08/30/19 04:20	08/30/19 17:26	EPA 7471B	1,7471B	GD
Nickel, Total	83.5		mg/kg	3.17	0.307	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Potassium, Total	265	J	mg/kg	317	18.3	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Selenium, Total	0.621	J	mg/kg	2.54	0.327	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Silver, Total	0.710	J	mg/kg	1.27	0.359	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Sodium, Total	19.9	J	mg/kg	254	3.99	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Thallium, Total	ND		mg/kg	2.54	0.399	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Vanadium, Total	243		mg/kg	1.27	0.257	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB
Zinc, Total	50.7		mg/kg	6.34	0.372	2	08/29/19 22:15	09/03/19 16:43	EPA 3050B	1,6010D	AB

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1278448-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Antimony, Total	ND		mg/kg	2.00	0.152	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Arsenic, Total	0.084	J	mg/kg	0.400	0.083	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Barium, Total	ND		mg/kg	0.400	0.070	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Beryllium, Total	ND		mg/kg	0.200	0.013	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Cadmium, Total	ND		mg/kg	0.400	0.039	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Calcium, Total	ND		mg/kg	4.00	1.40	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Chromium, Total	0.064	J	mg/kg	0.400	0.038	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Cobalt, Total	ND		mg/kg	0.800	0.066	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Copper, Total	ND		mg/kg	0.400	0.103	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Iron, Total	ND		mg/kg	2.00	0.361	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Lead, Total	ND		mg/kg	2.00	0.107	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Magnesium, Total	ND		mg/kg	4.00	0.616	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Manganese, Total	ND		mg/kg	0.400	0.064	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Nickel, Total	ND		mg/kg	1.00	0.097	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Potassium, Total	ND		mg/kg	100	5.76	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Selenium, Total	ND		mg/kg	0.800	0.103	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Silver, Total	ND		mg/kg	0.400	0.113	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Sodium, Total	ND		mg/kg	80.0	1.26	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Thallium, Total	ND		mg/kg	0.800	0.126	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Vanadium, Total	ND		mg/kg	0.400	0.081	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB
Zinc, Total	ND		mg/kg	2.00	0.117	1	08/29/19 22:15	09/03/19 16:04	1,6010D	AB

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG1278564-1										
Mercury, Total	ND		mg/kg	0.083	0.054	1	08/30/19 04:20	08/30/19 10:59	1,7471B	GD

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1278448-2 SRM Lot Number: D105-540								
Aluminum, Total	63		-		51-149	-		
Antimony, Total	134		-		19-249	-		
Arsenic, Total	108		-		70-130	-		
Barium, Total	94		-		75-125	-		
Beryllium, Total	95		-		75-125	-		
Cadmium, Total	95		-		75-125	-		
Calcium, Total	88		-		73-127	-		
Chromium, Total	92		-		70-130	-		
Cobalt, Total	92		-		75-125	-		
Copper, Total	97		-		75-125	-		
Iron, Total	88		-		38-162	-		
Lead, Total	98		-		71-128	-		
Magnesium, Total	81		-		63-137	-		
Manganese, Total	93		-		76-124	-		
Nickel, Total	94		-		70-131	-		
Potassium, Total	80		-		60-140	-		
Selenium, Total	103		-		63-137	-		
Silver, Total	97		-		69-131	-		
Sodium, Total	97		-		37-162	-		
Thallium, Total	93		-		68-132	-		
Vanadium, Total	94		-		65-135	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1278448-2 SRM Lot Number: D105-540					
Zinc, Total	97	-	70-130	-	
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG1278564-2 SRM Lot Number: D105-540					
Mercury, Total	91	-	60-141	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1278448-3 QC Sample: L1937400-01 Client ID: MS Sample												
Aluminum, Total	7490	214	7950	**215**	Q	-	-		75-125	-		20
Antimony, Total	4.44	53.5	42.6	**71**	Q	-	-		75-125	-		20
Arsenic, Total	19.7	12.8	27.4	**60**	Q	-	-		75-125	-		20
Barium, Total	27.5	214	226	93		-	-		75-125	-		20
Beryllium, Total	0.428	5.35	5.26	90		-	-		75-125	-		20
Cadmium, Total	1.22	5.46	6.35	94		-	-		75-125	-		20
Calcium, Total	5870	1070	5940	**7**	Q	-	-		75-125	-		20
Chromium, Total	46.2	21.4	60.3	**66**	Q	-	-		75-125	-		20
Cobalt, Total	5.60	53.5	52.3	87		-	-		75-125	-		20
Copper, Total	98.0	26.8	85.2	**0**	Q	-	-		75-125	-		20
Iron, Total	14200	107	15500	**1210**	Q	-	-		75-125	-		20
Lead, Total	80.7	54.6	126	83		-	-		75-125	-		20
Magnesium, Total	3990	1070	4940	89		-	-		75-125	-		20
Manganese, Total	139	53.5	228	**166**	Q	-	-		75-125	-		20
Nickel, Total	17.2	53.5	65.2	90		-	-		75-125	-		20
Potassium, Total	2360	1070	3370	94		-	-		75-125	-		20
Selenium, Total	0.373J	12.8	13.3	104		-	-		75-125	-		20
Silver, Total	0.178J	32.1	31.9	99		-	-		75-125	-		20
Sodium, Total	6550	1070	7400	79		-	-		75-125	-		20
Thallium, Total	ND	12.8	9.71	76		-	-		75-125	-		20
Vanadium, Total	21.8	53.5	72.1	94		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1278448-3 QC Sample: L1937400-01 Client ID: MS Sample										
Zinc, Total	140	53.5	211	**133**	Q	-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1278564-3 QC Sample: L1936671-01 Client ID: MS Sample										
Mercury, Total	ND	0.135	0.146	108		-	-	80-120	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1278448-4 QC Sample: L1937400-01 Client ID: DUP Sample						
Arsenic, Total	19.7	10.2	mg/kg	**64**	Q	20
Barium, Total	27.5	28.5	mg/kg	4		20
Cadmium, Total	1.22	1.13	mg/kg	8		20
Chromium, Total	46.2	42.4	mg/kg	9		20
Lead, Total	80.7	74.4	mg/kg	8		20
Selenium, Total	0.373J	0.248J	mg/kg	NC		20
Silver, Total	0.178J	ND	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1278564-4 QC Sample: L1936671-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-01
Client ID: IP-05-11.0
Sample Location: BRATTLEBORO, VT

Date Collected: 08/14/19 10:40
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.0		%	0.100	NA	1	-	08/16/19 12:52	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.1	0.22	1	08/16/19 10:45	08/16/19 13:49	1,9010C/9012B	LH

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-02
Client ID: IP-06-0.5
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	58.0		%	0.100	NA	1	-	08/16/19 12:52	121,2540G	RI
Cyanide, Total	10		mg/kg	1.7	0.36	1	08/16/19 10:45	08/16/19 13:50	1,9010C/9012B	LH

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

SAMPLE RESULTS

Lab ID: L1936852-03
Client ID: IP-06-0.5-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/15/19 12:35
Date Received: 08/15/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	61.7		%	0.100	NA	1	-	08/16/19 12:52	121,2540G	RI
Cyanide, Total	6.7		mg/kg	1.5	0.32	1	08/16/19 10:45	08/16/19 13:51	1,9010C/9012B	LH

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1273267-1										
Cyanide, Total	ND		mg/kg	0.96	0.20	1	08/16/19 10:45	08/16/19 13:25	1,9010C/9012B	LH

Lab Control Sample Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1273267-2 WG1273267-3								
Cyanide, Total	88		**75**	Q	80-120	17		35

Matrix Spike Analysis
Batch Quality Control

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1273267-4 WG1273267-5 QC Sample: L1936990-04 Client ID: MS Sample												
Cyanide, Total	ND	11	12	110		12	110		75-125	0		35

Lab Duplicate Analysis

Batch Quality Control

Project Name: LONG FALLS

Project Number: 19-015

Lab Number: L1936852

Report Date: 09/27/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1273286-1 QC Sample: L1936594-01 Client ID: DUP Sample						
Solids, Total	85.0	85.3	%	0		20

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1936852-01A	Vial MeOH preserved	A	NA		3.6	Y	Absent		8260HLW(14)
L1936852-01B	Vial water preserved	A	NA		3.6	Y	Absent	16-AUG-19 07:39	8260HLW(14)
L1936852-01C	Vial water preserved	A	NA		3.6	Y	Absent	16-AUG-19 07:39	8260HLW(14)
L1936852-01D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1936852-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1936852-01F	Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1936852-01G	Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1936852-01H	Glass 120ml/4oz unpreserved	A	NA		3.6	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1936852-01I	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		A2-DIOXIN-8290(365)
L1936852-01J	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		A2-537-ISOTOPE(28)
L1936852-02A	Vial MeOH preserved	A	NA		3.6	Y	Absent		8260HLW(14)
L1936852-02B	Vial water preserved	A	NA		3.6	Y	Absent	16-AUG-19 07:39	8260HLW(14)
L1936852-02C	Vial water preserved	A	NA		3.6	Y	Absent	16-AUG-19 07:39	8260HLW(14)
L1936852-02D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1936852-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1936852-02F	Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1936852-02G	Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1936852-02H	Glass 120ml/4oz unpreserved	A	NA		3.6	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)

*Values in parentheses indicate holding time in days

Project Name: LONG FALLS
Project Number: 19-015

Lab Number: L1936852
Report Date: 09/27/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1936852-02I	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		A2-DIOXIN-8290(365)
L1936852-02J	Plastic 8oz unpreserved	A	NA		3.6	Y	Absent		A2-537-ISOTOPE(28)
L1936852-03A	Vial MeOH preserved	A	NA		3.6	Y	Absent		8260HLW(14)
L1936852-03B	Vial water preserved	A	NA		3.6	Y	Absent	16-AUG-19 07:39	8260HLW(14)
L1936852-03C	Vial water preserved	A	NA		3.6	Y	Absent	16-AUG-19 07:39	8260HLW(14)
L1936852-03D	Plastic 2oz unpreserved for TS	A	NA		3.6	Y	Absent		TS(7)
L1936852-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1936852-03F	Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1936852-03G	Glass 60mL/2oz unpreserved	A	NA		3.6	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1936852-03H	Glass 120ml/4oz unpreserved	A	NA		3.6	Y	Absent		8270TCL(14),TCN-9010(14),PCB-8082(14)
L1936852-03I	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		A2-DIOXIN-8290(365)
L1936852-03J	Plastic 8oz unpreserved	A	NA		3.6	Y	Absent		A2-537-ISOTOPE(28)
L1936852-04A	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		-
L1936852-05A	Plastic 250ml unpreserved	A	NA		3.6	Y	Absent		-

*Values in parentheses indicate holding time in days

Project Name: LONG FALLS **Lab Number:** L1936852

Project Number: 19-015 **Report Date:** 09/27/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	LONG FALLS	**Lab Number:**	L1936852
Project Number:	19-015	**Report Date:**	09/27/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	LONG FALLS	**Lab Number:**	L1936852
Project Number:	19-015	**Report Date:**	09/27/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

122 Determination of Selected Perfluorintated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537, EPA/600/R-08/092. Version 1.1, September 2009.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA Analytical Services
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Date Rec'd in Lab: 8/16/19

ALPHA Job #: L1936852

Client Information

Client: Stone Env. Inc.
Address: 535 Stone Cutters Way, Montpelier VT 05602
Phone: 802 229 1541
Email: dabrahamson@stone-env.com

Project Information

Project Name: Long Falls
Project Location: Brattleboro VT
Project #: 19-05
Project Manager: David Abrahamson
ALPHA Quote #: 297425

Turn-Around Time

☐ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO # 19-05

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program VTDEC Criteria VT SSL

Additional Project Information:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☒ 8260 ☐ 624 ☐ 524.2	SVOC: ☒ 8270 ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☒ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Metals TAL 23 + CN	PFAS 537(m)	Dioxin (Furans 8290)	TOTAL Solids			Sample Comments	TOTAL # BOTTLES
36852-01	IP-05-11.0	8/14/19	1010	SL	DN	X	X					X		X	X	X	X				10
	~~IP-05-~~																				
02	IP-06-0.5	8/15/19	1235	SL	LBR DTV	X	X					X		X	X	X	X				10
03	IP-06-0.5-FD	↓	↓	SL	LBR DN	X	X					X		X	X	X	X				10
04	Field Blank-1	8/14/19	1123		DTV										X						
05	Field Blank-2	8/15/19	1400		DN										X						

Container Type	V	A				A		A	O	A	O						
Preservative																	

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H= $Na_2S_2O_3$
I= Ascorbic Acid
J= NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Ben Wagner 8/15/19 1401	8/15/19 1401	Ben Wagner AAL	8/15/19 1401
			8/16/19 0130

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1939803
Client:	Stone Environmental 535 Stone Cutters Way Montpelier, VT 05602
ATTN:	David Abrahamson
Phone:	(802) 229-1875
Project Name:	LFP PHASE II ESA
Project Number:	19-015
Report Date:	10/09/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1939803-01	IP-07	WATER	BRATTLEBORO, VT	08/29/19 17:05	08/30/19
L1939803-02	IP-16	WATER	BRATTLEBORO, VT	08/29/19 11:47	08/30/19
L1939803-03	IP-01	WATER	BRATTLEBORO, VT	08/29/19 13:12	08/30/19
L1939803-04	IP-02	WATER	BRATTLEBORO, VT	08/29/19 14:40	08/30/19
L1939803-05	IP-03	WATER	BRATTLEBORO, VT	08/29/19 16:00	08/30/19
L1939803-06	IP-05	WATER	BRATTLEBORO, VT	08/29/19 18:10	08/30/19
L1939803-07	IP-05-FD	WATER	BRATTLEBORO, VT	08/29/19 18:10	08/30/19
L1939803-08	TRIP BLANK	WATER	BRATTLEBORO, VT	08/29/19 08:00	08/30/19
L1939803-09	E-BLANK	WATER	BRATTLEBORO, VT	08/29/19 09:44	08/30/19
L1939803-10	FIELD BLANK	WATER	BRATTLEBORO, VT	08/29/19 13:31	08/30/19
L1939803-11	SHALLOW WELL	WATER	BRATTLEBORO, VT	08/29/19 18:00	08/30/19
L1939803-12	DEEP WELL	WATER	BRATTLEBORO, VT	08/29/19 17:55	08/30/19
L1939803-13	EBLANK-083019	WATER	BRATTLEBORO, VT	08/30/19 09:15	08/30/19
L1939803-14	FB-083019	WATER	BRATTLEBORO, VT	08/30/19 10:55	08/30/19
L1939803-15	IP-08	WATER	BRATTLEBORO, VT	08/30/19 11:00	08/30/19
L1939803-16	IP-06	WATER	BRATTLEBORO, VT	08/30/19 12:50	08/30/19
L1939803-17	SLUDGE PILE	SLUDGE	BRATTLEBORO, VT	08/30/19 15:20	08/30/19
L1939803-18	IP-04	WATER	BRATTLEBORO, VT	08/30/19 15:50	08/30/19
L1939803-19	SLUDGE PILE TOP ASSAY	WATER	BRATTLEBORO, VT	08/30/19 15:50	08/30/19

Project Name:	LFP PHASE II ESA	**Lab Number:**	L1939803
Project Number:	19-015	**Report Date:**	10/09/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	LFP PHASE II ESA	**Lab Number:**	L1939803
Project Number:	19-015	**Report Date:**	10/09/19

Case Narrative (continued)

Report Revision

October 9, 2019: Final Report.

October 8, 2019: This is a preliminary report.

Report Submission

September 24, 2019: This is a preliminary report.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics

The WG1279688-2/-3 LCS/LCSD recoveries, associated with L1939803-01, -03 through -07, -15, -16, and -18, are below the acceptance criteria for benzidine (0%/3%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

The WG1279999-2/-3 LCS/LCSD recoveries, associated with L1939803-02, are below the acceptance criteria for benzoic acid (0%/0%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

Semivolatile Organics by SIM

The WG1280001-1 Method Blank, associated with L1939803-02, has a concentration above the reporting limit for naphthalene. Since the sample was non-detect to the RL for this target analyte, no further actions were taken. The results of the original analysis are reported.

Perfluorinated Alkyl Acids by Isotope Dilution

L1939803-06, -07, -09, -16, -18, and -19: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

The L1939803-13 Equipment Blank, has concentrations above the reporting limits for 6:2 FTS adn 8:2FTS.

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Project Number:	19-015	**Report Date:**	10/09/19

Case Narrative (continued)

The sample was re-extracted with the method required holding time exceeded. The re-extraction is non-detect for these target compounds. The results of both extractions are reported.
L1939803-14: The Field Blank has a result for 6:2 FTS present above the reporting limit. The sample was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.
The positive control surrogate recoveries for the L1939803-19 are outside the acceptance criteria for perfluoro[13c3]pentanoic acid (m3pfpea) (25%) and perfluoro[1,2,3,4-13c4]octanoic acid (m4pfoa) (40%). The negative control recoveries were within acceptance criteria as were the extracted internal standard recoveries. L1939803-19 was extracted with the method required holding time exceeded.
WG1290953-2: This blank represents the SPLP tumbling blank associated with L1939803-19.
WG1291476-2: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.
The WG1286485-3 LCSD recovery, associated with L1939803-13, is above the acceptance criteria for perfluorotridecanoic acid (pftrda) (162%); however, the associated samples are non-detect to the RL for this target analyte. The results of the original analysis are reported.
The WG1291476-2/-3 LCS/LCSD recoveries, associated with L1939803-19, are above the acceptance criteria for perfluorotridecanoic acid (pftrda) (162%/161%); however, the associated sample is non-detect to the RL for this target analyte. The results of the original analysis are reported.

PCBs

The WG1280289-1 Method Blank, associated with L1939803-16, has a concentration above the reporting limit for Aroclor 1260. Since the sample was non-detect to the RL for this target analyte, no further actions were taken. The results of the original analysis are reported.

Total Metals

The WG1283401-3 MS recovery for sodium (70%), performed on L1939803-01, does not apply because the sample concentration is greater than four times the spike amount added.

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Case Narrative (continued)

The WG1283401-4 Laboratory Duplicate RPD for aluminum (28%), performed on L1939803-01, is above the acceptance criteria; however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 10/09/19

ORGANICS

VOLATILES

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01
Client ID: IP-07
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 17:05
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 12:59
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	0.39	J	ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01 Date Collected: 08/29/19 17:05

Client ID: IP-07 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	1.6	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01 Date Collected: 08/29/19 17:05

Client ID: IP-07 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	119		70-130
Dibromofluoromethane	90		70-130

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-02
Client ID: IP-16
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 11:47
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 13:24
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	0.35	J	ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	0.33	J	ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-02 Date Collected: 08/29/19 11:47

Client ID: IP-16 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-02 Date Collected: 08/29/19 11:47

Client ID: IP-16 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	95		70-130

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03
Client ID: IP-01
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 13:12
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 13:50
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	0.22	J	ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03 Date Collected: 08/29/19 13:12

Client ID: IP-01 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	2.4	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03 Date Collected: 08/29/19 13:12

Client ID: IP-01 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	90		70-130

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04
Client ID: IP-02
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 14:40
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 14:15
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	0.31	J	ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04 Date Collected: 08/29/19 14:40

Client ID: IP-02 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	1.8	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04 Date Collected: 08/29/19 14:40

Client ID: IP-02 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	82		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	80		70-130

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05
Client ID: IP-03
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 16:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 14:41
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	0.48	J	ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	1.5		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05 Date Collected: 08/29/19 16:00

Client ID: IP-03 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05 Date Collected: 08/29/19 16:00

Client ID: IP-03 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	81		70-130
Dibromofluoromethane	88		70-130

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06
Client ID: IP-05
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 15:07
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06 Date Collected: 08/29/19 18:10

Client ID: IP-05 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06 Date Collected: 08/29/19 18:10

Client ID: IP-05 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	72		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	88		70-130

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07
Client ID: IP-05-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 15:32
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07 Date Collected: 08/29/19 18:10

Client ID: IP-05-FD Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07 Date Collected: 08/29/19 18:10

Client ID: IP-05-FD Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	120		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	87		70-130

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-08
Client ID: TRIP BLANK
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 08:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 15:57
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-08 Date Collected: 08/29/19 08:00

Client ID: TRIP BLANK Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	3.4	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-08 Date Collected: 08/29/19 08:00

Client ID: TRIP BLANK Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	**146**	Q	70-130
4-Bromofluorobenzene	74		70-130
Dibromofluoromethane	87		70-130

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15
Client ID: IP-08
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 11:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 17:39
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15 Date Collected: 08/30/19 11:00

Client ID: IP-08 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	1.1	J	ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15 Date Collected: 08/30/19 11:00

Client ID: IP-08 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	90		70-130

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16
Client ID: IP-06
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 12:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/11/19 09:55
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16 Date Collected: 08/30/19 12:50

Client ID: IP-06 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16 Date Collected: 08/30/19 12:50

Client ID: IP-06 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	93		70-130

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18
Client ID: IP-04
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 09/10/19 18:30
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	2.0		ug/l	0.75	0.22	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.8	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	0.19	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	2.5	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.24	1
Bromoform	ND		ug/l	2.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.20	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.5	0.20	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18 Date Collected: 08/30/19 15:50

Client ID: IP-04 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.39	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	5.0	0.36	1
1,4-Dichlorobutane	ND		ug/l	5.0	0.46	1
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18	1
Styrene	ND		ug/l	1.0	0.36	1
Dichlorodifluoromethane	ND		ug/l	5.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	0.31	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Ethyl methacrylate	ND		ug/l	5.0	0.61	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	2.5	0.15	1
Tetrahydrofuran	ND		ug/l	5.0	0.52	1
2,2-Dichloropropane	ND		ug/l	2.5	0.20	1
1,2-Dibromoethane	ND		ug/l	2.0	0.19	1
1,3-Dichloropropane	ND		ug/l	2.5	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	2.5	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	2.5	0.20	1
o-Chlorotoluene	ND		ug/l	2.5	0.22	1
p-Chlorotoluene	ND		ug/l	2.5	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18 Date Collected: 08/30/19 15:50

Client ID: IP-04 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	2.5	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21	1
Ethyl ether	ND		ug/l	2.5	0.16	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	89		70-130

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/10/19 12:08
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08,15,18 Batch: WG1282422-5					
Methylene chloride	ND		ug/l	3.0	0.68
1,1-Dichloroethane	ND		ug/l	0.75	0.21
Chloroform	ND		ug/l	0.75	0.22
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.8	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	0.50	0.18
Trichlorofluoromethane	ND		ug/l	2.5	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.24
Bromoform	ND		ug/l	2.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
Chloromethane	ND		ug/l	2.5	0.20
Bromomethane	ND		ug/l	1.0	0.26
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	1.0	0.13
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/10/19 12:08
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08,15,18 Batch: WG1282422-5					
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19
Methyl tert butyl ether	ND		ug/l	1.0	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19
Dibromomethane	ND		ug/l	5.0	0.36
1,4-Dichlorobutane	ND		ug/l	5.0	0.46
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18
Styrene	ND		ug/l	1.0	0.36
Dichlorodifluoromethane	ND		ug/l	5.0	0.24
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	0.30
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	0.31
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42
2-Hexanone	ND		ug/l	5.0	0.52
Ethyl methacrylate	ND		ug/l	5.0	0.61
Acrolein	ND		ug/l	5.0	0.44
Acrylonitrile	ND		ug/l	5.0	0.43
Bromochloromethane	ND		ug/l	2.5	0.15
Tetrahydrofuran	ND		ug/l	5.0	0.52
2,2-Dichloropropane	ND		ug/l	2.5	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
1,3-Dichloropropane	ND		ug/l	2.5	0.21
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/10/19 12:08
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08,15,18 Batch: WG1282422-5					
Bromobenzene	ND		ug/l	2.5	0.15
n-Butylbenzene	ND		ug/l	0.50	0.19
sec-Butylbenzene	ND		ug/l	0.50	0.18
tert-Butylbenzene	ND		ug/l	2.5	0.20
o-Chlorotoluene	ND		ug/l	2.5	0.22
p-Chlorotoluene	ND		ug/l	2.5	0.18
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35
Hexachlorobutadiene	ND		ug/l	0.50	0.22
Isopropylbenzene	ND		ug/l	0.50	0.19
p-Isopropyltoluene	ND		ug/l	0.50	0.19
Naphthalene	0.24	J	ug/l	2.5	0.22
n-Propylbenzene	ND		ug/l	0.50	0.17
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,3,5-Trichlorobenzene	ND		ug/l	2.0	0.14
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21
Halothane	ND		ug/l	2.5	0.29
Ethyl ether	ND		ug/l	2.5	0.16
Methyl Acetate	ND		ug/l	10	0.23
Ethyl Acetate	ND		ug/l	10	0.72
Isopropyl Ether	ND		ug/l	2.0	0.42
Cyclohexane	ND		ug/l	10	0.27
Tert-Butyl Alcohol	ND		ug/l	10	1.4
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	0.18
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	0.28
1,4-Dioxane	ND		ug/l	250	61.
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	0.15

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/10/19 12:08
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-08,15,18 Batch: WG1282422-5					
Methyl cyclohexane	ND		ug/l	10	0.40
p-Diethylbenzene	ND		ug/l	2.0	0.39
4-Ethyltoluene	ND		ug/l	2.0	0.34
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	78		70-130

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/11/19 09:32
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1282843-5					
Methylene chloride	ND		ug/l	3.0	0.68
1,1-Dichloroethane	ND		ug/l	0.75	0.21
Chloroform	ND		ug/l	0.75	0.22
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.8	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	0.50	0.18
Trichlorofluoromethane	ND		ug/l	2.5	0.16
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.24
Bromoform	ND		ug/l	2.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	0.75	0.20
Ethylbenzene	ND		ug/l	0.50	0.17
Chloromethane	ND		ug/l	2.5	0.20
Bromomethane	ND		ug/l	1.0	0.26
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	1.0	0.13
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/11/19 09:32
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1282843-5					
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.18
1,3-Dichlorobenzene	ND		ug/l	2.5	0.19
1,4-Dichlorobenzene	ND		ug/l	2.5	0.19
Methyl tert butyl ether	ND		ug/l	1.0	0.17
p/m-Xylene	ND		ug/l	1.0	0.33
o-Xylene	ND		ug/l	1.0	0.39
Xylenes, Total	ND		ug/l	1.0	0.33
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19
Dibromomethane	ND		ug/l	5.0	0.36
1,4-Dichlorobutane	ND		ug/l	5.0	0.46
Iodomethane	ND		ug/l	5.0	0.40
1,2,3-Trichloropropane	ND		ug/l	5.0	0.18
Styrene	ND		ug/l	1.0	0.36
Dichlorodifluoromethane	ND		ug/l	5.0	0.24
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	0.30
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	0.31
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42
2-Hexanone	ND		ug/l	5.0	0.52
Ethyl methacrylate	ND		ug/l	5.0	0.61
Acrolein	ND		ug/l	5.0	0.44
Acrylonitrile	ND		ug/l	5.0	0.43
Bromochloromethane	ND		ug/l	2.5	0.15
Tetrahydrofuran	ND		ug/l	5.0	0.52
2,2-Dichloropropane	ND		ug/l	2.5	0.20
1,2-Dibromoethane	ND		ug/l	2.0	0.19
1,3-Dichloropropane	ND		ug/l	2.5	0.21

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/11/19 09:32
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1282843-5					
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16
Bromobenzene	ND		ug/l	2.5	0.15
n-Butylbenzene	ND		ug/l	0.50	0.19
sec-Butylbenzene	ND		ug/l	0.50	0.18
tert-Butylbenzene	ND		ug/l	2.5	0.20
o-Chlorotoluene	ND		ug/l	2.5	0.22
p-Chlorotoluene	ND		ug/l	2.5	0.18
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.35
Hexachlorobutadiene	0.25	J	ug/l	0.50	0.22
Isopropylbenzene	ND		ug/l	0.50	0.19
p-Isopropyltoluene	ND		ug/l	0.50	0.19
Naphthalene	0.28	J	ug/l	2.5	0.22
n-Propylbenzene	ND		ug/l	0.50	0.17
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.23
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.22
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.22
1,3,5-Trichlorobenzene	ND		ug/l	2.0	0.14
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.19
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.21
Halothane	ND		ug/l	2.5	0.29
Ethyl ether	ND		ug/l	2.5	0.16
Methyl Acetate	ND		ug/l	10	0.23
Ethyl Acetate	ND		ug/l	10	0.72
Isopropyl Ether	ND		ug/l	2.0	0.42
Cyclohexane	ND		ug/l	10	0.27
Tert-Butyl Alcohol	ND		ug/l	10	1.4
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	0.18
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	0.28
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/l	10	0.15

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 09/11/19 09:32
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 16 Batch: WG1282843-5					
Methyl cyclohexane	ND		ug/l	10	0.40
p-Diethylbenzene	ND		ug/l	2.0	0.39
4-Ethyltoluene	ND		ug/l	2.0	0.34
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	92		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08,15,18 Batch: WG1282422-3 WG1282422-4								
Methylene chloride	90		84		70-130	7		20
1,1-Dichloroethane	91		84		70-130	8		20
Chloroform	91		83		70-130	9		20
Carbon tetrachloride	95		86		63-132	10		20
1,2-Dichloropropane	110		92		70-130	18		20
Dibromochloromethane	100		100		63-130	0		20
1,1,2-Trichloroethane	110		100		70-130	10		20
Tetrachloroethene	100		97		70-130	3		20
Chlorobenzene	100		97		75-130	3		25
Trichlorofluoromethane	83		78		62-150	6		20
1,2-Dichloroethane	95		94		70-130	1		20
1,1,1-Trichloroethane	90		82		67-130	9		20
Bromodichloromethane	100		90		67-130	11		20
trans-1,3-Dichloropropene	100		100		70-130	0		20
cis-1,3-Dichloropropene	96		92		70-130	4		20
1,1-Dichloropropene	94		99		70-130	5		20
Bromoform	130		110		54-136	17		20
1,1,2,2-Tetrachloroethane	130		120		67-130	8		20
Benzene	94		91		70-130	3		25
Toluene	100		97		70-130	3		25
Ethylbenzene	100		96		70-130	4		20
Chloromethane	110		90		64-130	20		20
Bromomethane	55		66		39-139	18		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08,15,18 Batch: WG1282422-3 WG1282422-4								
Vinyl chloride	110		110		55-140	0		20
Chloroethane	80		81		55-138	1		20
1,1-Dichloroethene	94		82		61-145	14		25
trans-1,2-Dichloroethene	92		86		70-130	7		20
Trichloroethene	93		91		70-130	2		25
1,2-Dichlorobenzene	110		110		70-130	0		20
1,3-Dichlorobenzene	110		100		70-130	10		20
1,4-Dichlorobenzene	110		100		70-130	10		20
Methyl tert butyl ether	95		87		63-130	9		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	110		100		70-130	10		20
cis-1,2-Dichloroethene	90		88		70-130	2		20
Dibromomethane	100		94		70-130	6		20
1,4-Dichlorobutane	120		110		70-130	9		20
1,2,3-Trichloropropane	120		110		64-130	9		20
Styrene	115		100		70-130	14		20
Dichlorodifluoromethane	98		92		36-147	6		20
Acetone	120		100		58-148	18		20
Carbon disulfide	88		81		51-130	8		20
2-Butanone	130		**140**	Q	63-138	7		20
Vinyl acetate	98		91		70-130	7		20
4-Methyl-2-pentanone	120		120		59-130	0		20
2-Hexanone	130		120		57-130	8		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08,15,18 Batch: WG1282422-3 WG1282422-4								
Ethyl methacrylate	100		100		70-130	0		20
Acrolein	77		75		70-130	3		20
Acrylonitrile	100		100		70-130	0		20
Bromochloromethane	97		94		70-130	3		20
Tetrahydrofuran	120		110		58-130	9		20
2,2-Dichloropropane	99		90		63-133	10		20
1,2-Dibromoethane	110		110		70-130	0		20
1,3-Dichloropropane	100		110		70-130	10		20
1,1,1,2-Tetrachloroethane	100		98		64-130	2		20
Bromobenzene	110		100		70-130	10		20
n-Butylbenzene	110		100		53-136	10		20
sec-Butylbenzene	110		100		70-130	10		20
tert-Butylbenzene	110		100		70-130	10		20
o-Chlorotoluene	120		100		70-130	18		20
p-Chlorotoluene	110		100		70-130	10		20
1,2-Dibromo-3-chloropropane	120		140		41-144	15		20
Hexachlorobutadiene	98		98		63-130	0		20
Isopropylbenzene	100		120		70-130	18		20
p-Isopropyltoluene	110		100		70-130	10		20
Naphthalene	130		130		70-130	0		20
n-Propylbenzene	110		100		69-130	10		20
1,2,3-Trichlorobenzene	120		120		70-130	0		20
1,2,4-Trichlorobenzene	110		110		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08,15,18 Batch: WG1282422-3 WG1282422-4								
1,3,5-Trimethylbenzene	120		100		64-130	18		20
1,3,5-Trichlorobenzene	110		120		70-130	9		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20
trans-1,4-Dichloro-2-butene	120		100		70-130	18		20
Halothane	91		88		70-130	3		20
Ethyl ether	100		89		59-134	12		20
Methyl Acetate	110		100		70-130	10		20
Ethyl Acetate	**180**	Q	**160**	Q	70-130	12		20
Isopropyl Ether	95		91		70-130	4		20
Cyclohexane	96		92		70-130	4		20
Tert-Butyl Alcohol	**174**	Q	**156**	Q	70-130	11		20
Ethyl-Tert-Butyl-Ether	92		85		70-130	8		20
Tertiary-Amyl Methyl Ether	93		91		66-130	2		20
1,4-Dioxane	140		122		56-162	14		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	98		87		70-130	12		20
Methyl cyclohexane	93		89		70-130	4		20
p-Diethylbenzene	110		100		70-130	10		20
4-Ethyltoluene	120		100		70-130	18		20
1,2,4,5-Tetramethylbenzene	110		120		70-130	9		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: LFP PHASE II ESA

Project Number: 19-015

Lab Number: L1939803

Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08,15,18 Batch: WG1282422-3 WG1282422-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		98		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	92		88		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1282843-3 WG1282843-4								
Methylene chloride	76		76		70-130	0		20
1,1-Dichloroethane	84		82		70-130	2		20
Chloroform	82		82		70-130	0		20
Carbon tetrachloride	79		78		63-132	1		20
1,2-Dichloropropane	81		81		70-130	0		20
Dibromochloromethane	80		80		63-130	0		20
1,1,2-Trichloroethane	87		86		70-130	1		20
Tetrachloroethene	86		86		70-130	0		20
Chlorobenzene	85		84		75-130	1		25
Trichlorofluoromethane	80		78		62-150	3		20
1,2-Dichloroethane	79		78		70-130	1		20
1,1,1-Trichloroethane	78		78		67-130	0		20
Bromodichloromethane	79		77		67-130	3		20
trans-1,3-Dichloropropene	82		82		70-130	0		20
cis-1,3-Dichloropropene	80		78		70-130	3		20
1,1-Dichloropropene	81		80		70-130	1		20
Bromoform	83		83		54-136	0		20
1,1,2,2-Tetrachloroethane	91		92		67-130	1		20
Benzene	82		82		70-130	0		25
Toluene	86		85		70-130	1		25
Ethylbenzene	88		87		70-130	1		20
Chloromethane	88		86		64-130	2		20
Bromomethane	61		62		39-139	2		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1282843-3 WG1282843-4								
Vinyl chloride	90		87		55-140	3		20
Chloroethane	87		85		55-138	2		20
1,1-Dichloroethene	82		79		61-145	4		25
trans-1,2-Dichloroethene	81		80		70-130	1		20
Trichloroethene	82		81		70-130	1		25
1,2-Dichlorobenzene	85		84		70-130	1		20
1,3-Dichlorobenzene	85		84		70-130	1		20
1,4-Dichlorobenzene	84		83		70-130	1		20
Methyl tert butyl ether	82		82		63-130	0		20
p/m-Xylene	90		85		70-130	6		20
o-Xylene	90		85		70-130	6		20
cis-1,2-Dichloroethene	79		79		70-130	0		20
Dibromomethane	79		79		70-130	0		20
1,4-Dichlorobutane	88		88		70-130	0		20
Iodomethane	**53**	Q	**55**	Q	70-130	4		20
1,2,3-Trichloropropane	88		89		64-130	1		20
Styrene	85		85		70-130	0		20
Dichlorodifluoromethane	110		110		36-147	0		20
Acetone	89		83		58-148	7		20
Carbon disulfide	76		75		51-130	1		20
2-Butanone	90		91		63-138	1		20
Vinyl acetate	79		80		70-130	1		20
4-Methyl-2-pentanone	91		91		59-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1282843-3 WG1282843-4								
2-Hexanone	88		88		57-130	0		20
Ethyl methacrylate	82		82		70-130	0		20
Acrolein	70		**68**	Q	70-130	3		20
Acrylonitrile	85		84		70-130	1		20
Bromochloromethane	82		81		70-130	1		20
Tetrahydrofuran	86		88		58-130	2		20
2,2-Dichloropropane	82		80		63-133	2		20
1,2-Dibromoethane	84		83		70-130	1		20
1,3-Dichloropropane	85		86		70-130	1		20
1,1,1,2-Tetrachloroethane	82		82		64-130	0		20
Bromobenzene	84		84		70-130	0		20
n-Butylbenzene	100		99		53-136	1		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	97		95		70-130	2		20
o-Chlorotoluene	89		87		70-130	2		20
p-Chlorotoluene	88		86		70-130	2		20
1,2-Dibromo-3-chloropropane	83		85		41-144	2		20
Hexachlorobutadiene	91		90		63-130	1		20
Isopropylbenzene	95		93		70-130	2		20
p-Isopropyltoluene	98		96		70-130	2		20
Naphthalene	85		86		70-130	1		20
n-Propylbenzene	97		95		69-130	2		20
1,2,3-Trichlorobenzene	88		87		70-130	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1282843-3 WG1282843-4								
1,2,4-Trichlorobenzene	84		84		70-130	0		20
1,3,5-Trimethylbenzene	94		93		64-130	1		20
1,3,5-Trichlorobenzene	84		84		70-130	0		20
1,2,4-Trimethylbenzene	90		88		70-130	2		20
trans-1,4-Dichloro-2-butene	83		86		70-130	4		20
Halothane	79		78		70-130	1		20
Ethyl ether	85		83		59-134	2		20
Methyl Acetate	86		85		70-130	1		20
Ethyl Acetate	110		110		70-130	0		20
Isopropyl Ether	81		81		70-130	0		20
Cyclohexane	85		83		70-130	2		20
Tert-Butyl Alcohol	112		114		70-130	2		20
Ethyl-Tert-Butyl-Ether	84		83		70-130	1		20
Tertiary-Amyl Methyl Ether	83		83		66-130	0		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	83		80		70-130	4		20
Methyl cyclohexane	94		91		70-130	3		20
p-Diethylbenzene	94		92		70-130	2		20
4-Ethyltoluene	93		91		70-130	2		20
1,2,4,5-Tetramethylbenzene	87		87		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 16 Batch: WG1282843-3 WG1282843-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		100		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	96		96		70-130

SEMIVOLATILES

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01
Client ID: IP-07
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 17:05
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/16/19 10:55
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	8.1	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene	ND		ug/l	2.0	0.75	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	1.3	J	ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
Aniline	ND		ug/l	2.0	0.65	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01 Date Collected: 08/29/19 17:05

Client ID: IP-07 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Pyridine	ND		ug/l	3.5	1.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	81		15-120
2,4,6-Tribromophenol	83		10-120
4-Terphenyl-d14	83		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01
Client ID: IP-07
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 10:43
Analyst: PS

Date Collected: 08/29/19 17:05
Date Received: 08/30/19
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	38		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01
Client ID: IP-07
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 17:05
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 18:12
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.10	0.04	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04	1
Chrysene	ND		ug/l	0.10	0.04	1
Acenaphthylene	ND		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.04	1
Fluorene	ND		ug/l	0.10	0.04	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04	1
Pyrene	ND		ug/l	0.10	0.04	1
1-Methylnaphthalene	ND		ug/l	0.10	0.04	1
2-Methylnaphthalene	ND		ug/l	0.10	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID:	L1939803-01	Date Collected:	08/29/19 17:05
Client ID:	IP-07	Date Received:	08/30/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	87		10-120
4-Terphenyl-d14	76		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01
Client ID: IP-07
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 17:05
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/15/19 17:38
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	1.70	J	ng/l	1.90	0.388	1
Perfluoropentanoic Acid (PFPeA)	1.90		ng/l	1.90	0.376	1
Perfluorobutanesulfonic Acid (PFBS)	0.757	J	ng/l	1.90	0.226	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.90	0.430	1
Perfluorohexanoic Acid (PFHxA)	1.95		ng/l	1.90	0.312	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.90	0.233	1
Perfluoroheptanoic Acid (PFHpA)	0.814	J	ng/l	1.90	0.214	1
Perfluorohexanesulfonic Acid (PFHxS)	0.673	J	ng/l	1.90	0.357	1
Perfluorooctanoic Acid (PFOA)	1.98		ng/l	1.90	0.224	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.90	1.27	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.90	0.654	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.90	0.296	1
Perfluorooctanesulfonic Acid (PFOS)	0.528	J	ng/l	1.90	0.479	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.90	0.289	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.90	1.15	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.90	1.06	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.90	0.616	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.90	0.247	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.90	0.932	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.90	0.551	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.90	0.764	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.90	0.354	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.90	0.311	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.90	0.236	1
PFOA/PFOS, Total	2.51	J	ng/l	1.90	0.224	1
PFAS, Total (5)	4.00	J	ng/l	1.90	0.214	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01 Date Collected: 08/29/19 17:05

Client ID: IP-07 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	70		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	92		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	92		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	86		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	67		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	93		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	74		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	59		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	75		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	83		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	76		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	92		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	47		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	67		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	17		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	49		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	62		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	65		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-02
Client ID: IP-16
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 11:47
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/15/19 18:18
Analyst: KR

Extraction Method: EPA 3510C
Extraction Date: 09/05/19 07:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	1.8	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.50	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.45	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.40	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.43	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
Azobenzene	ND		ug/l	2.0	0.37	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	2.5	J	ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	ND		ug/l	2.0	0.46	1
Aniline	ND		ug/l	2.0	0.68	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-02 Date Collected: 08/29/19 11:47

Client ID: IP-16 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.76	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Benzoic Acid	ND		ug/l	50	2.6	1
Benzyl Alcohol	ND		ug/l	2.0	0.59	1
Carbazole	ND		ug/l	2.0	0.49	1
Pyridine	ND		ug/l	3.5	1.8	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	22		21-120
Phenol-d6	32		10-120
Nitrobenzene-d5	52		23-120
2-Fluorobiphenyl	58		15-120
2,4,6-Tribromophenol	17		10-120
4-Terphenyl-d14	71		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-02
Client ID: IP-16
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 11:47
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/09/19 22:17
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/05/19 07:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.01	1
2-Chloronaphthalene	ND		ug/l	0.20	0.02	1
Fluoranthene	ND		ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	ND		ug/l	0.10	0.05	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01	1
Chrysene	ND		ug/l	0.10	0.01	1
Acenaphthylene	ND		ug/l	0.10	0.01	1
Anthracene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
1-Methylnaphthalene	ND		ug/l	0.10	0.02	1
2-Methylnaphthalene	ND		ug/l	0.10	0.02	1
Pentachlorophenol	ND		ug/l	0.80	0.01	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-02 Date Collected: 08/29/19 11:47

Client ID: IP-16 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	37		10-120
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	69		15-120
2,4,6-Tribromophenol	25		10-120
4-Terphenyl-d14	75		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03
Client ID: IP-01
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 13:12
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/16/19 11:18
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	8.1	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene	ND		ug/l	2.0	0.75	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
Aniline	ND		ug/l	2.0	0.65	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03 Date Collected: 08/29/19 13:12

Client ID: IP-01 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Pyridine	ND		ug/l	3.5	1.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	26		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	81		15-120
2,4,6-Tribromophenol	91		10-120
4-Terphenyl-d14	82		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03
Client ID: IP-01
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 11:03
Analyst: PS

Date Collected: 08/29/19 13:12
Date Received: 08/30/19
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	139	31.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	33		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03
Client ID: IP-01
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 13:12
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 18:29
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.10	0.04	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04	1
Chrysene	ND		ug/l	0.10	0.04	1
Acenaphthylene	ND		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.04	1
Fluorene	ND		ug/l	0.10	0.04	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04	1
Pyrene	ND		ug/l	0.10	0.04	1
1-Methylnaphthalene	ND		ug/l	0.10	0.04	1
2-Methylnaphthalene	ND		ug/l	0.10	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03 Date Collected: 08/29/19 13:12

Client ID: IP-01 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	76		15-120
2,4,6-Tribromophenol	107		10-120
4-Terphenyl-d14	79		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03
Client ID: IP-01
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 13:12
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/15/19 17:55
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	2.85		ng/l	1.71	0.349	1
Perfluoropentanoic Acid (PFPeA)	5.20		ng/l	1.71	0.339	1
Perfluorobutanesulfonic Acid (PFBS)	0.469	J	ng/l	1.71	0.204	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.71	0.387	1
Perfluorohexanoic Acid (PFHxA)	6.06		ng/l	1.71	0.281	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.71	0.210	1
Perfluoroheptanoic Acid (PFHpA)	2.84		ng/l	1.71	0.193	1
Perfluorohexanesulfonic Acid (PFHxS)	0.740	J	ng/l	1.71	0.322	1
Perfluorooctanoic Acid (PFOA)	6.83		ng/l	1.71	0.202	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.71	1.14	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.71	0.589	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.71	0.267	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.71	0.432	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.71	0.260	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.71	1.04	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.71	0.959	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.71	0.555	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.71	0.223	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.71	0.839	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.71	0.496	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.71	0.688	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.71	0.318	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.71	0.280	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.71	0.212	1
PFOA/PFOS, Total	6.83		ng/l	1.71	0.202	1
PFAS, Total (5)	10.4	J	ng/l	1.71	0.193	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03 Date Collected: 08/29/19 13:12

Client ID: IP-01 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	75		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	97		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	109		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	138		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	109		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	82		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	91		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	87		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	56		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	79		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	17		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	50		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	74		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04
Client ID: IP-02
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 14:40
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/16/19 11:41
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	8.1	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene	ND		ug/l	2.0	0.75	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
Aniline	ND		ug/l	2.0	0.65	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04 Date Collected: 08/29/19 14:40

Client ID: IP-02 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Pyridine	ND		ug/l	3.5	1.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	43		21-120
Phenol-d6	31		10-120
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	94		15-120
2,4,6-Tribromophenol	93		10-120
4-Terphenyl-d14	101		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04
Client ID: IP-02
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 12:07
Analyst: PS

Date Collected: 08/29/19 14:40
Date Received: 08/30/19
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	39		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04
Client ID: IP-02
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 14:40
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 18:46
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.10	0.04	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04	1
Chrysene	ND		ug/l	0.10	0.04	1
Acenaphthylene	ND		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.04	1
Fluorene	ND		ug/l	0.10	0.04	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04	1
Pyrene	ND		ug/l	0.10	0.04	1
1-Methylnaphthalene	ND		ug/l	0.10	0.04	1
2-Methylnaphthalene	ND		ug/l	0.10	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04 Date Collected: 08/29/19 14:40

Client ID: IP-02 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	33		10-120
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	87		15-120
2,4,6-Tribromophenol	108		10-120
4-Terphenyl-d14	97		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04
Client ID: IP-02
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 14:40
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/15/19 18:11
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	1.99	J	ng/l	2.04	0.416	1
Perfluoropentanoic Acid (PFPeA)	3.22		ng/l	2.04	0.404	1
Perfluorobutanesulfonic Acid (PFBS)	0.812	J	ng/l	2.04	0.243	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.04	0.461	1
Perfluorohexanoic Acid (PFHxA)	2.64		ng/l	2.04	0.335	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.04	0.250	1
Perfluoroheptanoic Acid (PFHpA)	1.06	J	ng/l	2.04	0.230	1
Perfluorohexanesulfonic Acid (PFHxS)	0.600	J	ng/l	2.04	0.384	1
Perfluorooctanoic Acid (PFOA)	2.28		ng/l	2.04	0.241	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.04	1.36	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.04	0.702	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.04	0.318	1
Perfluorooctanesulfonic Acid (PFOS)	0.649	J	ng/l	2.04	0.514	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.04	0.310	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.04	1.24	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.04	1.14	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.04	0.661	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.04	0.265	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.04	1.00	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.04	0.592	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.04	0.820	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.04	0.380	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.04	0.334	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.04	0.253	1
PFOA/PFOS, Total	2.93	J	ng/l	2.04	0.241	1
PFAS, Total (5)	4.59	J	ng/l	2.04	0.230	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04 Date Collected: 08/29/19 14:40

Client ID: IP-02 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	94		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	122		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	150		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	150		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	97		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	98		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	144		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	100		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	111		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	131		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	106		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	107		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	64		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	106		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	23		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	69		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	100		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	104		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05
Client ID: IP-03
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 16:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/16/19 12:04
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	8.1	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene	ND		ug/l	2.0	0.75	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
Aniline	ND		ug/l	2.0	0.65	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05 Date Collected: 08/29/19 16:00

Client ID: IP-03 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Pyridine	ND		ug/l	3.5	1.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	26		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	85		10-120
4-Terphenyl-d14	79		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05
Client ID: IP-03
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 12:27
Analyst: PS

Date Collected: 08/29/19 16:00
Date Received: 08/30/19
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	144	32.6	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	37		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05
Client ID: IP-03
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 16:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 19:02
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.10	0.04	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04	1
Chrysene	ND		ug/l	0.10	0.04	1
Acenaphthylene	ND		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.04	1
Fluorene	ND		ug/l	0.10	0.04	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04	1
Pyrene	ND		ug/l	0.10	0.04	1
1-Methylnaphthalene	ND		ug/l	0.10	0.04	1
2-Methylnaphthalene	ND		ug/l	0.10	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05 Date Collected: 08/29/19 16:00

Client ID: IP-03 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	75		15-120
2,4,6-Tribromophenol	101		10-120
4-Terphenyl-d14	74		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05
Client ID: IP-03
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 16:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/15/19 18:28
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	1.55	J	ng/l	1.72	0.350	1
Perfluoropentanoic Acid (PFPeA)	0.704	J	ng/l	1.72	0.340	1
Perfluorobutanesulfonic Acid (PFBS)	0.471	J	ng/l	1.72	0.204	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.72	0.388	1
Perfluorohexanoic Acid (PFHxA)	0.862	J	ng/l	1.72	0.282	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.72	0.211	1
Perfluoroheptanoic Acid (PFHpA)	0.433	J	ng/l	1.72	0.193	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.72	0.323	1
Perfluorooctanoic Acid (PFOA)	5.25		ng/l	1.72	0.203	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.72	1.14	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.72	0.591	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.72	0.268	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.72	0.433	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.72	0.261	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.72	1.04	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.72	0.962	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.72	0.557	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.72	0.223	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.72	0.842	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.72	0.498	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.72	0.691	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.72	0.320	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.72	0.281	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.72	0.213	1
PFOA/PFOS, Total	5.25		ng/l	1.72	0.203	1
PFAS, Total (5)	5.68	J	ng/l	1.72	0.193	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05 Date Collected: 08/29/19 16:00

Client ID: IP-03 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	61		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	84		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	105		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	62		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	61		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	100		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	62		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	75		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	67		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	91		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	71		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	165		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	36		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	56		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	12		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	36		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	55		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	54		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06
Client ID: IP-05
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/16/19 12:27
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	8.1	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene	ND		ug/l	2.0	0.75	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
Aniline	ND		ug/l	2.0	0.65	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06 Date Collected: 08/29/19 18:10

Client ID: IP-05 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Pyridine	ND		ug/l	3.5	1.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	27		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	80		15-120
2,4,6-Tribromophenol	68		10-120
4-Terphenyl-d14	79		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06
Client ID: IP-05
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 12:48
Analyst: PS

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	34		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06
Client ID: IP-05
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 19:19
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.10	0.04	1
Benzo(a)anthracene	0.02	J	ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	0.03	J	ug/l	0.10	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04	1
Chrysene	ND		ug/l	0.10	0.04	1
Acenaphthylene	ND		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.04	1
Fluorene	ND		ug/l	0.10	0.04	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04	1
Pyrene	ND		ug/l	0.10	0.04	1
1-Methylnaphthalene	ND		ug/l	0.10	0.04	1
2-Methylnaphthalene	ND		ug/l	0.10	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06 Date Collected: 08/29/19 18:10

Client ID: IP-05 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	68		15-120
2,4,6-Tribromophenol	75		10-120
4-Terphenyl-d14	76		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06
Client ID: IP-05
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/15/19 18:44
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.549	J	ng/l	1.71	0.348	1
Perfluoropentanoic Acid (PFPeA)	0.546	J	ng/l	1.71	0.338	1
Perfluorobutanesulfonic Acid (PFBS)	0.246	J	ng/l	1.71	0.203	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.71	0.386	1
Perfluorohexanoic Acid (PFHxA)	0.843	J	ng/l	1.71	0.280	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.71	0.209	1
Perfluoroheptanoic Acid (PFHpA)	0.454	J	ng/l	1.71	0.192	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.71	0.321	1
Perfluorooctanoic Acid (PFOA)	1.42	J	ng/l	1.71	0.201	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.71	1.14	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.71	0.587	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.71	0.266	1
Perfluorooctanesulfonic Acid (PFOS)	0.495	J	ng/l	1.71	0.430	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.71	0.259	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.71	1.03	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.71	0.956	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.71	0.553	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.71	0.222	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.71	0.836	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.71	0.495	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.71	0.686	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.71	0.317	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.71	0.279	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.71	0.212	1
PFOA/PFOS, Total	1.92	J	ng/l	1.71	0.201	1
PFAS, Total (5)	2.37	J	ng/l	1.71	0.192	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06 Date Collected: 08/29/19 18:10

Client ID: IP-05 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	64		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	94		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	116		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	158		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	67		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	120		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	70		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	99		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	73		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	108		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	80		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**329**	Q	7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	42		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	59		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	15		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	42		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	64		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	60		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07
Client ID: IP-05-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/16/19 12:50
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	8.1	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene	ND		ug/l	2.0	0.75	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
Aniline	ND		ug/l	2.0	0.65	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07 Date Collected: 08/29/19 18:10

Client ID: IP-05-FD Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Pyridine	ND		ug/l	3.5	1.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	39		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	82		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07
Client ID: IP-05-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 13:09
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	33		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07
Client ID: IP-05-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 19:36
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.10	0.04	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04	1
Chrysene	ND		ug/l	0.10	0.04	1
Acenaphthylene	ND		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.04	1
Fluorene	ND		ug/l	0.10	0.04	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04	1
Pyrene	ND		ug/l	0.10	0.04	1
1-Methylnaphthalene	ND		ug/l	0.10	0.04	1
2-Methylnaphthalene	ND		ug/l	0.10	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07 Date Collected: 08/29/19 18:10

Client ID: IP-05-FD Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	71		10-120
4-Terphenyl-d14	77		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07
Client ID: IP-05-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/15/19 19:01
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.522	J	ng/l	1.84	0.375	1
Perfluoropentanoic Acid (PFPeA)	0.526	J	ng/l	1.84	0.364	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	0.219	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.84	0.415	1
Perfluorohexanoic Acid (PFHxA)	0.989	J	ng/l	1.84	0.301	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.84	0.225	1
Perfluoroheptanoic Acid (PFHpA)	0.441	J	ng/l	1.84	0.207	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.84	0.346	1
Perfluorooctanoic Acid (PFOA)	1.41	J	ng/l	1.84	0.217	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.84	1.22	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.84	0.632	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.84	0.287	1
Perfluorooctanesulfonic Acid (PFOS)	0.537	J	ng/l	1.84	0.463	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	0.279	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.84	1.11	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.84	1.03	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	0.596	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	0.239	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.84	0.901	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.84	0.533	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	0.739	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	0.342	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	0.301	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	0.228	1
PFOA/PFOS, Total	1.95	J	ng/l	1.84	0.217	1
PFAS, Total (5)	2.39	J	ng/l	1.84	0.207	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07 Date Collected: 08/29/19 18:10

Client ID: IP-05-FD Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	124		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	129		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	184		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	91		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	88		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	127		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	107		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	122		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	95		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**320**	Q	7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	53		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	68		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	54		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	67		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	69		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-08
Client ID: TRIP BLANK
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 08:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/15/19 19:34
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.92	0.391	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.92	0.379	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.92	0.228	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.92	0.433	1
Perfluorohexanoic Acid (PFHxA)	0.379	J	ng/l	1.92	0.314	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.92	0.235	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.92	0.216	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.92	0.360	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.92	0.226	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.92	1.28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.92	0.659	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.92	0.299	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.92	0.483	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.92	0.291	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.92	1.16	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.92	1.07	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.92	0.621	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.92	0.249	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.92	0.939	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.92	0.556	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.92	0.770	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.92	0.356	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.92	0.313	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.92	0.238	1
PFOA/PFOS, Total	ND		ng/l	1.92	0.226	1
PFAS, Total (5)	ND		ng/l	1.92	0.216	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-08 Date Collected: 08/29/19 08:00

Client ID: TRIP BLANK Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	114		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	128		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	120		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	96		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	112		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	110		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	127		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	110		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	85		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	80		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	81		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	36		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	76		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	85		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	77		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-09
Client ID: E-BLANK
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 09:44
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/15/19 19:51
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.70	0.347	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.70	0.337	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.70	0.202	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.70	0.384	1
Perfluorohexanoic Acid (PFHxA)	0.326	J	ng/l	1.70	0.279	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.70	0.208	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.70	0.191	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.70	0.320	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.70	0.201	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.70	1.13	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.70	0.585	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.70	0.265	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.70	0.428	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.70	0.258	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.70	1.03	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.70	0.952	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.70	0.551	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.70	0.221	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.70	0.833	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.70	0.493	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.70	0.684	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.70	0.316	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.70	0.278	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.70	0.211	1
PFOA/PFOS, Total	ND		ng/l	1.70	0.201	1
PFAS, Total (5)	ND		ng/l	1.70	0.191	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-09 Date Collected: 08/29/19 09:44

Client ID: E-BLANK Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	107		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	160		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	151		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	148		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	115		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	121		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	**155**	Q	47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	131		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	117		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	146		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	138		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	134		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	122		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	87		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	127		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	26		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	90		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	117		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	115		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-10
Client ID: FIELD BLANK
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 13:31
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/15/19 20:07
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.94	0.395	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.94	0.384	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.94	0.231	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.94	0.438	1
Perfluorohexanoic Acid (PFHxA)	0.372	J	ng/l	1.94	0.318	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.94	0.238	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.94	0.218	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.94	0.364	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.94	0.229	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.94	1.29	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.94	0.667	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.94	0.302	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.94	0.488	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.94	0.294	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.94	1.17	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.94	1.08	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.94	0.628	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.94	0.252	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.94	0.950	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.94	0.562	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.94	0.779	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.94	0.360	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.94	0.317	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.94	0.240	1
PFOA/PFOS, Total	ND		ng/l	1.94	0.229	1
PFAS, Total (5)	ND		ng/l	1.94	0.218	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-10 Date Collected: 08/29/19 13:31

Client ID: FIELD BLANK Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	111		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	126		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	107		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	87		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	108		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	110		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	113		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	109		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	79		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	108		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	113		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	105		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	82		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	79		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	105		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	39		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	95		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-11
Client ID: SHALLOW WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 13:30
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	160.		ng/l	144	32.6	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	39		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-12
Client ID: DEEP WELL
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 17:55
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 13:52
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	144	32.6	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	37		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-13
Client ID: EBLANK-083019
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 09:15
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/17/19 04:46
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/13/19 08:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.77	0.360	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.77	0.350	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.77	0.210	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.77	0.399	1
Perfluorohexanoic Acid (PFHxA)	0.647	J	ng/l	1.77	0.290	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.77	0.217	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.77	0.199	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.77	0.332	1
Perfluorooctanoic Acid (PFOA)	0.558	J	ng/l	1.77	0.208	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	13.6		ng/l	1.77	1.18	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.77	0.608	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.77	0.276	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.77	0.445	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.77	0.268	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	1.98		ng/l	1.77	1.07	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.77	0.989	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.77	0.572	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.77	0.230	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.77	0.866	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.77	0.512	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.77	0.710	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.77	0.329	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.77	0.289	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.77	0.219	1
PFOA/PFOS, Total	0.558	J	ng/l	1.77	0.208	1
PFAS, Total (5)	0.558	J	ng/l	1.77	0.199	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-13 Date Collected: 08/30/19 09:15

Client ID: EBLANK-083019 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	89		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	122		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	113		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	92		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	88		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	88		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	114		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	103		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	112		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	94		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	133		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	76		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	119		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	44		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	87		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	84		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-13 RE
Client ID: EBLANK-083019
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 09:15
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/22/19 13:08
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/20/19 09:02

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.78	0.363	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.78	0.352	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.78	0.212	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.78	0.402	1
Perfluorohexanoic Acid (PFHxA)	0.381	J	ng/l	1.78	0.292	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.78	0.218	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.78	0.200	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.78	0.334	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.78	0.210	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.78	1.18	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.78	0.612	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.78	0.278	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.78	0.448	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.78	0.270	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.78	1.08	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.78	0.996	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.78	0.576	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.78	0.231	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.78	0.872	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.78	0.516	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.78	0.715	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.78	0.331	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.78	0.291	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.78	0.221	1
PFOA/PFOS, Total	ND		ng/l	1.78	0.210	1
PFAS, Total (5)	ND		ng/l	1.78	0.200	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-13 RE Date Collected: 08/30/19 09:15

Client ID: EBLANK-083019 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	63		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	88		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	87		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	58		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	63		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	65		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	85		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	71		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	68		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	98		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	52		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	70		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	61		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	73		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	62		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-14
Client ID: FB-083019
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 10:55
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/17/19 05:03
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/13/19 08:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.94	0.395	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.94	0.384	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.94	0.231	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.94	0.438	1
Perfluorohexanoic Acid (PFHxA)	0.686	J	ng/l	1.94	0.318	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.94	0.238	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.94	0.218	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.94	0.364	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.94	0.229	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	12.5		ng/l	1.94	1.29	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.94	0.667	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.94	0.302	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.94	0.488	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.94	0.294	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	1.81	J	ng/l	1.94	1.17	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.94	1.08	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.94	0.628	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.94	0.252	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.94	0.950	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.94	0.562	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.94	0.779	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.94	0.360	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.94	0.317	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.94	0.240	1
PFOA/PFOS, Total	ND		ng/l	1.94	0.229	1
PFAS, Total (5)	ND		ng/l	1.94	0.218	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-14 Date Collected: 08/30/19 10:55

Client ID: FB-083019 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	92		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	118		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	128		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	109		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	93		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	97		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	130		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	105		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	101		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	105		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	116		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	101		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	108		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	85		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	119		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	41		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	82		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	106		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	100		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15
Client ID: IP-08
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 11:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/16/19 13:13
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	8.1	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene	ND		ug/l	2.0	0.75	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
Aniline	ND		ug/l	2.0	0.65	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15 Date Collected: 08/30/19 11:00

Client ID: IP-08 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Pyridine	ND		ug/l	3.5	1.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	26		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	82		15-120
2,4,6-Tribromophenol	62		10-120
4-Terphenyl-d14	86		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15
Client ID: IP-08
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 11:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 14:14
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	139	31.4	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	30		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15
Client ID: IP-08
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 11:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 19:53
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.10	0.04	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04	1
Chrysene	ND		ug/l	0.10	0.04	1
Acenaphthylene	ND		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.04	1
Fluorene	ND		ug/l	0.10	0.04	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04	1
Pyrene	ND		ug/l	0.10	0.04	1
1-Methylnaphthalene	ND		ug/l	0.10	0.04	1
2-Methylnaphthalene	ND		ug/l	0.10	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID:	L1939803-15	Date Collected:	08/30/19 11:00
Client ID:	IP-08	Date Received:	08/30/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	31		21-120
Phenol-d6	26		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	75		15-120
2,4,6-Tribromophenol	60		10-120
4-Terphenyl-d14	79		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15
Client ID: IP-08
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 11:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/17/19 05:36
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/13/19 08:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	8.46		ng/l	2.01	0.410	1
Perfluoropentanoic Acid (PFPeA)	22.3		ng/l	2.01	0.398	1
Perfluorobutanesulfonic Acid (PFBS)	0.646	J	ng/l	2.01	0.239	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.01	0.454	1
Perfluorohexanoic Acid (PFHxA)	23.0		ng/l	2.01	0.329	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.01	0.246	1
Perfluoroheptanoic Acid (PFHpA)	3.25		ng/l	2.01	0.226	1
Perfluorohexanesulfonic Acid (PFHxS)	0.646	J	ng/l	2.01	0.378	1
Perfluorooctanoic Acid (PFOA)	1.11	J	ng/l	2.01	0.237	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	11.0		ng/l	2.01	1.34	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.01	0.691	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.01	0.313	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.01	0.506	1
Perfluorodecanoic Acid (PFDA)	0.434	J	ng/l	2.01	0.305	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	1.85	J	ng/l	2.01	1.22	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.01	1.12	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.01	0.651	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.01	0.261	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.01	0.984	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.01	0.582	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.01	0.807	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.01	0.373	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.01	0.328	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.01	0.249	1
PFOA/PFOS, Total	1.11	J	ng/l	2.01	0.237	1
PFAS, Total (5)	5.01	J	ng/l	2.01	0.226	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15 Date Collected: 08/30/19 11:00

Client ID: IP-08 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	74		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	95		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	95		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	71		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	70		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	76		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	82		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	80		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	70		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	101		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	54		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	73		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	31		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	43		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	63		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	61		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16
Client ID: IP-06
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 12:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/16/19 13:36
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	8.1	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene	ND		ug/l	2.0	0.75	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
Aniline	ND		ug/l	2.0	0.65	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16 Date Collected: 08/30/19 12:50

Client ID: IP-06 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Pyridine	ND		ug/l	3.5	1.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	38		21-120
Phenol-d6	25		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	76		15-120
2,4,6-Tribromophenol	81		10-120
4-Terphenyl-d14	78		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16
Client ID: IP-06
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 12:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 14:35
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	36		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16
Client ID: IP-06
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 12:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 20:09
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.10	0.04	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04	1
Chrysene	ND		ug/l	0.10	0.04	1
Acenaphthylene	ND		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.04	1
Fluorene	ND		ug/l	0.10	0.04	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04	1
Pyrene	ND		ug/l	0.10	0.04	1
1-Methylnaphthalene	ND		ug/l	0.10	0.04	1
2-Methylnaphthalene	ND		ug/l	0.10	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16 Date Collected: 08/30/19 12:50

Client ID: IP-06 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		21-120
Phenol-d6	28		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	68		15-120
2,4,6-Tribromophenol	89		10-120
4-Terphenyl-d14	71		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16
Client ID: IP-06
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 12:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/17/19 05:52
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/13/19 08:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	21.2		ng/l	1.71	0.348	1
Perfluoropentanoic Acid (PFPeA)	93.7		ng/l	1.71	0.338	1
Perfluorobutanesulfonic Acid (PFBS)	0.631	J	ng/l	1.71	0.203	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.71	0.386	1
Perfluorohexanoic Acid (PFHxA)	71.6		ng/l	1.71	0.280	1
Perfluoropentanesulfonic Acid (PFPeS)	0.358	J	ng/l	1.71	0.209	1
Perfluoroheptanoic Acid (PFHpA)	7.28		ng/l	1.71	0.192	1
Perfluorohexanesulfonic Acid (PFHxS)	0.877	J	ng/l	1.71	0.321	1
Perfluorooctanoic Acid (PFOA)	4.85		ng/l	1.71	0.201	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	22.9		ng/l	1.71	1.14	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.71	0.587	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.71	0.266	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.71	0.430	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.71	0.259	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	2.32		ng/l	1.71	1.03	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.71	0.956	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.71	0.553	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.71	0.222	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.71	0.836	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.71	0.495	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.71	0.686	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.71	0.317	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.71	0.279	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.71	0.212	1
PFOA/PFOS, Total	4.85		ng/l	1.71	0.201	1
PFAS, Total (5)	13.0	J	ng/l	1.71	0.192	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16 Date Collected: 08/30/19 12:50

Client ID: IP-06 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	115		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	141		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**167**	Q	31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	175		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	114		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	117		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	**163**	Q	47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	124		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	146		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	127		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	146		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	123		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**177**	Q	7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	74		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	124		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	42		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	104		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	106		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18
Client ID: IP-04
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 09/16/19 14:00
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzidine	ND		ug/l	20	8.1	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
Azobenzene	ND		ug/l	2.0	0.75	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
Aniline	ND		ug/l	2.0	0.65	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18 Date Collected: 08/30/19 15:50

Client ID: IP-04 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1
Pyridine	ND		ug/l	3.5	1.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	23		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	38		10-120
4-Terphenyl-d14	80		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18
Client ID: IP-04
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 14:55
Analyst: PS

Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	54.2	J	ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	68		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18
Client ID: IP-04
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 20:26
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.04	1
2-Chloronaphthalene	ND		ug/l	0.20	0.04	1
Fluoranthene	ND		ug/l	0.10	0.04	1
Hexachlorobutadiene	ND		ug/l	0.50	0.04	1
Naphthalene	ND		ug/l	0.10	0.04	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04	1
Chrysene	ND		ug/l	0.10	0.04	1
Acenaphthylene	ND		ug/l	0.10	0.04	1
Anthracene	ND		ug/l	0.10	0.04	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.04	1
Fluorene	ND		ug/l	0.10	0.04	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04	1
Pyrene	ND		ug/l	0.10	0.04	1
1-Methylnaphthalene	ND		ug/l	0.10	0.04	1
2-Methylnaphthalene	ND		ug/l	0.10	0.05	1
Pentachlorophenol	ND		ug/l	0.80	0.22	1
Hexachlorobenzene	ND		ug/l	0.80	0.03	1
Hexachloroethane	ND		ug/l	0.80	0.03	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID:	L1939803-18	Date Collected:	08/30/19 15:50
Client ID:	IP-04	Date Received:	08/30/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	25		21-120
Phenol-d6	23		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	74		15-120
2,4,6-Tribromophenol	40		10-120
4-Terphenyl-d14	72		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18
Client ID: IP-04
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 09/17/19 06:09
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/13/19 08:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	7.09		ng/l	1.81	0.370	1
Perfluoropentanoic Acid (PFPeA)	9.75		ng/l	1.81	0.359	1
Perfluorobutanesulfonic Acid (PFBS)	0.692	J	ng/l	1.81	0.216	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.81	0.409	1
Perfluorohexanoic Acid (PFHxA)	6.12		ng/l	1.81	0.297	1
Perfluoropentanesulfonic Acid (PFPeS)	0.627	J	ng/l	1.81	0.222	1
Perfluoroheptanoic Acid (PFHpA)	1.60	J	ng/l	1.81	0.204	1
Perfluorohexanesulfonic Acid (PFHxS)	1.83		ng/l	1.81	0.340	1
Perfluorooctanoic Acid (PFOA)	3.25		ng/l	1.81	0.214	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	1.34	J	ng/l	1.81	1.21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.81	0.623	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.81	0.283	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.81	0.456	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.81	0.275	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.81	1.10	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.81	1.01	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.81	0.587	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.81	0.236	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.81	0.888	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.81	0.525	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.81	0.728	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.81	0.337	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.81	0.296	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.81	0.225	1
PFOA/PFOS, Total	3.25		ng/l	1.81	0.214	1
PFAS, Total (5)	6.68	J	ng/l	1.81	0.204	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18 Date Collected: 08/30/19 15:50

Client ID: IP-04 Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	71		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	91		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	114		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	158		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	68		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	112		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	70		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	93		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	65		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	61		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**190**	Q	7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	30		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	47		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	8		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	31		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	48		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	52		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-19
Client ID: SLUDGE PILE TOP ASSAY
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 10/03/19 13:35
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 10/01/19 22:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	20.5		ng/l	1.81	0.370	1
Perfluoropentanoic Acid (PFPeA)	0.717	J	ng/l	1.81	0.359	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.81	0.216	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.81	0.409	1
Perfluorohexanoic Acid (PFHxA)	5.34		ng/l	1.81	0.297	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.81	0.222	1
Perfluoroheptanoic Acid (PFHpA)	1.05	J	ng/l	1.81	0.204	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.81	0.340	1
Perfluorooctanoic Acid (PFOA)	3.05		ng/l	1.81	0.214	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.81	1.21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.81	0.623	1
Perfluorononanoic Acid (PFNA)	0.688	J	ng/l	1.81	0.283	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.81	0.456	1
Perfluorodecanoic Acid (PFDA)	0.790	J	ng/l	1.81	0.275	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.81	1.10	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.81	1.01	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.81	0.587	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.81	0.236	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.81	0.888	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.81	0.525	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	1.50	J	ng/l	1.81	0.728	1
Perfluorododecanoic Acid (PFDoA)	0.580	J	ng/l	1.81	0.337	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.81	0.296	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.81	0.225	1
PFOA/PFOS, Total	3.05		ng/l	1.81	0.214	1
PFAS, Total (5)	4.79	J	ng/l	1.81	0.204	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-19 Date Collected: 08/30/19 15:50

Client ID: SLUDGE PILE TOP ASSAY Date Received: 08/30/19

Sample Location: BRATTLEBORO, VT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	81		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	109		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**362**	Q	1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	80		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	80		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	111		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**280**	Q	1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	78		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	72		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**199**	Q	7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**208**	Q	1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	**194**	Q	40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	**88**	Q	1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	**192**	Q	23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	**168**	Q	24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	118		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-19
Client ID: SLUDGE PILE TOP ASSAY
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 122,537(M)
Analytical Date: 10/04/19 06:25
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 10/03/19 10:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	16.5		ng/l	1.67	0.340	1
Perfluoropentanoic Acid (PFPeA)	9.83		ng/l	1.67	0.330	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.67	0.198	1
Perfluorohexanoic Acid (PFHxA)	8.76		ng/l	1.67	0.273	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.67	0.204	1
Perfluoroheptanoic Acid (PFHpA)	4.50		ng/l	1.67	0.188	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.67	0.313	1
Perfluorooctanoic Acid (PFOA)	2.61		ng/l	1.67	0.197	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.67	0.573	1
Perfluorononanoic Acid (PFNA)	0.380	J	ng/l	1.67	0.260	1
Perfluorooctanesulfonic Acid (PFOS)	0.857	J	ng/l	1.67	0.420	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.67	0.253	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.67	0.933	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.67	0.217	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.67	0.817	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.67	0.310	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.67	0.273	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.67	0.207	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID:	L1939803-19	Date Collected:	08/30/19 15:50
Client ID:	SLUDGE PILE TOP ASSAY	Date Received:	08/30/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	125		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	143		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	0		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	104		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	103		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	134		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	102		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	0		0-25
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	100		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	118		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	0		0-25
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	0		0-25
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	75		40-144
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	0		0-25
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	61		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68		33-143
Perfluoro[13C3]Pentanoic Acid (M3PFPEA)	**25**	Q	50-150
Perfluoro[1,2,3,4-13C4]Octanoic Acid (M4PFOA)	**40**	Q	50-150
Perfluoro[1,2-13C2]Hexanoic Acid (M2PFHXA)	85		50-150

TOTAL OXIDIZABLE PRECURSOR ASSAY

RESULTS SUMMARY

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Lab ID: L1939803-19
Client ID: SLUDGE PILE TOP ASSAY
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Parameter	Pre-Treatment Results	Pre-Treatment Qualifier	Pre-Treatment Units	Post-Treatment Results	Post-Treatment Qualifier	Post-Treatment Units	Difference Results	Difference Qualifier	Difference Units
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab									
Perfluorobutanoic Acid (PFBA)	20.5		ng/l	16.5		ng/l	0		ng/l
Perfluoropentanoic Acid (PFPeA)	0.717	J	ng/l	9.83		ng/l	9.11		ng/l
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	ND		ng/l	0		ng/l
Perfluorohexanoic Acid (PFHxA)	5.34		ng/l	8.76		ng/l	3.42		ng/l
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	ND		ng/l	0		ng/l
Perfluoroheptanoic Acid (PFHpA)	1.05	J	ng/l	4.50		ng/l	3.45		ng/l
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	ND		ng/l	0		ng/l
Perfluorooctanoic Acid (PFOA)	3.05		ng/l	2.61		ng/l	0		ng/l
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	ND		ng/l	0		ng/l
Perfluorononanoic Acid (PFNA)	0.688	J	ng/l	0.380	J	ng/l	0	J	ng/l
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	0.857	J	ng/l	0.857	J	ng/l
Perfluorodecanoic Acid (PFDA)	0.790	J	ng/l	ND		ng/l	0	J	ng/l
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	ND		ng/l	0		ng/l
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	ND		ng/l	0		ng/l
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	ND		ng/l	0		ng/l
Perfluorododecanoic Acid (PFDoA)	0.580	J	ng/l	ND		ng/l	0	J	ng/l
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	ND		ng/l	0		ng/l
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	ND		ng/l	0		ng/l
Perfluorinated Carboxylic Acids (PFCA), Total							16.8	J	ng/l

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/16/19 09:46
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03-07,15-16,18 Batch: WG1279688-1					
Acenaphthene	ND		ug/l	2.0	0.59
Benzidine	ND		ug/l	20	8.1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66
Hexachlorobenzene	ND		ug/l	2.0	0.58
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67
2-Chloronaphthalene	ND		ug/l	2.0	0.64
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1
Azobenzene	ND		ug/l	2.0	0.75
Fluoranthene	ND		ug/l	2.0	0.57
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63
Hexachlorobutadiene	ND		ug/l	2.0	0.72
Hexachlorocyclopentadiene	ND		ug/l	20	7.8
Hexachloroethane	ND		ug/l	2.0	0.68
Isophorone	ND		ug/l	5.0	0.60
Naphthalene	ND		ug/l	2.0	0.68
Nitrobenzene	ND		ug/l	2.0	0.75
NDPA/DPA	ND		ug/l	2.0	0.64
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	0.91
Butyl benzyl phthalate	ND		ug/l	5.0	1.3
Di-n-butylphthalate	ND		ug/l	5.0	0.69

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/16/19 09:46
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03-07,15-16,18 Batch: WG1279688-1					
Di-n-octylphthalate	ND		ug/l	5.0	1.1
Diethyl phthalate	ND		ug/l	5.0	0.63
Dimethyl phthalate	4.3	J	ug/l	5.0	0.65
Benzo(a)anthracene	ND		ug/l	2.0	0.61
Benzo(a)pyrene	ND		ug/l	2.0	0.54
Benzo(b)fluoranthene	ND		ug/l	2.0	0.64
Benzo(k)fluoranthene	ND		ug/l	2.0	0.60
Chrysene	ND		ug/l	2.0	0.54
Acenaphthylene	ND		ug/l	2.0	0.66
Anthracene	ND		ug/l	2.0	0.64
Benzo(ghi)perylene	ND		ug/l	2.0	0.61
Fluorene	ND		ug/l	2.0	0.62
Phenanthrene	ND		ug/l	2.0	0.61
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.55
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.71
Pyrene	ND		ug/l	2.0	0.57
Biphenyl	ND		ug/l	2.0	0.76
Aniline	ND		ug/l	2.0	0.65
4-Chloroaniline	ND		ug/l	5.0	0.63
1-Methylnaphthalene	ND		ug/l	2.0	0.67
2-Nitroaniline	ND		ug/l	5.0	1.1
3-Nitroaniline	ND		ug/l	5.0	1.2
4-Nitroaniline	ND		ug/l	5.0	1.3
Dibenzofuran	ND		ug/l	2.0	0.66
2-Methylnaphthalene	ND		ug/l	2.0	0.72
n-Nitrosodimethylamine	ND		ug/l	2.0	0.67
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68
p-Chloro-m-cresol	ND		ug/l	2.0	0.62
2-Chlorophenol	ND		ug/l	2.0	0.63

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/16/19 09:46
Analyst: ALS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03-07,15-16,18 Batch: WG1279688-1					
2,4-Dichlorophenol	ND		ug/l	5.0	0.77
2,4-Dimethylphenol	ND		ug/l	5.0	1.6
2-Nitrophenol	ND		ug/l	10	1.5
4-Nitrophenol	ND		ug/l	10	1.8
2,4-Dinitrophenol	ND		ug/l	20	5.5
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1
Pentachlorophenol	ND		ug/l	10	3.4
Phenol	ND		ug/l	5.0	1.9
2-Methylphenol	ND		ug/l	5.0	1.0
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72
Benzoic Acid	ND		ug/l	50	13.
Benzyl Alcohol	ND		ug/l	2.0	0.72
Carbazole	ND		ug/l	2.0	0.63
Pyridine	ND		ug/l	3.5	1.9

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	37		21-120
Phenol-d6	29		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	78		10-120
4-Terphenyl-d14	94		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 17:23
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01,03-07,15-16,18 Batch: WG1279689-1					
Acenaphthene	ND		ug/l	0.10	0.04
2-Chloronaphthalene	ND		ug/l	0.20	0.04
Fluoranthene	ND		ug/l	0.10	0.04
Hexachlorobutadiene	ND		ug/l	0.50	0.04
Naphthalene	ND		ug/l	0.10	0.04
Benzo(a)anthracene	ND		ug/l	0.10	0.02
Benzo(a)pyrene	ND		ug/l	0.10	0.04
Benzo(b)fluoranthene	ND		ug/l	0.10	0.02
Benzo(k)fluoranthene	ND		ug/l	0.10	0.04
Chrysene	ND		ug/l	0.10	0.04
Acenaphthylene	ND		ug/l	0.10	0.04
Anthracene	ND		ug/l	0.10	0.04
Benzo(ghi)perylene	ND		ug/l	0.10	0.04
Fluorene	ND		ug/l	0.10	0.04
Phenanthrene	0.02	J	ug/l	0.10	0.02
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.04
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.04
Pyrene	ND		ug/l	0.10	0.04
1-Methylnaphthalene	ND		ug/l	0.10	0.04
2-Methylnaphthalene	ND		ug/l	0.10	0.05
Pentachlorophenol	ND		ug/l	0.80	0.22
Hexachlorobenzene	ND		ug/l	0.80	0.03
Hexachloroethane	ND		ug/l	0.80	0.03

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 09/15/19 17:23
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 15:25

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01,03-07,15-16,18 Batch: WG1279689-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	29		21-120
Phenol-d6	24		10-120
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	57		15-120
2,4,6-Tribromophenol	65		10-120
4-Terphenyl-d14	59		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 07:59
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 12:30

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01,03-07,11-12,15-16,18 Batch: WG1279978-1					
1,4-Dioxane	ND		ng/l	150	33.9

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	30		15-110

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/04/19 23:18
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 08:58

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1279999-1					
Acenaphthene	ND		ug/l	2.0	0.44
Benzidine	ND		ug/l	20	1.8
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.50
Hexachlorobenzene	ND		ug/l	2.0	0.46
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50
2-Chloronaphthalene	ND		ug/l	2.0	0.44
1,2-Dichlorobenzene	ND		ug/l	2.0	0.45
1,3-Dichlorobenzene	ND		ug/l	2.0	0.40
1,4-Dichlorobenzene	ND		ug/l	2.0	0.43
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93
Azobenzene	ND		ug/l	2.0	0.37
Fluoranthene	ND		ug/l	2.0	0.26
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50
Hexachlorobutadiene	ND		ug/l	2.0	0.66
Hexachlorocyclopentadiene	ND		ug/l	20	0.69
Hexachloroethane	ND		ug/l	2.0	0.58
Isophorone	ND		ug/l	5.0	1.2
Naphthalene	ND		ug/l	2.0	0.46
Nitrobenzene	ND		ug/l	2.0	0.77
NDPA/DPA	ND		ug/l	2.0	0.42
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5
Butyl benzyl phthalate	ND		ug/l	5.0	1.2
Di-n-butylphthalate	ND		ug/l	5.0	0.39

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/04/19 23:18
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 08:58

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1279999-1					
Di-n-octylphthalate	ND		ug/l	5.0	1.3
Diethyl phthalate	ND		ug/l	5.0	0.38
Dimethyl phthalate	ND		ug/l	5.0	1.8
Benzo(a)anthracene	ND		ug/l	2.0	0.32
Benzo(a)pyrene	ND		ug/l	2.0	0.41
Benzo(b)fluoranthene	ND		ug/l	2.0	0.35
Benzo(k)fluoranthene	ND		ug/l	2.0	0.37
Chrysene	ND		ug/l	2.0	0.34
Acenaphthylene	ND		ug/l	2.0	0.46
Anthracene	ND		ug/l	2.0	0.33
Benzo(ghi)perylene	ND		ug/l	2.0	0.30
Fluorene	ND		ug/l	2.0	0.41
Phenanthrene	ND		ug/l	2.0	0.33
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.32
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.40
Pyrene	ND		ug/l	2.0	0.28
Biphenyl	ND		ug/l	2.0	0.46
Aniline	ND		ug/l	2.0	0.68
4-Chloroaniline	ND		ug/l	5.0	1.1
1-Methylnaphthalene	ND		ug/l	2.0	0.45
2-Nitroaniline	ND		ug/l	5.0	0.50
3-Nitroaniline	ND		ug/l	5.0	0.81
4-Nitroaniline	ND		ug/l	5.0	0.80
Dibenzofuran	ND		ug/l	2.0	0.50
2-Methylnaphthalene	ND		ug/l	2.0	0.45
n-Nitrosodimethylamine	ND		ug/l	2.0	0.76
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61
p-Chloro-m-cresol	ND		ug/l	2.0	0.35
2-Chlorophenol	ND		ug/l	2.0	0.48

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 09/04/19 23:18
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 08:58

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1279999-1					
2,4-Dichlorophenol	ND		ug/l	5.0	0.41
2,4-Dimethylphenol	ND		ug/l	5.0	1.8
2-Nitrophenol	ND		ug/l	10	0.85
4-Nitrophenol	ND		ug/l	10	0.67
2,4-Dinitrophenol	ND		ug/l	20	6.6
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8
Pentachlorophenol	ND		ug/l	10	1.8
Phenol	ND		ug/l	5.0	0.57
2-Methylphenol	ND		ug/l	5.0	0.49
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77
Benzoic Acid	ND		ug/l	50	2.6
Benzyl Alcohol	ND		ug/l	2.0	0.59
Carbazole	ND		ug/l	2.0	0.49
Pyridine	ND		ug/l	3.5	1.8

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		21-120
Phenol-d6	45		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	81		15-120
2,4,6-Tribromophenol	70		10-120
4-Terphenyl-d14	83		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 10:30
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 09:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 02 Batch: WG1280001-1					
Acenaphthene	ND		ug/l	0.10	0.01
2-Chloronaphthalene	ND		ug/l	0.20	0.02
Fluoranthene	0.03	J	ug/l	0.10	0.02
Hexachlorobutadiene	ND		ug/l	0.50	0.05
Naphthalene	0.23		ug/l	0.10	0.05
Benzo(a)anthracene	ND		ug/l	0.10	0.02
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01
Chrysene	ND		ug/l	0.10	0.01
Acenaphthylene	ND		ug/l	0.10	0.01
Anthracene	0.02	J	ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	0.04	J	ug/l	0.10	0.02
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Pyrene	0.02	J	ug/l	0.10	0.02
1-Methylnaphthalene	0.02	J	ug/l	0.10	0.02
2-Methylnaphthalene	0.09	J	ug/l	0.10	0.02
Pentachlorophenol	ND		ug/l	0.80	0.01
Hexachlorobenzene	ND		ug/l	0.80	0.01
Hexachloroethane	ND		ug/l	0.80	0.06

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 09/05/19 10:30
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 09:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 02 Batch: WG1280001-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	76		21-120
Phenol-d6	60		10-120
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	89		15-120
2,4,6-Tribromophenol	97		10-120
4-Terphenyl-d14	98		41-149

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 09/15/19 22:20
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01,03-10 Batch: WG1283212-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	0.452
Perfluorohexanoic Acid (PFHxA)	0.392	J	ng/l	2.00	0.328
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	0.245
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	1.12
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236
PFAS, Total (5)	ND		ng/l	2.00	0.225

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 09/15/19 22:20
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/12/19 09:11

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01,03-10 Batch: WG1283212-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	99		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	112		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	98		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	79		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	99		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	99		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	71		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	65		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	71		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	40		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	66		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	81		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	82		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 09/17/19 06:25
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/13/19 08:38

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 13-16,18 Batch: WG1283677-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	0.452
Perfluorohexanoic Acid (PFHxA)	0.400	J	ng/l	2.00	0.328
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	0.245
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	1.12
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236
PFAS, Total (5)	ND		ng/l	2.00	0.225

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 09/17/19 06:25
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/13/19 08:38

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 13-16,18 Batch: WG1283677-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	102		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	118		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	104		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	84		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	100		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	102		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	111		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	100		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	79		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	99		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	84		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	75		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	39		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	74		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	85		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	81		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 09/22/19 13:41
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/20/19 07:10

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 13 Batch: WG1286485-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	0.452
Perfluorohexanoic Acid (PFHxA)	0.428	J	ng/l	2.00	0.328
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	0.245
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	1.12
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236
PFAS, Total (5)	ND		ng/l	2.00	0.225

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 09/22/19 13:41
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 09/20/19 07:10

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 13 Batch: WG1286485-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	89		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	103		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	85		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	71		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	81		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	68		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	89		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	65		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	78		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	31		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	92		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	76		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 10/03/19 15:30
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 10/01/19 22:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 19 Batch: WG1290953-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	0.452
Perfluorohexanoic Acid (PFHxA)	0.452	J	ng/l	2.00	0.328
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	0.245
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	1.74	J	ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	1.12
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	1.74	J	ng/l	2.00	0.236
PFAS, Total (5)	1.74	J	ng/l	2.00	0.225

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 10/03/19 15:30
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 10/01/19 22:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 19 Batch: WG1290953-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	86		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	99		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	87		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	82		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	85		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	96		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	85		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	115		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	85		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	127		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	73		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	86		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	19		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	67		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	74		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 10/03/19 16:04
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 10/01/19 22:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 19 Batch: WG1290953-2					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.82	0.372
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.82	0.361
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.82	0.217
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.82	0.412
Perfluorohexanoic Acid (PFHxA)	0.401	J	ng/l	1.82	0.299
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.82	0.224
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.82	0.205
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.82	0.343
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.82	0.215
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.82	1.22
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.82	0.628
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	0.285
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.82	0.460
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	0.277
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.82	1.10
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.82	1.02
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	0.591
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	0.237
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.82	0.894
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.82	0.529
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	0.734
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	0.339
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	0.298
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	0.226
PFOA/PFOS, Total	ND		ng/l	1.82	0.215
PFAS, Total (5)	ND		ng/l	1.82	0.205

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 10/03/19 16:04
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 10/01/19 22:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 19 Batch: WG1290953-2					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	75		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	90		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	102		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	75		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	79		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	108		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	80		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	77		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	108		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	49		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	78		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	3		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	52		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	66		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	62		33-143

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 10/04/19 06:58
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 10/03/19 10:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab for sample(s): 19 Batch: WG1291476-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.67	0.340
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.67	0.330
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.67	0.198
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.67	0.273
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.67	0.204
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.67	0.188
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.67	0.313
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.67	0.197
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.67	0.573
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.67	0.260
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.67	0.420
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.67	0.253
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.67	0.933
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.67	0.217
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.67	0.817
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.67	0.310
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.67	0.273
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.67	0.207

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 122,537(M)
Analytical Date: 10/04/19 06:58
Analyst: JW

Extraction Method: EPA 537
Extraction Date: 10/03/19 10:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab for sample(s): 19 Batch: WG1291476-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	112		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	120		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	0		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	105		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	105		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	113		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	102		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	0		0-25
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	105		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	101		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	0		0-25
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	0		0-25
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	91		40-144
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	0		0-25
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	74		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	69		33-143

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
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Lab Number: L1939803
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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03-07,15-16,18 Batch: WG1279688-2 WG1279688-3								
Acenaphthene	78		74		37-111	5		30
Benzidine	**0**	Q	**3**	Q	10-75	NC		30
1,2,4-Trichlorobenzene	68		63		39-98	8		30
Hexachlorobenzene	78		75		40-140	4		30
Bis(2-chloroethyl)ether	64		59		40-140	8		30
2-Chloronaphthalene	78		75		40-140	4		30
1,2-Dichlorobenzene	62		59		40-140	5		30
1,3-Dichlorobenzene	62		57		40-140	8		30
1,4-Dichlorobenzene	63		58		36-97	8		30
3,3'-Dichlorobenzidine	41		68		40-140	**50**	Q	30
2,4-Dinitrotoluene	100		99		48-143	1		30
2,6-Dinitrotoluene	99		97		40-140	2		30
Azobenzene	88		85		40-140	3		30
Fluoranthene	82		81		40-140	1		30
4-Chlorophenyl phenyl ether	83		80		40-140	4		30
4-Bromophenyl phenyl ether	81		81		40-140	0		30
Bis(2-chloroisopropyl)ether	56		50		40-140	11		30
Bis(2-chloroethoxy)methane	69		66		40-140	4		30
Hexachlorobutadiene	72		69		40-140	4		30
Hexachlorocyclopentadiene	61		59		40-140	3		30
Hexachloroethane	64		59		40-140	8		30
Isophorone	73		70		40-140	4		30
Naphthalene	71		68		40-140	4		30

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03-07,15-16,18 Batch: WG1279688-2 WG1279688-3								
Nitrobenzene	83		77		40-140	8		30
NDPA/DPA	79		81		40-140	3		30
n-Nitrosodi-n-propylamine	77		72		29-132	7		30
Bis(2-ethylhexyl)phthalate	92		90		40-140	2		30
Butyl benzyl phthalate	93		94		40-140	1		30
Di-n-butylphthalate	85		84		40-140	1		30
Di-n-octylphthalate	93		92		40-140	1		30
Diethyl phthalate	88		87		40-140	1		30
Dimethyl phthalate	91		92		40-140	1		30
Benzo(a)anthracene	81		81		40-140	0		30
Benzo(a)pyrene	82		84		40-140	2		30
Benzo(b)fluoranthene	89		87		40-140	2		30
Benzo(k)fluoranthene	83		83		40-140	0		30
Chrysene	81		80		40-140	1		30
Acenaphthylene	82		80		45-123	2		30
Anthracene	75		76		40-140	1		30
Benzo(ghi)perylene	89		87		40-140	2		30
Fluorene	82		81		40-140	1		30
Phenanthrene	78		74		40-140	5		30
Dibenzo(a,h)anthracene	85		83		40-140	2		30
Indeno(1,2,3-cd)pyrene	89		88		40-140	1		30
Pyrene	80		80		26-127	0		30
Biphenyl	81		80		40-140	1		30

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03-07,15-16,18 Batch: WG1279688-2 WG1279688-3								
Aniline	41		46		40-140	11		30
4-Chloroaniline	69		70		40-140	1		30
1-Methylnaphthalene	84		81		41-103	4		30
2-Nitroaniline	107		100		52-143	7		30
3-Nitroaniline	75		77		25-145	3		30
4-Nitroaniline	81		89		51-143	9		30
Dibenzofuran	83		79		40-140	5		30
2-Methylnaphthalene	75		72		40-140	4		30
n-Nitrosodimethylamine	38		34		22-74	11		30
2,4,6-Trichlorophenol	80		83		30-130	4		30
p-Chloro-m-cresol	91		87		23-97	4		30
2-Chlorophenol	69		64		27-123	8		30
2,4-Dichlorophenol	82		77		30-130	6		30
2,4-Dimethylphenol	**26**	Q	55		30-130	**72**	Q	30
2-Nitrophenol	95		88		30-130	8		30
4-Nitrophenol	76		71		10-80	7		30
2,4-Dinitrophenol	110		107		20-130	3		30
4,6-Dinitro-o-cresol	119		117		20-164	2		30
Pentachlorophenol	87		81		9-103	7		30
Phenol	36		32		12-110	12		30
2-Methylphenol	60		56		30-130	7		30
3-Methylphenol/4-Methylphenol	59		55		30-130	7		30
2,4,5-Trichlorophenol	92		90		30-130	2		30

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03-07,15-16,18 Batch: WG1279688-2 WG1279688-3								
Benzoic Acid	38		25		10-164	**41**	Q	30
Benzyl Alcohol	76		70		26-116	8		30
Carbazole	80		81		55-144	1		30
Pyridine	12		21		10-66	**55**	Q	30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	47		43		21-120
Phenol-d6	36		32		10-120
Nitrobenzene-d5	86		82		23-120
2-Fluorobiphenyl	83		78		15-120
2,4,6-Tribromophenol	91		86		10-120
4-Terphenyl-d14	80		79		41-149

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01,03-07,15-16,18 Batch: WG1279689-2 WG1279689-3								
Acenaphthene	56		68		40-140	19		40
2-Chloronaphthalene	53		66		40-140	22		40
Fluoranthene	60		69		40-140	14		40
Hexachlorobutadiene	50		57		40-140	13		40
Naphthalene	52		65		40-140	22		40
Benzo(a)anthracene	60		71		40-140	17		40
Benzo(a)pyrene	57		70		40-140	20		40
Benzo(b)fluoranthene	62		72		40-140	15		40
Benzo(k)fluoranthene	61		76		40-140	22		40
Chrysene	58		72		40-140	22		40
Acenaphthylene	54		68		40-140	23		40
Anthracene	56		67		40-140	18		40
Benzo(ghi)perylene	67		82		40-140	20		40
Fluorene	58		63		40-140	8		40
Phenanthrene	58		70		40-140	19		40
Dibenzo(a,h)anthracene	68		83		40-140	20		40
Indeno(1,2,3-cd)pyrene	68		82		40-140	19		40
Pyrene	57		65		40-140	13		40
1-Methylnaphthalene	54		70		40-140	26		40
2-Methylnaphthalene	54		69		40-140	24		40
Pentachlorophenol	59		66		40-140	11		40
Hexachlorobenzene	59		73		40-140	21		40
Hexachloroethane	44		57		40-140	26		40

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01,03-07,15-16,18 Batch: WG1279689-2 WG1279689-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	30		41		21-120
Phenol-d6	22		30		10-120
Nitrobenzene-d5	53		73		23-120
2-Fluorobiphenyl	55		69		15-120
2,4,6-Tribromophenol	64		66		10-120
4-Terphenyl-d14	61		67		41-149

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01,03-07,11-12,15-16,18 Batch: WG1279978-2 WG1279978-3								
1,4-Dioxane	109		110		40-140	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	25		25		15-110

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1279999-2 WG1279999-3								
Acenaphthene	79		71		37-111	11		30
Benzidine	33		35		10-75	6		30
1,2,4-Trichlorobenzene	85		74		39-98	14		30
Hexachlorobenzene	91		82		40-140	10		30
Bis(2-chloroethyl)ether	84		72		40-140	15		30
2-Chloronaphthalene	93		83		40-140	11		30
1,2-Dichlorobenzene	79		68		40-140	15		30
1,3-Dichlorobenzene	78		67		40-140	15		30
1,4-Dichlorobenzene	78		68		36-97	14		30
3,3'-Dichlorobenzidine	73		65		40-140	12		30
2,4-Dinitrotoluene	81		73		48-143	10		30
2,6-Dinitrotoluene	98		89		40-140	10		30
Azobenzene	81		72		40-140	12		30
Fluoranthene	91		79		40-140	14		30
4-Chlorophenyl phenyl ether	89		79		40-140	12		30
4-Bromophenyl phenyl ether	92		85		40-140	8		30
Bis(2-chloroisopropyl)ether	92		78		40-140	16		30
Bis(2-chloroethoxy)methane	88		78		40-140	12		30
Hexachlorobutadiene	93		80		40-140	15		30
Hexachlorocyclopentadiene	86		79		40-140	8		30
Hexachloroethane	82		70		40-140	16		30
Isophorone	88		80		40-140	10		30
Naphthalene	87		80		40-140	8		30

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1279999-2 WG1279999-3								
Nitrobenzene	84		76		40-140	10		30
NDPA/DPA	88		79		40-140	11		30
n-Nitrosodi-n-propylamine	94		82		29-132	14		30
Bis(2-ethylhexyl)phthalate	85		82		40-140	4		30
Butyl benzyl phthalate	88		82		40-140	7		30
Di-n-butylphthalate	88		79		40-140	11		30
Di-n-octylphthalate	90		86		40-140	5		30
Diethyl phthalate	90		81		40-140	11		30
Dimethyl phthalate	99		88		40-140	12		30
Benzo(a)anthracene	90		81		40-140	11		30
Benzo(a)pyrene	89		74		40-140	18		30
Benzo(b)fluoranthene	90		78		40-140	14		30
Benzo(k)fluoranthene	90		76		40-140	17		30
Chrysene	88		77		40-140	13		30
Acenaphthylene	97		84		45-123	14		30
Anthracene	92		82		40-140	11		30
Benzo(ghi)perylene	88		74		40-140	17		30
Fluorene	85		75		40-140	13		30
Phenanthrene	90		79		40-140	13		30
Dibenzo(a,h)anthracene	91		78		40-140	15		30
Indeno(1,2,3-cd)pyrene	92		79		40-140	15		30
Pyrene	88		78		26-127	12		30
Biphenyl	86		75		40-140	14		30

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1279999-2 WG1279999-3								
Aniline	58		47		40-140	21		30
4-Chloroaniline	84		70		40-140	18		30
1-Methylnaphthalene	81		73		41-103	10		30
2-Nitroaniline	92		83		52-143	10		30
3-Nitroaniline	68		58		25-145	16		30
4-Nitroaniline	70		64		51-143	9		30
Dibenzofuran	81		73		40-140	10		30
2-Methylnaphthalene	88		78		40-140	12		30
n-Nitrosodimethylamine	69		56		22-74	21		30
2,4,6-Trichlorophenol	99		90		30-130	10		30
p-Chloro-m-cresol	**98**	Q	86		23-97	13		30
2-Chlorophenol	86		75		27-123	14		30
2,4-Dichlorophenol	88		80		30-130	10		30
2,4-Dimethylphenol	82		75		30-130	9		30
2-Nitrophenol	93		85		30-130	9		30
4-Nitrophenol	76		66		10-80	14		30
2,4-Dinitrophenol	89		63		20-130	**34**	Q	30
4,6-Dinitro-o-cresol	97		88		20-164	10		30
Pentachlorophenol	87		76		9-103	13		30
Phenol	67		60		12-110	11		30
2-Methylphenol	83		74		30-130	11		30
3-Methylphenol/4-Methylphenol	89		79		30-130	12		30
2,4,5-Trichlorophenol	99		89		30-130	11		30

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1279999-2 WG1279999-3								
Benzoic Acid	**0**	Q	**0**	Q	10-164	NC		30
Benzyl Alcohol	81		73		26-116	10		30
Carbazole	90		78		55-144	14		30
Pyridine	52		38		10-66	**31**	Q	30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	72		63		21-120
Phenol-d6	64		57		10-120
Nitrobenzene-d5	87		77		23-120
2-Fluorobiphenyl	95		83		15-120
2,4,6-Tribromophenol	89		80		10-120
4-Terphenyl-d14	90		80		41-149

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 02 Batch: WG1280001-2 WG1280001-3								
Acenaphthene	87		90		40-140	3		40
2-Chloronaphthalene	90		91		40-140	1		40
Fluoranthene	86		85		40-140	1		40
Hexachlorobutadiene	78		81		40-140	4		40
Naphthalene	86		89		40-140	3		40
Benzo(a)anthracene	89		88		40-140	1		40
Benzo(a)pyrene	88		88		40-140	0		40
Benzo(b)fluoranthene	93		92		40-140	1		40
Benzo(k)fluoranthene	88		88		40-140	0		40
Chrysene	89		90		40-140	1		40
Acenaphthylene	89		90		40-140	1		40
Anthracene	89		88		40-140	1		40
Benzo(ghi)perylene	103		104		40-140	1		40
Fluorene	88		88		40-140	0		40
Phenanthrene	84		85		40-140	1		40
Dibenzo(a,h)anthracene	103		104		40-140	1		40
Indeno(1,2,3-cd)pyrene	87		88		40-140	1		40
Pyrene	85		84		40-140	1		40
1-Methylnaphthalene	84		87		40-140	4		40
2-Methylnaphthalene	89		91		40-140	2		40
Pentachlorophenol	89		77		40-140	14		40
Hexachlorobenzene	85		87		40-140	2		40
Hexachloroethane	76		82		40-140	8		40

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 02 Batch: WG1280001-2 WG1280001-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	78		79		21-120
Phenol-d6	66		65		10-120
Nitrobenzene-d5	92		93		23-120
2-Fluorobiphenyl	84		85		15-120
2,4,6-Tribromophenol	84		83		10-120
4-Terphenyl-d14	82		81		41-149

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01,03-10 Batch: WG1283212-2 WG1283212-3								
Perfluorobutanoic Acid (PFBA)	126		126		67-148	0		30
Perfluoropentanoic Acid (PFPeA)	126		125		63-161	1		30
Perfluorobutanesulfonic Acid (PFBS)	137		137		65-157	0		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	136		138		37-219	1		30
Perfluorohexanoic Acid (PFHxA)	126		126		69-168	0		30
Perfluoropentanesulfonic Acid (PFPeS)	129		126		52-156	2		30
Perfluoroheptanoic Acid (PFHpA)	130		125		58-159	4		30
Perfluorohexanesulfonic Acid (PFHxS)	126		127		69-177	1		30
Perfluorooctanoic Acid (PFOA)	130		129		63-159	1		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	145		125		49-187	15		30
Perfluoroheptanesulfonic Acid (PFHpS)	129		127		61-179	2		30
Perfluorononanoic Acid (PFNA)	126		126		68-171	0		30
Perfluorooctanesulfonic Acid (PFOS)	128		122		52-151	5		30
Perfluorodecanoic Acid (PFDA)	127		126		63-171	1		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	131		132		56-173	1		30
Perfluorononanesulfonic Acid (PFNS)	120		128		48-150	6		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	136		127		60-166	7		30
Perfluoroundecanoic Acid (PFUnA)	127		125		60-153	2		30
Perfluorodecanesulfonic Acid (PFDS)	130		133		38-156	2		30
Perfluorooctanesulfonamide (FOSA)	134		138		46-170	3		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	132		136		45-170	3		30
Perfluorododecanoic Acid (PFDoA)	131		129		67-153	2		30

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01,03-10 Batch: WG1283212-2 WG1283212-3								
Perfluorotridecanoic Acid (PFTrDA)	149		147		48-158	1		30
Perfluorotetradecanoic Acid (PFTA)	129		125		59-182	3		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	97		101		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	107		114		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	101		105		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	86		90		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	95		104		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		101		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		109		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	92		97		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	80		85		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	91		94		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97		99		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		94		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	77		86		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	75		85		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	87		91		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	36		43		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	70		72		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	83		87		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	82		87		33-143

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA

Project Number: 19-015

Lab Number: L1939803

Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-16,18 Batch: WG1283677-2 WG1283677-3								
Perfluorobutanoic Acid (PFBA)	116		111		67-148	4		30
Perfluoropentanoic Acid (PFPeA)	114		109		63-161	4		30
Perfluorobutanesulfonic Acid (PFBS)	106		103		65-157	3		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	131		113		37-219	15		30
Perfluorohexanoic Acid (PFHxA)	117		112		69-168	4		30
Perfluoropentanesulfonic Acid (PFPeS)	123		122		52-156	1		30
Perfluoroheptanoic Acid (PFHpA)	116		111		58-159	4		30
Perfluorohexanesulfonic Acid (PFHxS)	122		116		69-177	5		30
Perfluorooctanoic Acid (PFOA)	119		112		63-159	6		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	127		120		49-187	6		30
Perfluoroheptanesulfonic Acid (PFHpS)	104		128		61-179	21		30
Perfluorononanoic Acid (PFNA)	117		108		68-171	8		30
Perfluorooctanesulfonic Acid (PFOS)	119		116		52-151	3		30
Perfluorodecanoic Acid (PFDA)	116		109		63-171	6		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	115		128		56-173	11		30
Perfluorononanesulfonic Acid (PFNS)	108		121		48-150	11		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	134		124		60-166	8		30
Perfluoroundecanoic Acid (PFUnA)	116		105		60-153	10		30
Perfluorodecanesulfonic Acid (PFDS)	104		120		38-156	14		30
Perfluorooctanesulfonamide (FOSA)	113		114		46-170	1		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	115		106		45-170	8		30
Perfluorododecanoic Acid (PFDoA)	118		115		67-153	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-16,18 Batch: WG1283677-2 WG1283677-3								
Perfluorotridecanoic Acid (PFTrDA)	134		131		48-158	2		30
Perfluorotetradecanoic Acid (PFTA)	117		109		59-182	7		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	100		102		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	115		116		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	105		108		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	96		103		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	99		99		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	101		99		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		101		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		99		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	105		96		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	100		99		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	106		92		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		100		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	112		96		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	85		89		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	100		106		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	33		43		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	83		88		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	92		95		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	87		89		33-143

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13 Batch: WG1286485-2 WG1286485-3								
Perfluorobutanoic Acid (PFBA)	126		130		67-148	3		30
Perfluoropentanoic Acid (PFPeA)	117		120		63-161	3		30
Perfluorobutanesulfonic Acid (PFBS)	109		112		65-157	3		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	120		140		37-219	15		30
Perfluorohexanoic Acid (PFHxA)	122		125		69-168	2		30
Perfluoropentanesulfonic Acid (PFPeS)	131		122		52-156	7		30
Perfluoroheptanoic Acid (PFHpA)	127		128		58-159	1		30
Perfluorohexanesulfonic Acid (PFHxS)	137		136		69-177	1		30
Perfluorooctanoic Acid (PFOA)	122		129		63-159	6		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	136		135		49-187	1		30
Perfluoroheptanesulfonic Acid (PFHpS)	112		113		61-179	1		30
Perfluorononanoic Acid (PFNA)	122		128		68-171	5		30
Perfluorooctanesulfonic Acid (PFOS)	123		136		52-151	10		30
Perfluorodecanoic Acid (PFDA)	122		128		63-171	5		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	133		124		56-173	7		30
Perfluorononanesulfonic Acid (PFNS)	115		124		48-150	8		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	120		134		60-166	11		30
Perfluoroundecanoic Acid (PFUnA)	123		125		60-153	2		30
Perfluorodecanesulfonic Acid (PFDS)	125		112		38-156	11		30
Perfluorooctanesulfonamide (FOSA)	114		112		46-170	2		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	123		127		45-170	3		30
Perfluorododecanoic Acid (PFDoA)	127		134		67-153	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LFP PHASE II ESA

Project Number: 19-015

Lab Number: L1939803

Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13 Batch: WG1286485-2 WG1286485-3								
Perfluorotridecanoic Acid (PFTrDA)	157		**162**	Q	48-158	3		30
Perfluorotetradecanoic Acid (PFTA)	125		129		59-182	3		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	88		87		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	100		97		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	83		80		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	77		71		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	84		82		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	83		81		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	80		85		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		81		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	72		63		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	83		82		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	82		79		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	83		77		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	68		73		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	77		68		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	87		78		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	32		33		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	70		66		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	90		81		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	78		75		33-143

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 19 Batch: WG1290953-3 WG1290953-4								
Perfluorobutanoic Acid (PFBA)	121		114		67-148	6		30
Perfluoropentanoic Acid (PFPeA)	118		112		63-161	5		30
Perfluorobutanesulfonic Acid (PFBS)	116		113		65-157	3		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	132		130		37-219	2		30
Perfluorohexanoic Acid (PFHxA)	123		116		69-168	6		30
Perfluoropentanesulfonic Acid (PFPeS)	125		115		52-156	8		30
Perfluoroheptanoic Acid (PFHpA)	122		115		58-159	6		30
Perfluorohexanesulfonic Acid (PFHxS)	122		112		69-177	9		30
Perfluorooctanoic Acid (PFOA)	125		120		63-159	4		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	137		137		49-187	0		30
Perfluoroheptanesulfonic Acid (PFHpS)	123		116		61-179	6		30
Perfluorononanoic Acid (PFNA)	124		118		68-171	5		30
Perfluorooctanesulfonic Acid (PFOS)	129		117		52-151	10		30
Perfluorodecanoic Acid (PFDA)	125		115		63-171	8		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	136		105		56-173	26		30
Perfluorononanesulfonic Acid (PFNS)	124		113		48-150	9		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	137		128		60-166	7		30
Perfluoroundecanoic Acid (PFUnA)	120		113		60-153	6		30
Perfluorodecanesulfonic Acid (PFDS)	132		124		38-156	6		30
Perfluorooctanesulfonamide (FOSA)	116		127		46-170	9		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	118		110		45-170	7		30
Perfluorododecanoic Acid (PFDoA)	126		120		67-153	5		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 19 Batch: WG1290953-3 WG1290953-4								
Perfluorotridecanoic Acid (PFTrDA)	145		137		48-158	6		30
Perfluorotetradecanoic Acid (PFTA)	120		114		59-182	5		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	86		89		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	99		101		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	92		91		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	93		94		1-313
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	84		87		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		90		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	90		95		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		88		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	114		122		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		89		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	86		90		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		89		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	112		137		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	73		73		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		91		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	29		24		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		72		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	79		81		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		74		33-143

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab Associated sample(s): 19 Batch: WG1291476-2 WG1291476-3								
Perfluorobutanoic Acid (PFBA)	127		131		67-148	3		30
Perfluoropentanoic Acid (PFPeA)	138		142		63-161	3		30
Perfluorobutanesulfonic Acid (PFBS)	142		148		65-157	4		30
Perfluorohexanoic Acid (PFHxA)	134		136		69-168	1		30
Perfluoropentanesulfonic Acid (PFPeS)	132		129		52-156	2		30
Perfluoroheptanoic Acid (PFHpA)	131		136		58-159	4		30
Perfluorohexanesulfonic Acid (PFHxS)	123		124		69-177	1		30
Perfluorooctanoic Acid (PFOA)	137		141		63-159	3		30
Perfluoroheptanesulfonic Acid (PFHpS)	153		162		61-179	6		30
Perfluorononanoic Acid (PFNA)	131		140		68-171	7		30
Perfluorooctanesulfonic Acid (PFOS)	134		137		52-151	2		30
Perfluorodecanoic Acid (PFDA)	134		137		63-171	2		30
Perfluorononanesulfonic Acid (PFNS)	150		140		48-150	7		30
Perfluoroundecanoic Acid (PFUnA)	133		136		60-153	2		30
Perfluorodecanesulfonic Acid (PFDS)	144		131		38-156	9		30
Perfluorododecanoic Acid (PFDoA)	131		140		67-153	7		30
Perfluorotridecanoic Acid (PFTrDA)	**162**	Q	**161**	Q	48-158	1		30
Perfluorotetradecanoic Acid (PFTA)	133		131		59-182	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: LFP PHASE II ESA

Project Number: 19-015

Lab Number: L1939803

Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution (Post-Treatment) - Mansfield Lab Associated sample(s): 19 Batch: WG1291476-2 WG1291476-3								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	152		134		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	**169**	Q	153		31-159
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	0		0		0-25
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	138		121		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	138		120		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	**158**	Q	149		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	134		122		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	0		0		0-25
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	140		120		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	137		123		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	134		117		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	0		0		0-25
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	0		0		0-25
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	125		103		40-144
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	0		0		0-25
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	107		83		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	97		78		33-143

SEMIVOLATILES

High Resolution Mass Spectrometry

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06
Client ID: IP-05
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8290A
Analytical Date: 10/07/19 22:48
Analyst: PB

Extraction Method: EPA 8290A
Extraction Date: 10/03/19 12:58
Cleanup Method: EPA 8290A
Cleanup Date: 10/07/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
2,3,7,8-TCDD	ND			pg/l	9.80	2.04	1
1,2,3,7,8-PeCDD	ND			pg/l	49.0	10.2	1
1,2,3,4,7,8-HxCDD	ND			pg/l	49.0	12.3	1
1,2,3,6,7,8-HxCDD	ND			pg/l	49.0	15.2	1
1,2,3,7,8,9-HxCDD	ND			pg/l	49.0	14.3	1
1,2,3,4,6,7,8-HpCDD	ND			pg/l	49.0	14.2	1
OCDD	ND			pg/l	98.0	24.9	1
2,3,7,8-TCDF	ND			pg/l	9.80	3.00	1
1,2,3,7,8-PeCDF	ND			pg/l	49.0	6.86	1
2,3,4,7,8-PeCDF	ND			pg/l	49.0	10.2	1
1,2,3,4,7,8-HxCDF	ND			pg/l	49.0	10.9	1
1,2,3,6,7,8-HxCDF	ND			pg/l	49.0	15.6	1
1,2,3,7,8,9-HxCDF	ND			pg/l	49.0	16.1	1
2,3,4,6,7,8-HxCDF	ND			pg/l	49.0	15.5	1
1,2,3,4,6,7,8-HpCDF	ND			pg/l	49.0	13.2	1
1,2,3,4,7,8,9-HpCDF	ND			pg/l	49.0	12.5	1
OCDF	ND			pg/l	98.0	31.8	1
Total TCDD	ND			pg/l	9.80	2.04	1
Total PeCDD	ND			pg/l	49.0	10.2	1
Total HxCDD	ND			pg/l	49.0	12.3	1
Total HpCDD	ND			pg/l	49.0	14.2	1
Total TCDF	ND			pg/l	9.80	3.00	1
Total PeCDF	ND			pg/l	49.0	6.86	1
Total HxCDF	ND			pg/l	49.0	10.9	1
Total HpCDF	ND			pg/l	49.0	13.2	1
Total PCDD	ND			pg/l	9.80	2.04	1
Total PCDF	ND			pg/l	9.80	3.00	1
Toxic Equivalency (TEQ)	ND			pg/l	0.029	0.029	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID:	L1939803-06	Date Collected:	08/29/19 18:10
Client ID:	IP-05	Date Received:	08/30/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	51		40-135
13C12-2,3,7,8-TCDD	51		40-135
13C12-1,2,3,7,8-PeCDF	50		40-135
13C12-2,3,4,7,8-PeCDF	52		40-135
13C12-1,2,3,7,8-PeCDD	48		40-135
13C12-1,2,3,4,7,8-HxCDF	47		40-135
13C12-1,2,3,6,7,8-HxCDF	59		40-135
13C12-2,3,4,6,7,8-HxCDF	54		40-135
13C12-1,2,3,7,8,9-HxCDF	54		40-135
13C12-1,2,3,4,7,8-HxCDD	48		40-135
13C12-1,2,3,6,7,8-HxCDD	62		40-135
13C12-1,2,3,4,6,7,8-HpCDF	53		40-135
13C12-1,2,3,4,7,8,9-HpCDF	55		40-135
13C12-1,2,3,4,6,7,8-HpCDD	57		40-135
13C12-OCDD	57		40-135
37CL4-2,3,7,8-TCDD	94		40-135

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07
Client ID: IP-05-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8290A
Analytical Date: 10/08/19 00:00
Analyst: PB

Extraction Method: EPA 8290A
Extraction Date: 10/03/19 12:58
Cleanup Method: EPA 8290A
Cleanup Date: 10/07/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
2,3,7,8-TCDD	ND			pg/l	10.2	2.12	1
1,2,3,7,8-PeCDD	ND			pg/l	51.0	10.6	1
1,2,3,4,7,8-HxCDD	ND			pg/l	51.0	12.8	1
1,2,3,6,7,8-HxCDD	ND			pg/l	51.0	15.9	1
1,2,3,7,8,9-HxCDD	ND			pg/l	51.0	14.9	1
1,2,3,4,6,7,8-HpCDD	ND			pg/l	51.0	14.8	1
OCDD	ND			pg/l	102	25.9	1
2,3,7,8-TCDF	ND			pg/l	10.2	3.12	1
1,2,3,7,8-PeCDF	ND			pg/l	51.0	7.14	1
2,3,4,7,8-PeCDF	ND			pg/l	51.0	10.7	1
1,2,3,4,7,8-HxCDF	ND			pg/l	51.0	11.3	1
1,2,3,6,7,8-HxCDF	ND			pg/l	51.0	16.2	1
1,2,3,7,8,9-HxCDF	ND			pg/l	51.0	16.8	1
2,3,4,6,7,8-HxCDF	ND			pg/l	51.0	16.2	1
1,2,3,4,6,7,8-HpCDF	ND			pg/l	51.0	13.7	1
1,2,3,4,7,8,9-HpCDF	ND			pg/l	51.0	13.0	1
OCDF	ND			pg/l	102	33.1	1
Total TCDD	ND			pg/l	10.2	2.12	1
Total PeCDD	ND			pg/l	51.0	10.6	1
Total HxCDD	ND			pg/l	51.0	12.8	1
Total HpCDD	ND			pg/l	51.0	14.8	1
Total TCDF	ND			pg/l	10.2	3.12	1
Total PeCDF	ND			pg/l	51.0	7.14	1
Total HxCDF	ND			pg/l	51.0	11.3	1
Total HpCDF	ND			pg/l	51.0	13.7	1
Total PCDD	ND			pg/l	10.2	2.12	1
Total PCDF	ND			pg/l	10.2	3.12	1
Toxic Equivalency (TEQ)	ND			pg/l	0.031	0.031	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID:	L1939803-07	Date Collected:	08/29/19 18:10
Client ID:	IP-05-FD	Date Received:	08/30/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	49		40-135
13C12-2,3,7,8-TCDD	47		40-135
13C12-1,2,3,7,8-PeCDF	42		40-135
13C12-2,3,4,7,8-PeCDF	45		40-135
13C12-1,2,3,7,8-PeCDD	44		40-135
13C12-1,2,3,4,7,8-HxCDF	43		40-135
13C12-1,2,3,6,7,8-HxCDF	52		40-135
13C12-2,3,4,6,7,8-HxCDF	47		40-135
13C12-1,2,3,7,8,9-HxCDF	44		40-135
13C12-1,2,3,4,7,8-HxCDD	40		40-135
13C12-1,2,3,6,7,8-HxCDD	54		40-135
13C12-1,2,3,4,6,7,8-HpCDF	46		40-135
13C12-1,2,3,4,7,8,9-HpCDF	45		40-135
13C12-1,2,3,4,6,7,8-HpCDD	48		40-135
13C12-OCDD	47		40-135
37CL4-2,3,7,8-TCDD	86		40-135

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16
Client ID: IP-06
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 12:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8290A
Analytical Date: 10/08/19 18:17
Analyst: PB

Extraction Method: EPA 8290A
Extraction Date: 10/03/19 12:58
Cleanup Method: EPA 8290A
Cleanup Date: 10/07/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab							
2,3,7,8-TCDD	ND			pg/l	10.2	2.12	1
1,2,3,7,8-PeCDD	ND			pg/l	51.0	10.6	1
1,2,3,4,7,8-HxCDD	ND			pg/l	51.0	12.8	1
1,2,3,6,7,8-HxCDD	ND			pg/l	51.0	15.9	1
1,2,3,7,8,9-HxCDD	ND			pg/l	51.0	14.9	1
1,2,3,4,6,7,8-HpCDD	ND			pg/l	51.0	14.8	1
OCDD	ND			pg/l	102	25.9	1
2,3,7,8-TCDF	ND			pg/l	10.2	3.12	1
1,2,3,7,8-PeCDF	ND			pg/l	51.0	7.14	1
2,3,4,7,8-PeCDF	ND			pg/l	51.0	10.7	1
1,2,3,4,7,8-HxCDF	ND			pg/l	51.0	11.3	1
1,2,3,6,7,8-HxCDF	ND			pg/l	51.0	16.2	1
1,2,3,7,8,9-HxCDF	ND			pg/l	51.0	16.8	1
2,3,4,6,7,8-HxCDF	ND			pg/l	51.0	16.2	1
1,2,3,4,6,7,8-HpCDF	ND			pg/l	51.0	13.7	1
1,2,3,4,7,8,9-HpCDF	ND			pg/l	51.0	13.0	1
OCDF	ND			pg/l	102	33.1	1
Total TCDD	ND			pg/l	10.2	2.12	1
Total PeCDD	ND			pg/l	51.0	10.6	1
Total HxCDD	ND			pg/l	51.0	12.8	1
Total HpCDD	ND			pg/l	51.0	14.8	1
Total TCDF	ND			pg/l	10.2	3.12	1
Total PeCDF	ND			pg/l	51.0	7.14	1
Total HxCDF	ND			pg/l	51.0	11.3	1
Total HpCDF	ND			pg/l	51.0	13.7	1
Total PCDD	ND			pg/l	10.2	2.12	1
Total PCDF	ND			pg/l	10.2	3.12	1
Toxic Equivalency (TEQ)	ND			pg/l	0.031	0.031	1

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

SAMPLE RESULTS

Lab ID:	L1939803-16	Date Collected:	08/30/19 12:50
Client ID:	IP-06	Date Received:	08/30/19
Sample Location:	BRATTLEBORO, VT	Field Prep:	Not Specified

Sample Depth:

Parameter	Result	Qualifier	EMPC	Units	RL	MDL	Dilution Factor

Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab

Surrogate/Cleanup Standard	% Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	74		40-135
13C12-2,3,7,8-TCDD	78		40-135
13C12-1,2,3,7,8-PeCDF	80		40-135
13C12-2,3,4,7,8-PeCDF	84		40-135
13C12-1,2,3,7,8-PeCDD	81		40-135
13C12-1,2,3,4,7,8-HxCDF	72		40-135
13C12-1,2,3,6,7,8-HxCDF	77		40-135
13C12-2,3,4,6,7,8-HxCDF	73		40-135
13C12-1,2,3,7,8,9-HxCDF	68		40-135
13C12-1,2,3,4,7,8-HxCDD	63		40-135
13C12-1,2,3,6,7,8-HxCDD	86		40-135
13C12-1,2,3,4,6,7,8-HpCDF	88		40-135
13C12-1,2,3,4,7,8,9-HpCDF	93		40-135
13C12-1,2,3,4,6,7,8-HpCDD	102		40-135
13C12-OCDD	103		40-135
37CL4-2,3,7,8-TCDD	93		40-135

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8290A
Analytical Date: 10/08/19 15:53
Analyst: PB

Extraction Method: EPA 8290A
Extraction Date: 10/03/19 12:58
Cleanup Method: EPA 8290A
Cleanup Date: 10/07/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab for sample(s): 06-07,16 Batch: WG1291814-1						
2,3,7,8-TCDD	ND			pg/l	10.0	2.08
1,2,3,7,8-PeCDD	ND			pg/l	50.0	10.4
1,2,3,4,7,8-HxCDD	ND			pg/l	50.0	12.5
1,2,3,6,7,8-HxCDD	ND			pg/l	50.0	15.6
1,2,3,7,8,9-HxCDD	ND			pg/l	50.0	14.6
1,2,3,4,6,7,8-HpCDD	ND			pg/l	50.0	14.5
OCDD	ND			pg/l	100	25.4
2,3,7,8-TCDF	ND			pg/l	10.0	3.06
1,2,3,7,8-PeCDF	ND			pg/l	50.0	7.00
2,3,4,7,8-PeCDF	ND			pg/l	50.0	10.5
1,2,3,4,7,8-HxCDF	ND			pg/l	50.0	11.1
1,2,3,6,7,8-HxCDF	ND			pg/l	50.0	15.9
1,2,3,7,8,9-HxCDF	ND			pg/l	50.0	16.5
2,3,4,6,7,8-HxCDF	ND			pg/l	50.0	15.8
1,2,3,4,6,7,8-HpCDF	ND			pg/l	50.0	13.4
1,2,3,4,7,8,9-HpCDF	ND			pg/l	50.0	12.7
OCDF	ND			pg/l	100	32.4
Total TCDD	ND			pg/l	10.0	2.08
Total PeCDD	ND			pg/l	50.0	10.4
Total HxCDD	ND			pg/l	50.0	12.5
Total HpCDD	ND			pg/l	50.0	14.5
Total TCDF	ND			pg/l	10.0	3.06
Total PeCDF	ND			pg/l	50.0	7.00
Total HxCDF	ND			pg/l	50.0	11.1
Total HpCDF	ND			pg/l	50.0	13.4
Total PCDD	ND			pg/l	10.0	2.08
Total PCDF	ND			pg/l	10.0	3.06
Toxic Equivalency (TEQ)	ND			pg/l	0.030	0.030

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8290A
Analytical Date: 10/08/19 15:53
Analyst: PB

Extraction Method: EPA 8290A
Extraction Date: 10/03/19 12:58
Cleanup Method: EPA 8290A
Cleanup Date: 10/07/19

Parameter	Result	Qualifier	EMPC	Units	RL	MDL
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab for sample(s): 06-07,16 Batch: WG1291814-1						

Surrogate/Cleanup Standard	%Recovery	Qualifier	Acceptance Criteria
13C12-2,3,7,8-TCDF	71		40-135
13C12-2,3,7,8-TCDD	73		40-135
13C12-1,2,3,7,8-PeCDF	61		40-135
13C12-2,3,4,7,8-PeCDF	62		40-135
13C12-1,2,3,7,8-PeCDD	66		40-135
13C12-1,2,3,4,7,8-HxCDF	46		40-135
13C12-1,2,3,6,7,8-HxCDF	54		40-135
13C12-2,3,4,6,7,8-HxCDF	54		40-135
13C12-1,2,3,7,8,9-HxCDF	50		40-135
13C12-1,2,3,4,7,8-HxCDD	46		40-135
13C12-1,2,3,6,7,8-HxCDD	64		40-135
13C12-1,2,3,4,6,7,8-HpCDF	46		40-135
13C12-1,2,3,4,7,8,9-HpCDF	46		40-135
13C12-1,2,3,4,6,7,8-HpCDD	51		40-135
13C12-OCDD	52		40-135
37CL4-2,3,7,8-TCDD	95		40-135

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 06-07,16 Batch: WG1291814-2 WG1291814-3								
2,3,7,8-TCDD	96		92		71-125	4		25
1,2,3,7,8-PeCDD	86		85		76-121	1		25
1,2,3,4,7,8-HxCDD	109		111		80-126	2		25
1,2,3,6,7,8-HxCDD	112		109		78-134	3		25
1,2,3,7,8,9-HxCDD	100		98		76-137	2		25
1,2,3,4,6,7,8-HpCDD	109		107		79-122	2		25
OCDD	116		109		81-135	6		25
2,3,7,8-TCDF	114		113		72-138	1		25
1,2,3,7,8-PeCDF	97		97		82-130	0		25
2,3,4,7,8-PeCDF	109		111		77-129	2		25
1,2,3,4,7,8-HxCDF	114		111		80-130	3		25
1,2,3,6,7,8-HxCDF	115		112		78-134	3		25
1,2,3,7,8,9-HxCDF	104		104		83-130	0		25
2,3,4,6,7,8-HxCDF	118		115		81-130	3		25
1,2,3,4,6,7,8-HpCDF	109		112		81-130	3		25
1,2,3,4,7,8,9-HpCDF	109		108		77-128	1		25
OCDF	110		108		66-150	2		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: LFP PHASE II ESA

Project Number: 19-015

Lab Number: L1939803

Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dioxins & Furans by Isotope Dilution HRMS - Mansfield Lab Associated sample(s): 06-07,16 Batch: WG1291814-2 WG1291814-3								

Surrogate/Cleanup Standard	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
13C12-2,3,7,8-TCDF	78		80		40-135
13C12-2,3,7,8-TCDD	76		77		40-135
13C12-1,2,3,7,8-PeCDF	63		62		40-135
13C12-2,3,4,7,8-PeCDF	68		64		40-135
13C12-1,2,3,7,8-PeCDD	68		71		40-135
13C12-1,2,3,4,7,8-HxCDF	60		62		40-135
13C12-1,2,3,6,7,8-HxCDF	61		61		40-135
13C12-2,3,4,6,7,8-HxCDF	63		69		40-135
13C12-1,2,3,7,8,9-HxCDF	62		66		40-135
13C12-1,2,3,4,7,8-HxCDD	57		62		40-135
13C12-1,2,3,6,7,8-HxCDD	61		68		40-135
13C12-1,2,3,4,6,7,8-HpCDF	61		67		40-135
13C12-1,2,3,4,7,8,9-HpCDF	57		69		40-135
13C12-1,2,3,4,6,7,8-HpCDD	55		60		40-135
13C12-OCDD	57		62		40-135
37CL4-2,3,7,8-TCDD	100		101		40-135

PCBS

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06
Client ID: IP-05
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 09/11/19 23:06
Analyst: AWS

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 20:49
Cleanup Method: EPA 3665A
Cleanup Date: 09/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.291	0.018	1	A
Aroclor 1221	ND		ug/l	0.291	0.026	1	A
Aroclor 1232	ND		ug/l	0.291	0.054	1	A
Aroclor 1242	ND		ug/l	0.291	0.042	1	A
Aroclor 1248	ND		ug/l	0.291	0.053	1	A
Aroclor 1254	ND		ug/l	0.291	0.020	1	A
Aroclor 1260	ND		ug/l	0.291	0.040	1	A
Aroclor 1262	ND		ug/l	0.291	0.038	1	A
Aroclor 1268	ND		ug/l	0.291	0.037	1	A
PCBs, Total	ND		ug/l	0.291	0.018	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	31		30-150	B
2,4,5,6-Tetrachloro-m-xylene	59		30-150	A
Decachlorobiphenyl	**22**	Q	30-150	A

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07
Client ID: IP-05-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 09/11/19 23:19
Analyst: AWS

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 20:49
Cleanup Method: EPA 3665A
Cleanup Date: 09/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	0.016	1	A
Aroclor 1221	ND		ug/l	0.250	0.022	1	A
Aroclor 1232	ND		ug/l	0.250	0.046	1	A
Aroclor 1242	ND		ug/l	0.250	0.036	1	A
Aroclor 1248	ND		ug/l	0.250	0.046	1	A
Aroclor 1254	ND		ug/l	0.250	0.017	1	A
Aroclor 1260	ND		ug/l	0.250	0.034	1	A
Aroclor 1262	ND		ug/l	0.250	0.033	1	A
Aroclor 1268	ND		ug/l	0.250	0.032	1	A
PCBs, Total	ND		ug/l	0.250	0.016	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	37		30-150	B
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	**25**	Q	30-150	A

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16
Client ID: IP-06
Sample Location: BRATTLEBORO, VT

Sample Depth:
Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 09/05/19 14:14
Analyst: WR

Date Collected: 08/30/19 12:50
Date Received: 08/30/19
Field Prep: Not Specified

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 19:22
Cleanup Method: EPA 3665A
Cleanup Date: 09/05/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	0.034	1	A
Aroclor 1221	ND		ug/l	0.250	0.067	1	A
Aroclor 1232	ND		ug/l	0.250	0.046	1	A
Aroclor 1242	ND		ug/l	0.250	0.039	1	A
Aroclor 1248	ND		ug/l	0.250	0.049	1	A
Aroclor 1254	ND		ug/l	0.250	0.039	1	A
Aroclor 1260	0.100	J	ug/l	0.250	0.032	1	A
Aroclor 1262	ND		ug/l	0.250	0.035	1	A
Aroclor 1268	ND		ug/l	0.250	0.034	1	A
PCBs, Total	0.100	J	ug/l	0.250	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	84		30-150	B
Decachlorobiphenyl	78		30-150	B

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 09/05/19 19:37
Analyst: HT

Extraction Method: EPA 3510C
Extraction Date: 09/03/19 19:44
Cleanup Method: EPA 3665A
Cleanup Date: 09/04/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/04/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 06-07 Batch: WG1279785-1						
Aroclor 1016	ND		ug/l	0.250	0.016	A
Aroclor 1221	ND		ug/l	0.250	0.022	A
Aroclor 1232	ND		ug/l	0.250	0.046	A
Aroclor 1242	ND		ug/l	0.250	0.036	A
Aroclor 1248	ND		ug/l	0.250	0.046	A
Aroclor 1254	ND		ug/l	0.250	0.017	A
Aroclor 1260	ND		ug/l	0.250	0.034	A
Aroclor 1262	ND		ug/l	0.250	0.033	A
Aroclor 1268	ND		ug/l	0.250	0.032	A
PCBs, Total	ND		ug/l	0.250	0.016	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	78		30-150	B
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	69		30-150	A

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 09/05/19 13:20
Analyst: HT

Extraction Method: EPA 3510C
Extraction Date: 09/04/19 19:22
Cleanup Method: EPA 3665A
Cleanup Date: 09/05/19
Cleanup Method: EPA 3660B
Cleanup Date: 09/05/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 16 Batch: WG1280289-1						
Aroclor 1016	ND		ug/l	0.250	0.034	A
Aroclor 1221	ND		ug/l	0.250	0.067	A
Aroclor 1232	ND		ug/l	0.250	0.046	A
Aroclor 1242	ND		ug/l	0.250	0.039	A
Aroclor 1248	ND		ug/l	0.250	0.049	A
Aroclor 1254	ND		ug/l	0.250	0.039	A
Aroclor 1260	0.326		ug/l	0.250	0.032	A
Aroclor 1262	ND		ug/l	0.250	0.035	A
Aroclor 1268	ND		ug/l	0.250	0.034	A
PCBs, Total	0.326		ug/l	0.250	0.032	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	A
Decachlorobiphenyl	87		30-150	A
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	87		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 06-07 Batch: WG1279785-2 WG1279785-3									
Aroclor 1016	77		83		40-140	7		50	A
Aroclor 1260	64		74		40-140	13		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		81		30-150	B
Decachlorobiphenyl	76		81		30-150	B
2,4,5,6-Tetrachloro-m-xylene	69		77		30-150	A
Decachlorobiphenyl	66		76		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 16 Batch: WG1280289-2 WG1280289-3									
Aroclor 1016	77		88		40-140	13		50	A
Aroclor 1260	86		89		40-140	3		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		93		30-150	A
Decachlorobiphenyl	95		102		30-150	A
2,4,5,6-Tetrachloro-m-xylene	71		87		30-150	B
Decachlorobiphenyl	98		101		30-150	B

METALS

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01
Client ID: IP-07
Sample Location: BRATTLEBORO, VT
Date Collected: 08/29/19 17:05
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.277		mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Antimony, Total	0.00045	J	mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 17:23	EPA 3005A	1,6020B	MG
Arsenic, Total	0.00071		mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 17:23	EPA 3005A	1,6020B	MG
Barium, Total	0.056		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Calcium, Total	44.9		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Cobalt, Total	ND		mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Copper, Total	0.002	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Iron, Total	1.00		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Lead, Total	0.003	J	mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Magnesium, Total	12.3		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Manganese, Total	0.045		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 16:59	EPA 7470A	1,7470A	GD
Nickel, Total	0.003	J	mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Potassium, Total	2.53		mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Sodium, Total	111		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 17:23	EPA 3005A	1,6020B	MG
Vanadium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC
Zinc, Total	0.014	J	mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 21:11	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-02
Client ID: IP-16
Sample Location: BRATTLEBORO, VT
Date Collected: 08/29/19 11:47
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.453		mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 17:27	EPA 3005A	1,6020B	MG
Arsenic, Total	0.00148		mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 17:27	EPA 3005A	1,6020B	MG
Barium, Total	0.120		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Calcium, Total	88.9		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Cobalt, Total	ND		mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Copper, Total	0.003	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Iron, Total	1.17		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Lead, Total	0.003	J	mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Magnesium, Total	26.2		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Manganese, Total	0.161		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 17:02	EPA 7470A	1,7470A	GD
Nickel, Total	0.003	J	mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Potassium, Total	3.99		mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Sodium, Total	209		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 17:27	EPA 3005A	1,6020B	MG
Vanadium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC
Zinc, Total	0.014	J	mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 21:48	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03
Client ID: IP-01
Sample Location: BRATTLEBORO, VT
Date Collected: 08/29/19 13:12
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.096	J	mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 17:32	EPA 3005A	1,6020B	MG
Arsenic, Total	0.00026	J	mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 17:32	EPA 3005A	1,6020B	MG
Barium, Total	0.079		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Calcium, Total	32.7		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Cobalt, Total	ND		mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Copper, Total	0.002	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Iron, Total	0.207		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Lead, Total	ND		mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Magnesium, Total	6.66		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Manganese, Total	0.136		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 17:12	EPA 7470A	1,7470A	GD
Nickel, Total	0.002	J	mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Potassium, Total	2.80		mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Sodium, Total	223		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 17:32	EPA 3005A	1,6020B	MG
Vanadium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC
Zinc, Total	0.011	J	mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 21:52	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04
Client ID: IP-02
Sample Location: BRATTLEBORO, VT
Date Collected: 08/29/19 14:40
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	20.4		mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 17:36	EPA 3005A	1,6020B	MG
Arsenic, Total	0.02054		mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 17:36	EPA 3005A	1,6020B	MG
Barium, Total	0.270		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Cadmium, Total	0.001	J	mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Calcium, Total	44.9		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Chromium, Total	0.049		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Cobalt, Total	0.043		mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Copper, Total	0.106		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Iron, Total	51.8		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Lead, Total	0.052		mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Magnesium, Total	19.4		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Manganese, Total	2.58		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 17:15	EPA 7470A	1,7470A	GD
Nickel, Total	0.076		mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Potassium, Total	7.13		mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Sodium, Total	106		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Thallium, Total	0.00054	J	mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 17:36	EPA 3005A	1,6020B	MG
Vanadium, Total	0.051		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC
Zinc, Total	0.190		mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 21:57	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05
Client ID: IP-03
Sample Location: BRATTLEBORO, VT
Date Collected: 08/29/19 16:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3.42		mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 18:15	EPA 3005A	1,6020B	MG
Arsenic, Total	0.00276		mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 18:15	EPA 3005A	1,6020B	MG
Barium, Total	0.084		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Calcium, Total	18.9		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Chromium, Total	0.012		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Cobalt, Total	0.007	J	mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Copper, Total	0.013		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Iron, Total	9.50		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Lead, Total	0.008	J	mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Magnesium, Total	5.96		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Manganese, Total	0.777		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 17:19	EPA 7470A	1,7470A	GD
Nickel, Total	0.021	J	mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Potassium, Total	2.72		mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Sodium, Total	7.55		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 18:15	EPA 3005A	1,6020B	MG
Vanadium, Total	0.008	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC
Zinc, Total	0.031	J	mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 22:02	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06
Client ID: IP-05
Sample Location: BRATTLEBORO, VT
Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.144		mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 18:20	EPA 3005A	1,6020B	MG
Arsenic, Total	0.00024	J	mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 18:20	EPA 3005A	1,6020B	MG
Barium, Total	0.015		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Calcium, Total	9.68		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Cobalt, Total	ND		mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Copper, Total	0.003	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Iron, Total	0.351		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Lead, Total	ND		mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Magnesium, Total	2.77		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Manganese, Total	0.078		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 17:22	EPA 7470A	1,7470A	GD
Nickel, Total	0.003	J	mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Potassium, Total	1.08	J	mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Sodium, Total	16.6		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 18:20	EPA 3005A	1,6020B	MG
Vanadium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC
Zinc, Total	0.013	J	mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 22:06	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07
Client ID: IP-05-FD
Sample Location: BRATTLEBORO, VT
Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.093	J	mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 18:25	EPA 3005A	1,6020B	MG
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 18:25	EPA 3005A	1,6020B	MG
Barium, Total	0.013		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Calcium, Total	9.21		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Cobalt, Total	ND		mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Copper, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Iron, Total	0.261		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Lead, Total	ND		mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Magnesium, Total	2.66		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Manganese, Total	0.065		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 17:25	EPA 7470A	1,7470A	GD
Nickel, Total	0.003	J	mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Potassium, Total	1.18	J	mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Sodium, Total	17.1		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 18:25	EPA 3005A	1,6020B	MG
Vanadium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC
Zinc, Total	0.013	J	mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 22:43	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15
Client ID: IP-08
Sample Location: BRATTLEBORO, VT
Date Collected: 08/30/19 11:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3.30		mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 18:29	EPA 3005A	1,6020B	MG
Arsenic, Total	0.02203		mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 18:29	EPA 3005A	1,6020B	MG
Barium, Total	0.099		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Calcium, Total	38.1		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Chromium, Total	0.008	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Cobalt, Total	0.018	J	mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Copper, Total	0.031		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Iron, Total	13.1		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Lead, Total	0.021		mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Magnesium, Total	11.8		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Manganese, Total	0.722		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 17:28	EPA 7470A	1,7470A	GD
Nickel, Total	0.023	J	mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Potassium, Total	5.07		mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Sodium, Total	86.8		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 18:29	EPA 3005A	1,6020B	MG
Vanadium, Total	0.011		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC
Zinc, Total	0.058		mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 22:47	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA
Lab Number: L1939803
Project Number: 19-015
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16
Client ID: IP-06
Sample Location: BRATTLEBORO, VT
Date Collected: 08/30/19 12:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1.47		mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 18:34	EPA 3005A	1,6020B	MG
Arsenic, Total	0.00415		mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 18:34	EPA 3005A	1,6020B	MG
Barium, Total	0.106		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Calcium, Total	54.5		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Chromium, Total	0.003	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Cobalt, Total	0.006	J	mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Copper, Total	0.010		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Iron, Total	4.39		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Lead, Total	0.006	J	mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Magnesium, Total	14.0		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Manganese, Total	0.346		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 17:32	EPA 7470A	1,7470A	GD
Nickel, Total	0.012	J	mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Potassium, Total	5.13		mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Sodium, Total	115		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 18:34	EPA 3005A	1,6020B	MG
Vanadium, Total	0.003	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC
Zinc, Total	0.025	J	mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 22:52	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18
Client ID: IP-04
Sample Location: BRATTLEBORO, VT
Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.831		mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 18:38	EPA 3005A	1,6020B	MG
Arsenic, Total	0.00126		mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 18:38	EPA 3005A	1,6020B	MG
Barium, Total	0.099		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Calcium, Total	37.5		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Chromium, Total	0.003	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Cobalt, Total	0.003	J	mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Copper, Total	0.006	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Iron, Total	2.35		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Lead, Total	0.005	J	mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Magnesium, Total	6.04		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Manganese, Total	0.433		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 17:35	EPA 7470A	1,7470A	GD
Nickel, Total	0.007	J	mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Potassium, Total	3.02		mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Sodium, Total	245		mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 18:38	EPA 3005A	1,6020B	MG
Vanadium, Total	0.002	J	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC
Zinc, Total	0.016	J	mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 22:57	EPA 3005A	1,6010D	MC

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-07,15-16,18 Batch: WG1283359-1										
Mercury, Total	ND		mg/l	0.00020	0.00009	1	09/12/19 13:12	09/13/19 16:32	1,7470A	GD

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-07,15-16,18 Batch: WG1283400-1										
Antimony, Total	ND		mg/l	0.00400	0.00042	1	09/12/19 16:20	09/14/19 17:00	1,6020B	MG
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	09/12/19 16:20	09/14/19 17:00	1,6020B	MG
Thallium, Total	ND		mg/l	0.00100	0.00014	1	09/12/19 16:20	09/14/19 17:00	1,6020B	MG

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-07,15-16,18 Batch: WG1283401-1										
Aluminum, Total	ND		mg/l	0.100	0.032	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Barium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Calcium, Total	ND		mg/l	0.100	0.035	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Cobalt, Total	ND		mg/l	0.020	0.002	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Copper, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Iron, Total	ND		mg/l	0.050	0.009	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Lead, Total	ND		mg/l	0.010	0.003	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Magnesium, Total	ND		mg/l	0.100	0.015	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Manganese, Total	ND		mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Nickel, Total	ND		mg/l	0.025	0.002	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Potassium, Total	ND	mg/l	2.50	0.237	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Selenium, Total	ND	mg/l	0.010	0.004	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Silver, Total	ND	mg/l	0.007	0.003	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Sodium, Total	ND	mg/l	2.00	0.120	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Vanadium, Total	ND	mg/l	0.010	0.002	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC
Zinc, Total	ND	mg/l	0.050	0.002	1	09/12/19 16:20	09/13/19 20:34	1,6010D	MC

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07,15-16,18 Batch: WG1283359-2								
Mercury, Total	95		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-07,15-16,18 Batch: WG1283400-2								
Antimony, Total	84		-		80-120	-		
Arsenic, Total	106		-		80-120	-		
Thallium, Total	108		-		80-120	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07,15-16,18 Batch: WG1283401-2					
Aluminum, Total	98	-	80-120	-	
Barium, Total	97	-	80-120	-	
Beryllium, Total	97	-	80-120	-	
Cadmium, Total	102	-	80-120	-	
Calcium, Total	97	-	80-120	-	
Chromium, Total	98	-	80-120	-	
Cobalt, Total	96	-	80-120	-	
Copper, Total	94	-	80-120	-	
Iron, Total	102	-	80-120	-	
Lead, Total	101	-	80-120	-	
Magnesium, Total	94	-	80-120	-	
Manganese, Total	96	-	80-120	-	
Nickel, Total	97	-	80-120	-	
Potassium, Total	98	-	80-120	-	
Selenium, Total	108	-	80-120	-	
Silver, Total	97	-	80-120	-	
Sodium, Total	97	-	80-120	-	
Vanadium, Total	100	-	80-120	-	
Zinc, Total	102	-	80-120	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07,15-16,18 QC Batch ID: WG1283359-3 WG1283359-4 QC Sample: L1941086-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00510	102		0.00498	100		75-125	2		20
Total Metals - Mansfield Lab Associated sample(s): 01-07,15-16,18 QC Batch ID: WG1283359-5 WG1283359-6 QC Sample: L1941086-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00509	102		0.00489	98		75-125	4		20
Total Metals - Mansfield Lab Associated sample(s): 01-07,15-16,18 QC Batch ID: WG1283400-3 QC Sample: L1939803-01 Client ID: IP-07												
Antimony, Total	0.00045J	0.5	0.4432	89		-	-		75-125	-		20
Arsenic, Total	0.00071	0.12	0.1117	92		-	-		75-125	-		20
Thallium, Total	ND	0.12	0.1305	109		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07,15-16,18 QC Batch ID: WG1283401-3 QC Sample: L1939803-01 Client ID: IP-07										
Aluminum, Total	0.277	2	2.14	93		-	-	75-125	-	20
Barium, Total	0.056	2	1.95	95		-	-	75-125	-	20
Beryllium, Total	ND	0.05	0.049	99		-	-	75-125	-	20
Cadmium, Total	ND	0.051	0.052	101		-	-	75-125	-	20
Calcium, Total	44.9	10	52.9	80		-	-	75-125	-	20
Chromium, Total	ND	0.2	0.195	98		-	-	75-125	-	20
Cobalt, Total	ND	0.5	0.466	93		-	-	75-125	-	20
Copper, Total	0.002J	0.25	0.232	93		-	-	75-125	-	20
Iron, Total	1.00	1	1.83	83		-	-	75-125	-	20
Lead, Total	0.003J	0.51	0.496	97		-	-	75-125	-	20
Magnesium, Total	12.3	10	21.3	90		-	-	75-125	-	20
Manganese, Total	0.045	0.5	0.524	96		-	-	75-125	-	20
Nickel, Total	0.003J	0.5	0.474	95		-	-	75-125	-	20
Potassium, Total	2.53	10	12.4	99		-	-	75-125	-	20
Selenium, Total	ND	0.12	0.124	103		-	-	75-125	-	20
Silver, Total	ND	0.05	0.048	96		-	-	75-125	-	20
Sodium, Total	111	10	118	**70**	Q	-	-	75-125	-	20
Vanadium, Total	ND	0.5	0.500	100		-	-	75-125	-	20
Zinc, Total	0.014J	0.5	0.515	103		-	-	75-125	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: LFP PHASE II ESA

Project Number: 19-015

Lab Number: L1939803

Report Date: 10/09/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07,15-16,18 QC Batch ID: WG1283400-4 QC Sample: L1939803-01 Client ID: IP-07						
Antimony, Total	0.00045J	0.00091J	mg/l	NC		20
Arsenic, Total	0.00071	0.00064	mg/l	10		20
Thallium, Total	ND	0.00051J	mg/l	NC		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: LFP PHASE II ESA

Project Number: 19-015

Lab Number: L1939803

Report Date: 10/09/19

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-07,15-16,18 QC Batch ID: WG1283401-4 QC Sample: L1939803-01 Client ID: IP-07						
Aluminum, Total	0.277	0.210	mg/l	**28**	Q	20
Barium, Total	0.056	0.055	mg/l	2		20
Beryllium, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Calcium, Total	44.9	43.6	mg/l	3		20
Chromium, Total	ND	ND	mg/l	NC		20
Cobalt, Total	ND	ND	mg/l	NC		20
Copper, Total	0.002J	0.002J	mg/l	NC		20
Iron, Total	1.00	0.879	mg/l	13		20
Lead, Total	0.003J	0.003J	mg/l	NC		20
Magnesium, Total	12.3	11.8	mg/l	4		20
Manganese, Total	0.045	0.044	mg/l	2		20
Nickel, Total	0.003J	0.003J	mg/l	NC		20
Potassium, Total	2.53	2.34J	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Sodium, Total	111	109	mg/l	2		20
Vanadium, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.014J	0.014J	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-01
Client ID: IP-07
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 17:05
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 11:56	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-02
Client ID: IP-16
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 11:47
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 11:59	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-03
Client ID: IP-01
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 13:12
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.004	J	mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 12:02	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-04
Client ID: IP-02
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 14:40
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 12:03	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-05
Client ID: IP-03
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 16:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 12:04	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-06
Client ID: IP-05
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 12:06	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-07
Client ID: IP-05-FD
Sample Location: BRATTLEBORO, VT

Date Collected: 08/29/19 18:10
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 12:07	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-15
Client ID: IP-08
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 11:00
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 12:08	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-16
Client ID: IP-06
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 12:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 12:09	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

SAMPLE RESULTS

Lab ID: L1939803-18
Client ID: IP-04
Sample Location: BRATTLEBORO, VT

Date Collected: 08/30/19 15:50
Date Received: 08/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	0.004	J	mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 12:12	1,9010C/9012B	ML

Project Name: LFP PHASE II ESA **Lab Number:** L1939803

Project Number: 19-015 **Report Date:** 10/09/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-07,15-16,18 Batch: WG1280119-1										
Cyanide, Total	ND		mg/l	0.005	0.001	1	09/04/19 13:50	09/05/19 11:29	1,9010C/9012B	ML

Lab Control Sample Analysis

Batch Quality Control

Project Name: LFP PHASE II ESA

Project Number: 19-015

Lab Number: L1939803

Report Date: 10/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-07,15-16,18 Batch: WG1280119-2 WG1280119-3								
Cyanide, Total	97		97		85-115	0		20

Matrix Spike Analysis
Batch Quality Control

Project Name: LFP PHASE II ESA
Project Number: 19-015
Lab Number: L1939803
Report Date: 10/09/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-07,15-16,18 QC Batch ID: WG1280119-4 WG1280119-5 QC Sample: L1939803-02 Client ID: IP-16												
Cyanide, Total	ND	0.2	0.191	96		0.183	92		80-120	4		20

Project Name: LFP PHASE II ESA
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Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent
E	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939803-01A	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-01B	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-01C	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-01D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-01E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-01F	Plastic 250ml HNO3 preserved	D	<2	<2	3.0	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),AL-TI(180),NI-TI(180),CU-TI(180),SE-TI(180),PB-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MN-TI(180),MG-TI(180),CA-TI(180),K-TI(180),CD-TI(180),NA-TI(180)
L1939803-01G	Plastic 250ml NaOH preserved	D	>12	>12	3.0	Y	Absent		TCN-9010(14)
L1939803-01H	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-01I	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-01J	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-01K	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-02A	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-02B	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-02C	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)

*Values in parentheses indicate holding time in days

Project Name: LFP PHASE II ESA
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939803-02D	Plastic 250ml HNO3 preserved	D	<2	<2	3.0	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),SE-TI(180),CU-TI(180),ZN-TI(180),PB-TI(180),CO-TI(180),V-TI(180),FE-TI(180),MG-TI(180),MN-TI(180),HG-T(28),K-TI(180),NA-TI(180),CA-TI(180),CD-TI(180)
L1939803-02E	Plastic 250ml NaOH preserved	D	>12	>12	3.0	Y	Absent		TCN-9010(14)
L1939803-02F	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1939803-02G	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		8270TCL-LVI(7),8270TCL-SIM-LVI(7)
L1939803-03A	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-03B	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-03C	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-03D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-03E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-03F	Plastic 250ml HNO3 preserved	D	<2	<2	3.0	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),ZN-TI(180),SE-TI(180),PB-TI(180),CU-TI(180),V-TI(180),CO-TI(180),HG-T(28),MG-TI(180),MN-TI(180),FE-TI(180),K-TI(180),CD-TI(180),NA-TI(180),CA-TI(180)
L1939803-03G	Plastic 250ml NaOH preserved	D	>12	>12	3.0	Y	Absent		TCN-9010(14)
L1939803-03H	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-03I	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-03J	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-03K	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-04A	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-04B	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-04C	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-04D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-04E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-04F	Plastic 250ml HNO3 preserved	D	<2	<2	3.0	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),SE-TI(180),ZN-TI(180),PB-TI(180),CU-TI(180),CO-TI(180),V-TI(180),HG-T(28),MG-TI(180),MN-TI(180),FE-TI(180),CD-TI(180),K-TI(180),NA-TI(180),CA-TI(180)

*Values in parentheses indicate holding time in days

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939803-04G	Plastic 250ml NaOH preserved	D	>12	>12	3.0	Y	Absent		TCN-9010(14)
L1939803-04H	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-04I	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-04J	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-04K	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-05A	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-05B	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-05C	Vial HCl preserved	D	NA		3.0	Y	Absent		8260(14)
L1939803-05D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-05E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-05F	Plastic 250ml HNO3 preserved	D	<2	<2	3.0	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),AL-TI(180),NI-TI(180),SE-TI(180),ZN-TI(180),PB-TI(180),CU-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),K-TI(180),NA-TI(180),CA-TI(180),CD-TI(180)
L1939803-05G	Plastic 250ml NaOH preserved	D	>12	>12	3.0	Y	Absent		TCN-9010(14)
L1939803-05H	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-05I	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-05J	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-05K	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-06A	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-06B	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-06C	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-06D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-06E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-06F	Plastic 500ml HNO3 preserved	D	<2	<2	3.0	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),NI-TI(180),AL-TI(180),CR-TI(180),ZN-TI(180),SE-TI(180),CU-TI(180),PB-TI(180),V-TI(180),CO-TI(180),HG-T(28),MN-TI(180),MG-TI(180),FE-TI(180),CD-TI(180),K-TI(180),NA-TI(180),CA-TI(180)
L1939803-06G	Plastic 250ml NaOH preserved	D	>12	>12	3.0	Y	Absent		TCN-9010(14)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939803-06H	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-06I	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-06J	Amber 500ml unpreserved	B	7	7	2.8	Y	Absent		A2-DIOXIN-8290(365)
L1939803-06K	Amber 500ml unpreserved	B	7	7	2.8	Y	Absent		A2-DIOXIN-8290(365)
L1939803-06L	Amber 1000ml unpreserved	B	7	7	2.8	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-06M	Amber 1000ml unpreserved	B	7	7	2.8	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-06N	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		PCB-8082(7)
L1939803-06O	Amber 1000ml unpreserved	A	7	7	5.3	Y	Absent		PCB-8082(7)
L1939803-07A	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-07B	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-07C	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-07D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-07E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-07F	Plastic 500ml HNO3 preserved	B	<2	<2	2.8	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),NI-TI(180),CR-TI(180),CU-TI(180),SE-TI(180),PB-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),MG-TI(180),MN-TI(180),HG-T(28),FE-TI(180),K-TI(180),CA-TI(180),NA-TI(180),CD-TI(180)
L1939803-07G	Plastic 250ml NaOH preserved	B	>12	>12	2.8	Y	Absent		TCN-9010(14)
L1939803-07H	Amber 250ml unpreserved	B	7	7	2.8	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-07I	Amber 250ml unpreserved	B	7	7	2.8	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-07J	Amber 500ml unpreserved	B	7	7	2.8	Y	Absent		A2-DIOXIN-8290(365)
L1939803-07K	Amber 500ml unpreserved	B	7	7	2.8	Y	Absent		A2-DIOXIN-8290(365)
L1939803-07L	Amber 1000ml unpreserved	B	7	7	2.8	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-07M	Amber 1000ml unpreserved	B	7	7	2.8	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-07N	Amber 1000ml unpreserved	B	7	7	2.8	Y	Absent		PCB-8082(7)
L1939803-07O	Amber 1000ml unpreserved	B	7	7	2.8	Y	Absent		PCB-8082(7)
L1939803-08A	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-08A1	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-08A2	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)

*Values in parentheses indicate holding time in days

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Report Date: 10/09/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939803-08B	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-08B1	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-08B2	Vial HCl preserved	B	NA		2.8	Y	Absent		8260(14)
L1939803-08D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-08D1	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-08E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-08E1	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-09A	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-09B	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-10A	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-11A	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-11B	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-12A	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-12B	Amber 250ml unpreserved	D	7	7	3.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-13A	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-13B	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-14A	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-15A	Vial HCl preserved	C	NA		3.7	Y	Absent		8260(14)
L1939803-15B	Vial HCl preserved	C	NA		3.7	Y	Absent		8260(14)
L1939803-15C	Vial HCl preserved	C	NA		3.7	Y	Absent		8260(14)
L1939803-15D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-15E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-15F	Plastic 250ml HNO3 preserved	C	<2	<2	3.7	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),NI-TI(180),AL-TI(180),CR-TI(180),SE-TI(180),PB-TI(180),ZN-TI(180),CU-TI(180),CO-TI(180),V-TI(180),MN-TI(180),HG-T(28),FE-TI(180),MG-TI(180),K-TI(180),CA-TI(180),CD-TI(180),NA-TI(180)
L1939803-15G	Plastic 250ml NaOH preserved	C	>12	>12	3.7	Y	Absent		TCN-9010(14)
L1939803-15H	Amber 250ml unpreserved	C	7	7	3.7	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-15I	Amber 250ml unpreserved	C	7	7	3.7	Y	Absent		A2-1,4-DIOXANE-SIM(7)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939803-15J	Amber 1000ml unpreserved	C	7	7	3.7	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-15K	Amber 1000ml unpreserved	C	7	7	3.7	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-16A	Vial HCl preserved	C	NA		3.7	Y	Absent		8260(14)
L1939803-16B	Vial HCl preserved	C	NA		3.7	Y	Absent		8260(14)
L1939803-16C	Vial HCl preserved	C	NA		3.7	Y	Absent		8260(14)
L1939803-16D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-16E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-16F	Plastic 250ml NaOH preserved	C	>12	>12	3.7	Y	Absent		TCN-9010(14)
L1939803-16G	Plastic 250ml HNO3 preserved	C	<2	<2	3.7	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),ZN-TI(180),CU-TI(180),PB-TI(180),SE-TI(180),V-TI(180),CO-TI(180),MN-TI(180),FE-TI(180),HG-T(28),MG-TI(180),CA-TI(180),CD-TI(180),NA-TI(180),K-TI(180)
L1939803-16H	Amber 120ml unpreserved	C	7	7	3.7	Y	Absent		PCB-8082-LVI(7)
L1939803-16I	Amber 120ml unpreserved	C	7	7	3.7	Y	Absent		PCB-8082-LVI(7)
L1939803-16J	Amber 250ml unpreserved	C	7	7	3.7	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-16K	Amber 250ml unpreserved	C	7	7	3.7	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-16L	Amber 500ml unpreserved	C	7	7	3.7	Y	Absent		A2-DIOXIN-8290(365)
L1939803-16M	Amber 500ml unpreserved	C	7	7	3.7	Y	Absent		A2-DIOXIN-8290(365)
L1939803-16N	Amber 1000ml unpreserved	C	7	7	3.7	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-16O	Amber 1000ml unpreserved	C	7	7	3.7	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-17A	Plastic 2oz unpreserved for TS	D	NA		3.0	Y	Absent		ARCHIVE()
L1939803-17B	Glass 60mL/2oz unpreserved	D	NA		3.0	Y	Absent		ARCHIVE()
L1939803-17C	Plastic 8oz unpreserved	E	NA		3.2	Y	Absent		-
L1939803-18A	Vial HCl preserved	C	NA		3.7	Y	Absent		8260(14)
L1939803-18B	Vial HCl preserved	C	NA		3.7	Y	Absent		8260(14)
L1939803-18C	Vial HCl preserved	C	NA		3.7	Y	Absent		8260(14)
L1939803-18D	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)
L1939803-18E	Plastic 250ml Trizma preserved	E	NA		3.2	Y	Absent		A2-537-ISOTOPE(14)

*Values in parentheses indicate holding time in days

Project Name: LFP PHASE II ESA
Project Number: 19-015

Lab Number: L1939803
Report Date: 10/09/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1939803-18F	Plastic 250ml HNO3 preserved	C	<2	<2	3.7	Y	Absent		BE-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),NI-TI(180),AL-TI(180),SE-TI(180),ZN-TI(180),PB-TI(180),CU-TI(180),V-TI(180),CO-TI(180),HG-T(28),FE-TI(180),MG-TI(180),MN-TI(180),CD-TI(180),K-TI(180),NA-TI(180),CA-TI(180)
L1939803-18G	Plastic 250ml NaOH preserved	C	>12	>12	3.7	Y	Absent		TCN-9010(14)
L1939803-18H	Amber 250ml unpreserved	C	7	7	3.7	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-18I	Amber 250ml unpreserved	C	7	7	3.7	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1939803-18J	Amber 1000ml unpreserved	C	7	7	3.7	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-18K	Amber 1000ml unpreserved	C	7	7	3.7	Y	Absent		8270TCL(7),8270TCL-SIM(7)
L1939803-19W	2 Plastic/1 Plastic/1 H20 Plastic	C	NA		3.7	Y	Absent		A2-537-ISOTOPE(14)
L1939803-19W1	2 Plastic/1 Plastic/1 H20 Plastic	C	NA		3.7	Y	Absent		A2-537-ISOTOPE(14)
L1939803-19W2	2 Plastic/1 Plastic/1 H20 Plastic	C	NA		3.7	Y	Absent		A2-537-ISOTOPE(14)
L1939803-19X	Plastic 250ml Trizma preserved	C	NA		3.7	Y	Absent		A2-TOP-537-ISOTOPE(14)

*Values in parentheses indicate holding time in days

Project Name:	LFP PHASE II ESA	**Lab Number:**	L1939803
Project Number:	19-015	**Report Date:**	10/09/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	LFP PHASE II ESA	**Lab Number:**	L1939803
Project Number:	19-015	**Report Date:**	10/09/19

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name: LFP PHASE II ESA **Lab Number:** L1939803
Project Number: 19-015 **Report Date:** 10/09/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

122 Determination of Selected Perfluorintated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537, EPA/600/R-08/092. Version 1.1, September 2009.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 3

Date Rec'd in Lab: 8/31/19

ALPHA Job #: L1939803

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: Stone Env. Inc.
Address: 535 Stonecutters Way, Montpelier VT 05602
Phone: 802 229 4541
Email: dabrahamson@stone-env.com

Project Information

Project Name: LFP Phase II ESA
Project Location: Brattleboro VT
Project #: 19-015
Project Manager: Dave Abrahamson
ALPHA Quote #: 297435

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☑ Same as Client info PO #: 19-015

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods
☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program VT VGES Criteria

Additional Project Information:

Equis E2

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☑ 8260 ☐ 624 ☐ 524.2	SVOC: ☑ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☑ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	14 Dioxane 8270 SIM	Metals TAL	Metals CN	PFAS 537(M)	Dioxin 8290		Sample Comments	TOTAL # BOTTLES
39803-01	IP-07	8/29	1705	GW	DN	X	X							X	X	X	X				11
-02	IP-16		1147	GW	DN	X	X								X	X					7
-03	IP-01		1312	GW	DN	X	X							X	X	X	X				11
-04	IP-02		1440	GW	DN	X	X							X	X	X	X				11
-05	IP-03		1600	GW	DN	X	X							X	X	X	X				11
-06	IP-05		1810	GW	DN	X	X					X		X	X	X	X	X			15
-07	IP-05-FD		1810	GW	DN	X	X					X		X	X	X	X	X			15
-08	Trip Blank		0800	W	DN	X											X				8
-09	E-Blank		0944	W	DN												X				2
-10	Field Blank		1331	W	DN												X				1
														DN 8/30/19							
					Container Type	✓	G							G A	P	P	P	A			
					Preservative	B	A							A	C	E	O	A			

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Daniel T. Cunn	8/30/19 1615	Ben Hager ARC	8/30/19 1615
Ben Hager	8/30/19 1830		8/31/19 01:55

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 2 OF 2

Date Rec'd in Lab: 8/31/19

ALPHA Job #: L1939803

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Stone Env. Inc
Address: 535 Stone cutters way Montpelier, VT 05602
Phone: 802-229-4541
Fax:
Email: dabrahamson@stone-env.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: LFP Phase II ESA
Project Location: Brattleboro, VT
Project #: 19-015
Project Manager: Dave Abrahamson
ALPHA Quote #: 297435

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☑ Same as Client info PO #: 19-015

Regulatory Requirements/Report Limits

State /Fed Program: VT Criteria: VGES

Other Project Specific Requirements/Comments/Detection Limits:

Egui's EZload

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs 8260	SVOC ABN	PCBs	1,4 Dioxane	PAH-SIM	Metals TAL	Metals CN	PFAS 537(M)	Dioxin 8290	SPLP Metals	TOP Assay	PFAS	Sample Specific Comments	Total # Bottles
39803-11	Shallow well	8/29/19	1800	GW	DTV				X										2
-12	Deep well	8/29/19	1755	GW	DTV				X										2
-13	EBlank-083019	8/30/19	~~1055~~ 0915	W	DTC							X							2
-14	FB-083019	8/30/19	1055	W	DTC							X							1
-15	IP-08	8/30/19	1100	GW	DTC	X	X		X	X	X	X							11
-16	IP-06	8/30/19	1250	GW	DTC	X	X	X	X	X	X	X	X						11
-17	Sludge Pile	8/30/19	1520	S	DTC									X	X				3
-18	IP-04	8/30/19	1550	GW	DTC	X	X		X	X	X	X							11

SAMPLE HANDLING
Filtration ____
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

See Dave Abrahamson w/ questions
1 cooler has only SVOC samples and NO TB was included [had 1x PFAS, 3x VOC]

Container Type	V	G	A	A	P	P	P	A	A	P
Preservative	B	A	A	A	C	E	O	A	A	A

Relinquished By:	Date/Time	Received By:	Date/Time
Dannie J. Cuo	8/30/19 1615	Ben Lagor ATL	8/30/19 1615
Ben Lagor	8/30/19 1830		8/31/19 0155

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

Appendix E: Conceptual Site Model Table 1 from SSQAPP

Table 1: Conceptual Site Model

LE Environmental Phase I ESA RECs	Source and Potential Sources, Release and Transport Mechanisms	COCs	Media of Interest
REC 1: No. 6 Fuel Oil Release	No. 6 fuel oil leaked from USTs to soil and to groundwater. Primarily adsorbed phase in soils w/ LNAPL 1990 - 1994. This documented release received a Site Management Activities Complete (SMAC) in 1994. There is no known soil analytical data for this release. Groundwater was previously sampled for purgeable halocarbons and aromatics (Methods 601 & 602); groundwater was not sampled for SVOCs, specifically PAHs.	VOCs, SVOCs	Subsurface soil Groundwater Soil gas
REC 2: Diesel and Gas USTs Removed in 1988	3 USTs (2 gasoline and 1 diesel) were removed in 1988 and were approximately 14 years old at that time. Condition of 1 gasoline UST was good; the other 2 were noted as 'rusted', however, the tank pull form did not note any observed leaks. MTBE had been detected in on-site groundwater in the area of the No. 6 fuel oil tanks and in a groundwater monitoring well MW-11, near the facility production wells; this may indicate on or off-site, upgradient release(s) of gasoline to groundwater. If released on-site, petroleum is potentially adsorbed to soils and in dissolved phase in groundwater. There is also a potential for LNAPL.	VOCs, SVOCs.	Subsurface soil Groundwater Soil gas
REC 3: Use of Property for Paper Manufacturing for 58 Years - may have resulted in soil, groundwater and/or soil vapor contamination	Process and facility liquids are discharged to floor drains & sumps, through conveyance piping, to clarifier. Contaminants to sludge and/or waste treatment system discharge. Possible leaks in floor drains and sumps & conveyance piping to subsurface soils and potentially groundwater. Possible site disposal of sludge. See REC 7 below (former 'Active Fill Area').	VOCs, SVOCs, dioxins/furans, PCBs, PFAS, metals.	Surface soil Subsurface soil Groundwater Soil gas
REC 4: Releases to Basement Floor Sumps and Underground Piping of Unknown Integrity	Process and facility liquids to floor drains & sumps, through conveyance piping, to clarifier. Additionally, the discharge location of the floor drain located in the maintenance area is unknown. VOCs, SVOCs, PFAS and metals would likely migrate to and through groundwater. PCBs and dioxins would tend to stay in the solids and/or adsorbed to soils near the release point. Runoff from sludge storage in the area outside of the clarifier building is collected and is returned to the clarifier; however, the stormwater manhole may not be water tight and cracks in the pavement were observed here, creating a potential pathway to subsurface soils and groundwater.	VOCs, SVOCs, dioxins/furans, PCBs, PFAS, metals.	Subsurface soil Groundwater Soil gas
REC 5: Equipment Storage Yard	Petroleum, oil, and/or hydraulic fluid leaks from equipment release to surface soils and potential release to subsurface soils. Hydraulic fluids historically could have contained PCBs. Due to depth to groundwater, groundwater impacts are not anticipated from limited surface spills, but would be a concern if a substantial release had occurred.	VOCs, SVOCs, PCBs.	Surface soil Subsurface soil Groundwater
REC 6: Abandoned Drum	Drum labeled 'Sartomer" - specialty acrylates and methacrylates monomers and oligomers. Sartomer currently produces acrylates. If the drum contained raw product or other materials when disposed, materials could have discharged to surface soils and potentially subsurface soils, and groundwater.	VOCs	Surface soil Subsurface soil Groundwater
REC 7: Fill at North End of the Property	Observed materials on surface consistent with construction debris in the LEE 2018 Phase I ESA, however, it was labeled an active fill area in a 1989 property survey. If material other than clean construction debris was deposited (e.g. wastewater treatment plant sludge), contaminants could migrate to soil and possibly groundwater.	N/A if only construction debris. If unidentified material is discovered, COCs may include VOCs, SVOCs, dioxins/furans, PCBs, PFAS, metals.	Fill Surface soil Subsurface soil Groundwater
REC 8: WSWMD Landfill Documented Influence on the Property's Groundwater Quality - identified as a controlled REC	Contaminants in leachate from WSWMD landfill has migrated in groundwater beneath the northern portion of the Site. As, Fe, Mn, VOCs determined to exist above state groundwater protection standards at the Site. PFASs detected in groundwater upgradient of the Site, but below current advisory levels.	VOCs, SVOCs, PFAS, metals.	Groundwater

LE Environmental Phase I ESA RECs	Source and Potential Sources, Release and Transport Mechanisms	COCs	Media of Interest
REC 9: Active Septic System - North of the Mill (Installed in 1973) - including stressed vegetation area in vicinity of leach field.	Sanitary and laboratory wastes to septic system. Leachate to subsurface soils and groundwater. Possible surfacing of leachate in area of stressed vegetation.	VOCs, SVOCs, PCBs, PFASs, metals.	Surface soils (stressed vegetation areas) Subsurface soils Groundwater
REC 10: Unused Septic System Area East of the Mill	Sanitary and laboratory wastes to septic system. Leachate to subsurface soils and groundwater.	VOCs, SVOCs, PCBs, PFASs, metals.	Subsurface soils Groundwater
REC 11: Adjacent Railway Line	Deposition of PAHs to surface soils from historic use as railroad. Use of herbicides for vegetation control could potentially impact surface soil.	PAHs, herbicides.	Surface soils
REC 12: Historic Adjoining Printing Press (Book Press)	VOCs and metals, if discharged, could make its way to groundwater and migrate beneath the Site. Note that VOCs were not detected in well MW-9 when sampled for purgeable hydrocarbons in 1994.	VOCs, metals.	Groundwater
REC 13: Wastewater Treatment Plant Lagoons[1]	Any contaminants discharged from the clarifier to the wastewater treatment plant lagoons could potentially leak out of the lagoons if the clay liners had been breached.	VOCs, SVOCs, dioxins/furans, PCBs, PFAS, metals.	Subsurface soil Groundwater Soil gas

[1] REC 13: Wastewater Treatment Plant Lagoons added as a REC by Stone per VT DEC request.